

# Memorandum

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To: Wells, Rocky Reach, and Rock Island HCP Hatchery Committees and Priest Rapids Coordinating Committee Hatchery Subcommittee Document Date: January 21, 2025

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

cc: Caitlin Burd and Larissa Rohrbach, Anchor QEA

**Re: Minutes of the December 18, 2024, Joint 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 virtually on Microsoft Teams on Wednesday, December 18, 2024, from 9:00 a.m. to 12:05 p.m. Attendees are listed in Attachment A to these meeting minutes.

## Action Item Summary

### *Long-Term*

#### **Joint HCP Hatchery Committees and PRCC Hatchery Subcommittee**

- 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.)*
- Keely Murdoch will assemble a group to review the Wenatchee Spring Chinook Salmon Management Plan (Item I-A). *(Note: This item is ongoing.)*

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

#### **Joint HCP Hatchery Committees and PRCC Hatchery Subcommittee**

- Murdoch and Tom Kahler will meet to discuss acceptable language for the Twisp River summer steelhead conservation program and the Twisp River spring Chinook Salmon program in the 10-Year Comprehensive Report Summary. Revisions to the document will be brought to the committee for approval (Item I-B). *(Note a revised version and request for approval was distributed by Larissa Rohrbach on December 31, 2024)*
- PUD leads will populate the draft 2025 Broodstock Collection Protocols document with data, including biological assumptions, juvenile release plans, and marking and tagging operations.

PUD edits should be completed by mid-January to prepare the document for committee review by February 10, 2025 (Item I-C).

- John Rohrback will inquire into the status of repairs to the Twisp River weir (Item I-C).
- Committee members will begin identifying metrics to integrate into the updated Habitat Genetic Management Plan (HGMP). Brett Farman will review these metrics to streamline document development (Item I-D).
- Committee members will produce a list of recommended revisions to the 2019 Monitoring and Evaluation (M&E) Plan based on the 10-Year Comprehensive Report Summary for discussion at the January 15, 2025, meeting (Item I-E).

## Decision Summary

- The HCP-HCs and PRCC HSC approved the implementation of air-spawning methods for the Wenatchee steelhead conservation program.
- The HCP-HCs and PRCC HSC approved adding Lindsay Ciepiela to the primary and secondary distribution lists.
- The PRCC HSC approved Grant PUD's *Priest Rapids Hatchery Monitoring and Evaluation Annual Report for 2023 – 2024* (2023 to 2024 M&E Report), as revised during the meeting.

## Review Items

- The draft 2025 Broodstock Collection Protocols document was distributed for review by PUD leads on December 17, 2024. The PUD review period will extend to mid-January 2025.

## Finalized Documents

- The final *Priest Rapids Hatchery Monitoring and Evaluation Annual report for 2023 and 2024* was distributed following the meeting on December 23, 2024.

## I. Joint HCP-HCs and PRCC HSC

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

Tracy Hillman welcomed the HCP-HCs and PRCC HSC and reviewed the agenda. Several agenda items were reordered. HCP-HC and PRCC HSC representatives approved the revised agenda.

The HCP-HCs and PRCC HSC welcomed Lindsey Ciepiela to the committee. The HCP-HCs and PRCC HSC approved adding Ciepiela to the primary distribution list.

The revised meeting minutes from November 20, 2024, meeting were reviewed and approved by parties that attended.

Action items from the HCP-HCs and PRCC HSC November 20, 2024, meeting were reviewed.  
(Note: *Italicized text below corresponds to action items from the previous meeting.*)

### **Long-Term**

#### **Joint HCP Hatchery Committees and PRCC Hatchery Subcommittee**

- *Members of the HCP-HCs and PRCC HSC will provide feedback to the WDFW-revised version of questions on recalculation for Policy Committees. (Note: This item is ongoing.)*
- *Keely Murdoch will assemble a group to review the Wenatchee Spring Chinook Salmon Management Plan. (Note: This item is ongoing.)*

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

#### **Joint HCP Hatchery Committees and PRCC Hatchery Subcommittee**

- *Tracy Hillman will distribute the revised Ten-Year Comprehensive Report Summary for committee review for approval during the December 18, 2024, meeting.*
  - This action item is complete.
- *Mike Tonseth will prepare a preliminary draft of the 2025 Broodstock Collection Protocols to be distributed to PUD leads for review the first week of December.*
  - This action item is complete.

