

# Memorandum

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To: Wells, Rocky Reach, and Rock Island HCP Hatchery Committees and Priest Rapids Coordinating Committee Hatchery Subcommittee Document Date: August 10, 2023

From: Tracy Hillman, HCP Hatchery Committees Chairman and PRCC Hatchery Subcommittee Facilitator

cc: Larissa Rohrbach, Anchor QEA, LLC

**Re: Final Minutes of the July 19, 2023, HCP Hatchery Committees and PRCC Hatchery Subcommittee Meetings**

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The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan Hatchery Committees (HCP-HCs) and Priest Rapids Coordinating Committee's Hatchery Subcommittee (PRCC HSC) meetings were held in person at the Douglas PUD Auditorium and virtually on Webex, on Wednesday, July 18, 2023, from 10:00 a.m. to 12:30 p.m. Attendees are listed in Attachment A to these meeting minutes.

## Action Item Summary

### Long-Term

#### *Joint HCP-HCs and PRCC HSC*

- Keely Murdoch and Mike Tonseth will obtain estimates of pre-spawn mortality from Andrew Murdoch to update the retrospective analysis for Wenatchee spring Chinook Salmon (Item I-A). (Note: This item is ongoing; expected completion date to be determined.)
- Members of the HCP-HCs and PRCC HSC will provide feedback to the Washington Department of Fish and Wildlife (WDFW)-revised version of questions on recalculation for Policy Committees (Item I-A). (Note: This item is ongoing.)
- Chelan PUD, Grant PUD, and WDFW will develop recommendations for reducing stress and mortality from disease for individual rearing groups at Eastbank Hatchery. (Item I-A). (Note: This item is ongoing.)

### Near-Term (to be completed by next meeting)

#### *Joint HCP-HCs and PRCC HSC*

- All Committee members will review the 10-Year Comprehensive Review chapters to identify main points that should be included in the HCP-HCs and PRCC HSC-authored summary report, including potential changes to the Monitoring and Evaluation (M&E) Plan for PUD Hatchery Programs (Item II-A). (Note: This item is ongoing.)

- All Committee members will revise the executive summaries in summary report templates for each species for compilation by Tracy Hillman and Larissa Rohrbach. PUD authors will prepare program-specific analysis showing whether M&E objectives were met (Item II-A). (Note: This item is ongoing.)
- Tom Kahler will update the HCP-HCs and PRCC HSC of the outcomes of the Twisp spring Chinook Salmon broodstock collection decision via email during the week of July 24, 2023. (The approved suite of actions was documented in an email from Tracy Hillman sent on July 19 and response from Bill Gale on July 21; Item II-C).
- Mike Tonseth will inquire whether Mike Hughes's (WDFW) presentation to the Bonneville Power Administration on the Wenatchee Spring Chinook Salmon Relative Reproductive Success Study may be distributed to the HCP-HCs and PRCC HSC (Item II-D).
- Tracy Hillman will distribute the agenda for the National Oceanic and Atmospheric Administration (NOAA) Fisheries Habitat Assessment and Restoration Planning model development on August 9, 2023 (Item III-A).
- Tom Kahler will coordinate with Methow Hatchery staff to plan an in-person meeting at Methow Hatchery on September 20, 2023 (Item III-B).

## Decision Summary

- None

## Agreements

- The Wells HCP-HC and PRCC HSC agreed that the Twisp spring Chinook Salmon program would not be carried out in 2023 due to a shortage of sufficient adults for broodstock, assuming additional male fish are not collected by the end of the week (the resulting adjustments to hatchery production were described in an email from Tracy Hillman on July 19, 2023).

## Review Items

- The 10-Year Comprehensive M&E Report chapters, compiled by species, were distributed on March 2, 2023.