### **RI/RR HC**

- *Committee members will review the WDFW BY2024 Wenatchee Steelhead Air-Spawning Evaluation and provide comments to Clint Deason, Katy Shelby, and Catherine Willard prior to the December 18, 2024, meeting.*
  - This action item is complete.

## **B. Approve the Revised Ten-Year Comprehensive Report Summary**

Hillman reminded the committees that the 10-Year Comprehensive Report Summary went out for review on October 23, 2024. Comments focused on language changes and organization of report sections. The committees reviewed the comments and edited the document in the meeting.

Keely Murdoch disagreed with language used in Section 3.2, Twisp River Summer Steelhead Conservation Program (subsection Key Results), regarding management of proportionate natural influence (PNI) goals for increased abundance. John Rohrback said the language in this section was already approved by the committees. Murdoch said she does not recall personally approving the use

of language in the document. Hillman said the committees did approve the language in this section, but all members were given an opportunity to provide a final review of the document.

The comment was retained to accommodate ongoing coordination. Murdoch and Tom Kahler will meet to discuss acceptable language for the Twisp River summer steelhead conservation program and the Twisp River spring Chinook Salmon program. Revisions to the document will be brought to the committee for approval in January.

Murdoch commented in Section 3.4, Wells Hatchery Summer Steelhead Safety-Net Program (subsection Management and Monitoring Recommendations), that there are not enough data to make a management recommendation specific to the Wells Columbia safety-net (CSN) program. Data have not been reviewed to indicate contribution to the spawning population and the effects of the two-zone management system in the Methow River. It is difficult to understand whether adult management of CSN steelhead in the Methow River can be augmented without knowing their location within the basin. There is an assumption that Methow safety-net (MSN) program steelhead remain in the lower zone; however, there are no concrete data to back up this assumption. John Rohrback said there are not enough passive integrated transponder tags in use to sufficiently assess distribution. The next best source of data is the Priest Rapids Patch Occupancy Model (PRD POM), which does not differentiate between CSN and MSN fish. The PRD POM has provided spawning escapement estimates in all patches of the Methow River. Parental-based tagging will be used to amplify sample sizes and generate more specific data for MSN and CSN steelhead throughout the Methow River. Murdoch noted these data were not presented in the 10-Year Comprehensive Summary Report.

Language was modified in Section 3.4 and added to Section 3.3 to reflect the edits discussed during the meeting. Rohrback said the original language was intended to convey that augmented adult management would help achieve PNI goals. Tonseth said it is important to note that this report references data that are approximately 10 years old. MSN releases within the Methow River have been reduced after the last recalculation, and some fish were transferred to the CSN program.

### **C. 2025 Broodstock Collection Protocols – Individual Assignments and Document Preparation**

The draft 2025 Broodstock Collection Protocols report was distributed for PUD-lead review on December 17, 2024. PUD leads should focus on populating Appendices A, B, D, F, and H by mid-January with information such as biological assumptions, juvenile release plans, and marking and tagging operations. Tonseth will coordinate the first stage of internal PUD document review. The revised document will be co-released and distributed to the committees as a whole by February 10, 2025. Anchor QEA will oversee document coordination during the wider committee review process.

Tonseth asked whether the Yakama Nation is on track to provide Coho Salmon broodstock collection plans for incorporation into Appendix I in February. Murdoch will inquire into the timing of preparation and noted it is usually ready to be incorporated in January.

Murdoch asked whether Douglas PUD can provide an update on the repairs at the Twisp River weir. Temporary fixes have not been successful at fixing the problem of keeping the pickets up since 2021. These problems may exacerbate problems with broodstock collection from this location where we have been having a difficult time collecting sufficient brood. . John Rohrback will inquire into the status of repairs to the Twisp River weir.

#### **D. Habitat Genetic Management Plan Updates**

Hillman reminded the committees that additional meeting days in the future may be required to update the HGMP. Members will begin identifying metrics to integrate into the updated HGMP. Brett Farman will review these metrics to streamline the document updating process and ensure National Marine Fisheries Service (NMFS) consultation is conducted efficiently. It would be beneficial for members to provide a list of anticipated changes to the existing programs.

Farman said that while a sufficiency letter will not be issued during the NMFS consultation, the same consultation process will remain. An informal process will be conducted through email notices rather than a signed letter. This change is due to the length of time it takes to get sufficiency letters signed. Consultation will be able to get initiated in a timely manner by implementing this less formal process.

Catherine Willard would like clarification on how the makeup of the Chiwawa spring Chinook Salmon program (100% conservation fish) was formulated. This information would help Chelan PUD with the planning processes. Tonseth replied that the most recent recalculation reduced the program number to 144,000 fish. Tonseth and Murdoch are incorporating the spring Chinook Salmon relative reproductive success (RRS) study results into their updates of the Wenatchee Spring Chinook Salmon Management Plan. This information will be used to determine whether the current makeup of the Chiwawa spring Chinook Salmon conservation program is realistic. Murdoch said that this HGMP update provides the opportunity to explore alternate program options such as implementing a singular program composed of natural-origin and hatchery-origin fish.

Todd Pearsons said that Grant PUD has made updates to the Nason Creek HGMP and provided edits to the document in tracked changes. Rod O'Connor inquired on the timing and format of committee review of data and results from the spring Chinook Salmon RRS study. Tonseth replied that the data are presently being compiled and analyzed. Murdoch said new RRS data and final reports have not been shared with her or Tonseth. The data she referenced were previously published in annual reports.

Tonseth said January 2025 would be too soon to implement a separate meeting day dedicated to HGMP updates. This conversation will be revisited in January to potentially add an additional meeting date in February 2025.

### **E. Update the Monitoring and Evaluation Plan for PUD Hatchery Programs**

Hillman reminded the committee that there are several recommendations that apply to the 2019 M&E Plan in the 10-Year Comprehensive Report Summary. The goal is to complete updates to the M&E Plan by summer 2025. This will help inform the PUDs' future contracting plans.

Tonseth said WDFW has begun reviewing M&E objectives as well as the key parts of analytical frameworks associated with each objective. Murdoch said that it may be beneficial to establish a separate meeting time to focus on major revisions of the M&E Plan. This meeting would be composed of hatchery committee members and technical staff (Hatchery Evaluation Technical Team [HETT]). Committee members will produce a list of recommended revisions to the 2019 M&E Plan based on the 10-Year Comprehensive Report Summary for discussion at the January 15, 2025, meeting.

Pearsons said it would be helpful to give each organization technical assignments. They can work with their technical experts and discuss suggestions internally before posing them to the committees. Catherine Willard said the issue with having separate HETT meetings is that it is not an efficient process because she foresees the HETT making a recommendation to the committees, and if the committees do not agree, it would be a prolonged process. It would be more efficient to have the technical staff attend the committee meetings when discussing the M&E Plan revisions. The one M&E objective she could foresee the HETT working on is updating the size at release targets, but she still prefers not having separate HETT meetings.

Murdoch said that designating work to the HETT or a new technical subgroup would function in the same manner. The involvement of technical staff and additional time to discuss M&E recommendations is needed to address the required updates. Pearsons noted that there are different individuals participating in the HETT versus other technical subgroups. A subgroup of the hatchery committees is composed of a body of representatives making decisions. In comparison, members of the HETT only make recommendations. Murdoch disagreed that subgroups of the hatchery committees can make decisions. Technical staff should freely participate in the subgroup.

Hillman said that members who made recommendations to the M&E Plan that were supported by the committees should work with their technical staff to address those recommendations. After committees' review of proposed updates, the committees may request additional technical input from outside sources. The committees will begin addressing Objective 1 in January.

## II. RI/RR HC

### A. DECISION: Air Spawning for the Wenatchee Steelhead Conservation Program Female Broodstock

Willard reminded the committees that WDFW presented on the 2024 comprehensive results of air spawning of Wenatchee River steelhead females at the November 20, 2024, meeting. Willard shared data updates and presented *Additional Considerations Regarding the Air Spawn Method*. This presentation is included in Attachment B of the meeting notes.

The estimated number of broodstock needed for conservation program green-egg take is 6.9 additional females using a 2×2 factorial cross. An estimated 4.5 additional pairs will be needed for green-egg take in the safety-net program using a 1×1 cross. Lethal spawning allows for all eggs to be removed from females. Residual eggs would not be reared in the hatchery and remain in the female using the air-spawning method. The female would not be culled and instead incorporated into the kelt program. Lethal spawning allows for all eggs to be removed from culled females.