## Finalized Documents

- None

## I. Welcome

### A. Agenda, Approval of Past Minutes, Action Item Review

Tracy Hillman welcomed the HCP-HCs and PRCC HSC and reviewed the agenda. Later in the meeting, discussion on measuring fecundity and Hatchery Genetic Management Plan development were added. Revised meeting minutes from the June 21, 2023, meeting were reviewed and approved by parties that attended that meeting. Mike Tonseth did not attend that meeting and abstained from approval.

Action items from the HCP-HCs and PRCC HSC meeting on June 21, 2023, were reviewed.

*(Note: Italicized text below corresponds to action items from the previous meeting.)*

#### *Long-Term*

#### **Joint HCP-HCs and PRCC HSC**

- *Keely Murdoch and Mike Tonseth will obtain estimates of pre-spawn mortality from Andrew Murdoch to update the retrospective analysis for Wenatchee spring Chinook Salmon (Item I-A). (Note: This item is ongoing; expected completion date to be determined.)*  
This item is ongoing.
- *Members of the HCP-HCs and PRCC HSC will provide feedback to the WDFW-revised version of questions on recalculation for Policy Committees (Item I-A). (Note: This item is ongoing.)*  
This item is ongoing.
- *Chelan PUD, Grant PUD, and WDFW will develop recommendations for reducing stress and mortality from disease for individual rearing groups at Eastbank Hatchery. (Item I-A). (Note: This item is ongoing.)*  
This item is ongoing.

#### *Near-Term (to be completed by next meeting)*

#### **Joint HCP-HCs and PRCC HSC**

- *Douglas PUD will provide an update on Twisp spring Chinook Salmon broodstock numbers via email by July 5, 2023, and identify whether an additional conference call with the HCP-HCs will be necessary to discuss a potential shortfall and to decide next steps (Item II-C).*  
An update on Twisp spring Chinook Salmon broodstock collection from Tom Kahler was emailed on July 5, 2023. The program has acquired additional females but is still short of males. This topic will be discussed in today's meeting.

- All Committee members will review the 10-Year Comprehensive Review chapters to identify main points that should be included in the HCP-HCs and PRCC HSC-authored summary report, including potential changes to the M&E Plan for PUD Hatchery Programs (Item II-A). (Note: This item is ongoing.)

This item is ongoing. Kirk Truscott shared a concern that the executive summary on summer Chinook Salmon mainly summarizes conclusions from spring Chinook Salmon and steelhead.

- All Committee members will revise the executive summaries in the spring Chinook Salmon summary report templates and respond to Hillman and Larissa Rohrbach for compilation by July 12, 2023. Douglas PUD will prepare a program-specific analysis showing whether M&E objectives were met (Item II-A). (Note: This item is ongoing.)
- This item is ongoing and will be discussed in today's meeting.

## II. Joint HCP-HCs and PRCC HSC

### A. 10-Year Comprehensive Review

#### *HCP-HC Report Development*

Keely Murdoch said that she has reviewed all the spring Chinook Salmon summaries and will provide edits to executive summaries by end of the week. She said some chapters were difficult to edit if the species-specific information was lacking from the executive summary. Kirk Truscott shared similar feedback.

Todd Pearsons said that there were many different ways the species reports could have been bundled or separated and agreed that it would not be appropriate to input the information about spring Chinook Salmon in the summer Chinook Salmon report produced by the Committees. Pearsons asked whether there is any feedback that should be considered before preparing the summer Chinook Salmon information. Murdoch said that in the summary report, where there will be a separate summary for each species with separate stoplight charts for individual hatchery programs, the executive summaries may lack information on summer Chinook Salmon that is contained within the report.

Tom Kahler said that the stoplight chart colors need definition of what those colors mean; the color designation in some cases is evident and, other cases, more subjective. Douglas PUD is considering providing a blank table and asking the HCP-HCs to decide which colors to designate, and the designation of colors would be only for use within the Committees. Kahler continued that he is concerned about releasing a version that is colored red, yellow, and green to the community at large—the meaning might be misconstrued by readers who are not as familiar with the specific value of each objective. Murdoch said that she liked the idea of assigning the colors through group discussion. She suggested preparing some specific criteria for determining the meaning of the colors. In the absence of specific criteria, she understands the concern about showing the colors in a

publicly shared document, but she suggested striving through Committee discussion to develop explanatory criteria.

Tracy Hillman suggested using a binary color system that shades in gray only the topics that need additional Committee review or discussion. He said that the summary tables are helpful, but the eye naturally tracks to the red cells, leading to the question of what is being done about it. Hillman suggested that the colors in the summary tables should not be included in the final summary report, which is made public. Rod O'Connor supported Hillman's suggestion. Tonseth said that there is value in the coloring, if it is only used internally, to flag topics that should be discussed as a group.

Catherine Willard noted that the meaning of yellow was that results were mixed; results were significant in some years but not others. There is value in using three different colors. Willard asked that however the tables are colored, that the criteria used for identifying the color be explained.

## **B. Methods for Estimating Fecundity**

Tom Kahler said that, as it relates to monitoring, Douglas PUD asked how other parties are estimating fecundity. Phenotypic traits are monitored, including length, weight, age, age at maturity, and fecundity. Fecundity is estimated based on fish size and gonadal mass. For Douglas PUD's programs, M&E crews have been weighing 100 eggs, blotting those eggs dry, then measuring the weight, which can be expanded to obtain fecundity based on gonadal mass. There is also an egg count done at the eyed stage, and dead eggs are also counted; the two methods seem redundant. In addition, the number of eggs blotted for weighing seems very similar to the number of dead eggs observed at the eyed-egg count, and staff are concerned that blotting eggs is causing mortality. Keely Murdoch said that for Coho Salmon, fecundity is estimated by weighing a subsample of eggs in the same way because the families are mixed with two to three females per tray, so that is the only opportunity for estimating fecundity before the eggs are mixed. Mike Tonseth said that egg counts are done by WDFW, but the eggs are not blotted. Wet egg weights can be used to extrapolate to the wet total count.

Kahler said that in the 10-year Comprehensive Report, the relationships are poor between egg weight from blotted eggs and the length of the fish, which calls into question the need for any precision gained from blotting.

Murdoch said that the 100-egg sample to calculate fecundity at the time of spawning gives in-season estimates of fecundity, which can be used by the program to adjust the number of fish collected. Tonseth said that is necessary for steelhead with a large variation of size in 1-salt and 2-salt fish. The in-season measure is not designed to be precise, but it is a way to adjust collection in-season. Kahler thanked everyone for helpful input, and summarized the conclusion that the 100-egg sample is a useful in-season metric—particularly for stocks with fecundity levels that necessitate incubation in more than one tray, or eggs from more than one female per tray, but that

egg blotting prior to weighing the sample is not practiced at other facilities nor deemed necessary for the intended use of the measurement.

### **C. Twisp Spring Chinook Salmon Broodstock Update**

Tom Kahler said since the potential shortfall of Twisp spring Chinook Salmon broodstock was discussed last month, six females were obtained, giving us seven total, which meets the target set in the Broodstock Collection Protocols (BCPs) for females, but only two males were captured. Mike Tonseth said that WDFW's position is that the minimum number of males to outcross would be four. Using only two males would cause too low of an effective population size, with a population of half siblings resulting (assuming the parents are not related). It has been one week since any spring Chinook Salmon (of hatchery origin or natural origin) were captured at the Twisp Weir. There are natural-origin Methow Composite (MetComp) broodstock available, collected at Wells Dam, and sufficient MetComp fish for the Methow Hatchery program. Tonseth said that, in his opinion, if the Twisp program is not implemented this year, there is a need to make up the total Methow spring Chinook Salmon productivity for this year, though not necessarily with only natural-origin (wild) broodstock. Tonseth said he supports using hatchery-origin by hatchery-origin (H x H) crosses, or hatchery-origin by wild (H x W) crosses to be released from the Methow Hatchery. The concern will be a lack of returns to the Twisp River in 2027 for broodstock. Releasing the fish collected to date to the Twisp River would allow them to be able to spawn naturally, and they would have the opportunity to contribute to natural production.