Green- to eyed-egg survival is higher using the air-spawning method for both the conservation and safety-net programs because the residual eggs are not included. Murdoch said it is theorized that the green- to eyed-egg survival ratio is higher for air-spawned females because residual eggs are often not viable. Willard said safety-net and conservation program survival rates compiled with lethal spawning results from 2013 to 2022 informed the calculation of the eyed-egg differences of 3,050 (equivalent to one additional female) for the conservation program and 11,323 (equivalent to three additional pairs) for the safety-net program.

The Brood Year 2024 conservation program broodstock collection target is 34 females. The Yakama Nation's Upper Columbia Steelhead Kelt Reconditioning Project averages a 41.4% survival to release rate. Based on these metrics, 14 of the 34 females collected for the conservation program would be successfully reconditioned and released into the wild.

Tonseth noted there may be confusion in the use of the factorial cross in the data. A 2×2 factorial cross splits each female and male into two equal parts. Each male would be crossed with one batch of eggs from each female and vice versa. Approximately 6.9 males would be needed in addition to the females for the conservation program. These males are not represented in the results. Willard agreed and said the gametes from each male and female are divided equally between each part to create four unique crosses between two pairs.

The HCP-HCs and PRCC HSC approved the implementation of air-spawning methods for the Wenatchee steelhead conservation program.

### III. PRCC HSC

#### A. DECISION - M&E Annual Report 2023 – 2024

Grant PUD's *Priest Rapids Hatchery Monitoring and Evaluation Annual Report for 2023 – 2024* (2023 to 2024 M&E Report) was distributed for subcommittee review on November 18, 2024. A comment received from Tonseth regarding steelhead take exceedance at the Priest Rapids Hatchery (PRH) volunteer trap was discussed in Item II-E.

The PRCC HSC approved Grant PUD's 2023 to 2024 M&E Report, as revised during the meeting.

#### B. Steelhead Encounters at Priest Rapids Hatchery

Grant PUD exceeded take for steelhead at the PRH volunteer trap in 2023. A total of 22 steelhead were encountered at the PRH volunteer trap with three adipose-clipped steelhead reported as mortalities. The corresponding permit allowed 15 fish to be encountered and stated that a mortality rate of 3% was acceptable. Exceedances of take were not reported to NMFS in 2023 or 2024. Grant PUD will improve communication between hatchery staff and PUD staff to prevent take exceedances and ensure permit conditions are followed and met. Pearsons inquired on the best way to address take exceedances with NMFS. Farman would be the primary NMFS contact to report these occurrences. An email detailing the exceedance shortly after it occurs should be sufficient.

Pearsons said the Habitat Genetic Management Plan has encouraged consistent operation of the PRH volunteer trap. If the trap is open 24 hours a day and 7 days a week, the number of steelhead encountered will be exceeded. How can Grant PUD best balance challenges with trapping, proportionate natural influence management and broodstock collection with the potential for encounters with steelhead?

Farman said encounter rates identified in biological opinions are often based on population size and not biological limitations. Exceedances in encounter rates are less concerning than exceedances in mortality rates. An effects determination remains valid even if a program demonstrates an increased handling rate as long as the mortality rate is lower than the stated threshold. A formal approval process through the subcommittee would be required for a permit update. Truscott asked whether mortality guidelines function as a rate versus a numerical number. Farman replied that mortality limits are set in both rates and predicted maximum values. Tonseth said it would be beneficial to identify realistic values of what encounter and mortality rates are anticipated for steelhead during the operation of the PRH volunteer trap to inform program reconsultation in 2029.

## **IV. Administration**

### **A. Next Meetings**

The next meetings of the HCP-HCs and PRCC HSC will be held on January 15, 2025, February 19, 2025, and March 19, 2025.

## **V. Attachments**

Attachment A Meeting Attendees

Attachment B Additional Considerations Regarding the Air Spawn Method.