Todd Pearsons asked whether the fish that were genetically assigned to the Twisp River would be released back to the Twisp River. Tonseth said that yes, that would actually provide a small bump to proportionate natural influence (PNI) in the system. Tonseth said that there would be a need to add production of 24,000 juveniles to the MetComp program using hatchery adults and producing H x H or H x W offspring to maximize proportion of natural origin brood (pNOB) in the MetComp brood. Tracy Hillman confirmed that backfilling the Methow Hatchery program with numbers substituted for the Twisp program is consistent with the BCPs and 2017 Biological Opinion.

Brett Farman asked whether river conditions are still good for releasing the Twisp River adults and Tonseth and Kahler said yes.

Kahler said that Douglas PUD agrees with Tonseth's suggested path forward. Hillman asked whether trapping is still ongoing. Kahler said that they did not trap last night.

Tonseth suggested a potential change for the 2024 BCP that includes collecting an additional reserve component of Twisp hatchery-origin returns at Wells Dam to avoid missing the opportunity to intercept them when available and having to rely on collecting them later at the Twisp Weir. Hillman asked whether broodstock collection is limited to 33% of the natural-origin run. Tonseth said yes, but because adult fish can be held in isolation at the Methow Hatchery, fish that are not ultimately used

for brood can be returned to the river later. Kahler said that the fish could also be treated for pathogens before being released. Tonseth said that is what is being done for the Chiwawa spring Chinook Salmon program through collection at Tumwater Dam.

Keely Murdoch asked whether Douglas PUD would like to vote on this today. Tonseth said that a decision is needed soon because spawning starts in the first week of August, and if the decision is not to implement the Twisp program, it is best to return fish to the river as soon as possible. Murdoch asked whether there is a date by which fish will be released to the river that allows some time to see whether two additional males become trapped. Tonseth said that approval from U.S. Fish and Wildlife Service (USFWS) and the Confederated Tribes of the Colville Reservation (CTCR) is still needed after today's meeting. Murdoch asked that approval of the proposed agreement to release the previously-collected Twisp spring Chinook Salmon could include a caveat that fish be held until the end of this week as an opportunity for additional fish to arrive. Tonseth, Kahler, and Farman said they supported that caveat. Rod O'Connor said that he supports that plan but asked how the fish are released back to the river. Kahler said that Douglas PUD has typically released fish back to the Twisp River at the Buttermilk site, and could do so early next week.

Tonseth said that another part of the discussion is to decide whether the program number for juvenile releases should be made whole using natural-origin or hatchery-origin MetComp fish. Tonseth said that excess MetComp fish would be released next week too, but the hatchery will need confirmation from USFWS and CTCR as to which fish to retain for the additional production. Excess MetComp wild fish would be released into the Methow River downstream of the confluence with the Chewuch River but upstream of the Winthrop bridge over the Methow River, because we do not know which river they originated from, and releasing them downstream of the confluence of the Methow and Chewuch rivers affords them the opportunity to choose which stream to enter.

Tonseth recommended using H x W crosses for the additional production. He said the pNOB target for the program is 1.0; using H x W crosses gets closer to that and likely increases effective population size ( $N_e$ ) because there is more of a chance for hatchery returns to be half-siblings. It is a risk-management decision.

Hillman drafted an email following the meeting and obtained approval for the release of Twisp spring Chinook Salmon broodstock early next week and use of MetComp H x W crosses to make up the production shortfall. CTCR and USFWS approved via email; USFWS approval was contingent upon Winthrop National Fish Hatchery meeting goals for inclusion of Methow Fish Hatchery fish in their brood.

## **D. Wenatchee Spring Chinook Salmon Relative Reproductive Success Study Outcomes**

Mike Tonseth said that he talked to Mike Hughes (WDFW) about the Committees' interest in outcomes of the Wenatchee Spring Chinook Salmon Relative Reproductive Success (RRS) Study. WDFW is still awaiting a substantial amount of work from Mike Ford (NOAA Fisheries). Tonseth said that there are still 2 years of time available for the study and final reporting, and some genetic samples are still being collected and analyzed. Tonseth has asked Hughes for a timeline of products from this study to keep the HCP-HCs and PRCC HSC informed. Hughes has a presentation that could be given to the Committees during the October meeting, after the spring Chinook Salmon spawning season. Outcomes are likely to inform the next versions of the hatchery and genetic management plans (HGMPs) for these programs.

Todd Pearsons asked whether the talk that was given to Bonneville Power Administration (BPA) could be distributed to the HCP-HCs and PRCC HSC. He recollected that one of the emerging conclusions was a lack of a "cross-type" effect in RRS Study between hatchery and wild crosses, if corrected for spawning location, suggesting that differences in reproductive success appeared to be more driven by spawning-site selection. Tonseth agreed to ask Mike Hughes whether his presentation to BPA could be shared with the HCP-HCs and PRCC HSC.

Tracy Hillman asked whether there is a difference in fitness between hatchery-origin and natural-origin spawners. Tonseth said there appears to be a difference in reproductive success between hatchery-origin returns and wild fish. It appears differences in reproductive success are predominantly attributed to spawning locations: hatchery-origin fish are more likely to spawn in the lower Chiwawa River, where the spawning habitat is of lower quality. Tonseth said that spawners in the lower river do have lower productivity but surviving progeny of both natural-origin and hatchery-origin spawners sought out higher-quality habitat in upper reaches of the Chiwawa River, suggesting that the spawning location of hatchery-origin returns has more to do with where they were released. Hillman commented that if there is no significant difference in fitness for fish spawning in the same location, then perhaps there is less of a need to manage for PNI. Tonseth said that with a small population, there is still concern about effective population size, and management choices may be made to try to offset that risk.

Murdoch said that an All-H approach to management might consider how to make hatchery-produced fish more productive in that habitat. Tonseth said that the RSS outcomes may set the stage for discussion that was not previously considered.

## **E. Hatchery and Genetic Management Plans and Permit Renewals**

Mike Tonseth said that all Wenatchee Basin spring Chinook Salmon and steelhead hatchery program permits expire in 2026, Methow Basin spring Chinook Salmon and steelhead permits expire in 2027, and summer Chinook Salmon permits expire in 2029. He said that he has discussed this timeline with



Brett Farman. Also, permits for Mitchell Act hatcheries expire in 2028, so there are going to be a lot of consultations with National Marine Fisheries Service (NMFS) occurring during that timeframe. The Portland NMFS office is going to receive many permit renewal applications within the same period. Farman said all the Snake Basin hatchery permit consultations will likely fall to him, and he added that some new staff are starting to come on board. Tonseth said that Natasha Preston (NMFS) is aware of permit renewals that will be coming from the upper Columbia Basin programs in addition to the Mitchell Act hatcheries and Snake Basin programs. Tonseth suggested that the sooner that HGMPs for upper Columbia Basin programs can be developed, discussed, and approved within the Committees for submittal to NMFS, less time may be needed for permit approval. Tonseth said that the programs want to avoid operating on extensions for 10 to 12 years again because that would be a decade of lost opportunities to implement program changes.

Todd Pearsons said that it would be helpful to get an estimate from NMFS on how long the consultations will take, in order to then set target dates for the HCP-HCs and PRCC HSC to conclude discussions on the HGMPs. Farman said that the timeline will also depend on the number of major changes being proposed for the programs. Tonseth said it is likely that the majority of the changes will occur with spring Chinook Salmon, based on the discussions to date. Assuming the Committees will likely need 1 to 2 years to edit HGMPs, the process would need to start with spring Chinook Salmon in 2024, followed by steelhead in 2025.

Tracy Hillman asked whether the HGMPs can be easily updated and submitted again for consultation. Tonseth said that this can be done, but there have been several conversations around program components that will take more time, including how to monitor PNI or translocation of various life-stages. Tom Kahler noted that those components would be included at least to obtain permits for a range of actions that could be allowed. Tonseth said that there is a need to build in enough management flexibility so that the permits do not have to be consulted on again. The previous HGMP development started in 2009, but the consultation was not initiated right away. Kahler said that much of what took time on the manuscript production side of the previous effort was mainly to modernize the documents, and there is now a better foundation to work from.

Tonseth said that the current Statement of Agreement (SOA) for the White River spring Chinook Salmon program (SOA number 2013-01) expires in 2026 as well. It was included in the current HGMP, but during the 2013 recalculation, the decision was made to include the White River production into the Nason program. Murdoch said that the White River SOA also describes the process for reviewing the program, based on policy discussions.

Pearsons said that he is hopeful because the ongoing discussions about M&E and management decisions are the kind of things that need to be adjusted in the HGMPs. And there may not be a need to discuss the facilities; that was something that took a lot of work last time.

Tonseth said that, in the past, the PUDs provided a first draft of each HGMP including proposed actions for Committee discussion. Pearsons asked whether the management recommendations identified in the 10-Year Comprehensive Report would be those proposed actions. Tonseth agreed that is correct, but there are other strategies that might not come from the 10-year review, for example, translocation concepts and Twisp spring Chinook Salmon brood management.

Todd Pearsons said that, in the past, proposed actions were also anchored by a comanager management plan. Portions of the plan will be updated, especially based on Wenatchee spring Chinook Salmon pre-spawn mortality values. Pearsons suggested reviewing the HGMPs to identify areas where a PUD cannot unilaterally decide to make a management change.

### **III. Administration**

#### **A. NWFSC HARP Model Development**

The NOAA Northwest Fisheries Science Center's Habitat Assessment and Restoration Planning model presentation to the Mid-Columbia Committees will occur on Wednesday, August 9 in the Douglas PUD Auditorium. The start time is likely to be 9:00 a.m., lasting to 3:00 p.m. There will be a Teams link for virtual attendance. Tracy Hillman will forward the agenda to these groups. There will likely be breakout meetings planned with the individual committees and subcommittees in the future.

#### **B. September Meeting with Tour**

Tom Kahler asked about people's preferences for an in-person meeting and Methow site tour in September. Sites to visit in addition to the Twisp acclimation pond could include the Methow Hatchery, Chewuch acclimation site, Eightmile acclimation site, and Carlton acclimation site. Tom Kahler said that he will coordinate with Methow Hatchery staff to host the September meeting there.

#### **C. Next Meetings**

The next HCP-HCs and PRCC HSC meetings will be held on Wednesday, August 16; Wednesday, and Wednesday, October 18, 2023, in person at the Douglas PUD Auditorium; and Wednesday, September 20 at the Methow Hatchery. Virtual access will also be available for those who cannot attend the meetings. The meetings will start at 10:00 a.m.

### **IV. Attachments**

Attachment A List of Attendees

**Attachment A  
List of Attendees**

Name	Organization
Larissa Rohrbach	Anchor QEA, LLC
Tracy Hillman	BioAnalysts, Inc.
Scott Hopkins*°	Chelan PUD
Catherine Willard*	Chelan PUD
Betsy Bamberger	Douglas PUD
Andrew Gingerich°	Douglas PUD
Tom Kahler*	Douglas PUD
Rod O'Connor**°	Grant PUD
Todd Pearsons°	Grant PUD
Tim Taylor°	Grant PUD
Brett Farman**°	National Marine Fisheries Service
Katy Shelby°	Washington Department of Fish and Wildlife
Mike Tonseth**	Washington Department of Fish and Wildlife
Keely Murdoch**	Yakama Nation
John Rohrback	Douglas PUD

Notes:

\* Denotes HCP-HCs member or alternate

‡ Denotes PRCC HSC member or alternate

° Joined remotely