**Attachment A**  
**List of Meeting Attendees**

Name	Organization
Caitlin Burd <sup>o</sup>	Anchor QEA
Tracy Hillman <sup>o</sup>	BioAnalysts, Inc.
Ross Renick <sup>o</sup>	Chelan PUD
Catherine Willard <sup>*o</sup>	Chelan PUD
Brandon Kilmer <sup>o</sup>	Douglas PUD
John Rohrback <sup>*o</sup>	Douglas PUD
Tom Kahler <sup>*o</sup>	Douglas PUD
Rod O'Connor <sup>‡o</sup>	Grant PUD
Deanne Pavlik-Kunkel <sup>‡o</sup>	Grant PUD
Todd Pearsons <sup>‡o</sup>	Grant PUD
Tim Taylor <sup>*‡o</sup>	Grant PUD
Lindsay Ciepiela <sup>o</sup>	Washington Department of Fish and Wildlife
Mike Tonseth <sup>*‡o</sup>	Washington Department of Fish and Wildlife
Katy K Shelby <sup>o</sup>	Washington Department of Fish and Wildlife
Matthew Maxey <sup>*‡o</sup>	U.S. Fish and Wildlife Service
Charles Frady <sup>*‡o</sup>	U.S. Fish and Wildlife Service
Brett Farman <sup>*‡o</sup>	National Marine Fisheries Service
Keely Murdoch <sup>*‡o</sup>	Yakama Nation
Kirk Truscott <sup>*‡o</sup>	Confederated Tribes of the Colville Reservation

Notes:

\* Denotes HCP-HCs member or alternate

‡ Denotes PRCC HSC member or alternate

<sup>o</sup> Joined remotely

It is necessary to determine whether the air spawning method can be utilized for the Wenatchee steelhead conservation (WxW) program, while ensuring the smolt production target is still met. Only conservation (natural-origin) females would be air-spawned and incorporated into the kelt reconditioning program.

In “WDFW BY2024 Wenatchee Steelhead Air-Spawning Evaluation” the number of additional broodstock needed to produce the same green-egg take for the conservation program (169,739) and the safety-net program (154,241) using the air-spawn method was estimated as 6.9 (29,152/4,239 (median fecundity)) additional females for the conservation program and 4.5 (19,384/4,334 median fecundity) additional pairs for the safety-net program (Table 1).

*Table 1. Adjusted green-egg take target, green-egg take for air-spawn, residual, and total eggs, percent of air-spawn and residual eggs to total eggs collected for conservation and safety-net program.*

Program	Adjusted Egg Take Target <sup>1</sup>	Air-Spawn Egg Take	Residual Egg Take	Total Egg Take	% of Air-Spawn Eggs	% of Residual Eggs
Conservation	179,136	140,587	29,152	169,739	82.8%	17.2%
Safety Net	171,060	134,857	19,384	154,241	87.4%	12.6%
<b>Total</b>	<b>350,196</b>	<b>275,444</b>	<b>48,536</b>	<b>323,980</b>	<b>85.0%</b>	<b>15.0%</b>

<sup>1</sup>Adjusted green-egg take target calculated using number of BY2024 females spawned x average fecundity from the 2023 Broodstock Collection Protocol.

The median green-egg to eyed-egg survival is higher for eggs from the air-spawn method for both conservation (92%) and safety-net (89%) groups compared to median green-to-eyed egg survival for brood years 2013 to 2022 for lethally spawned steelhead at Eastbank (78%) (Table 2). Brood year 2024 median green to eyed egg survival for conservation program air-spawn collected eggs met the survival target of 92% from the 2023 M&E report (Table 2).

*Table 2. Median percent of green-egg to eyed-egg survival for air-spawn, residual, and total (air-spawn + residual) eggs for the BY 2024 conservation, safety-net and combined (total) programs. Median (min/max) percent for the BY 2013-2022. Survival target is from the 2023 M&E Annual Report.*

Program	Survival Target	Air-spawn	Residual	Total	BY2013- 2022
Conservation	92%	92%	38%	86%	78% (58%-91%)
Safety-net	92%	89%	4%	82%	85% (73%-99%)
<b>Total</b>	<b>92%</b>	<b>90%</b>	<b>17%</b>	<b>84%</b>	<b>82% (68%-95%)</b>

The higher green-egg to eyed-egg survival for air-spawned eggs should be considered when comparing the air spawn method to the lethal spawn method. Table 3 calculates the difference in eyed-eggs produced when using the green-egg to eyed-egg survivals for the air-spawn eggs versus hypothetical lethal-spawned eggs for both the conservation and safety-net programs. The difference is 3,050 eyed eggs, which is equivalent to one additional female with a median fecundity of 4,239 for the conservation program and 11,323 eyed eggs, which is equivalent to 3 additional pairs with a median fecundity of 4,334.

Table 3.

	Green-eggs	Green egg to eyed egg survival	Eyed-eggs	Eyed-egg Difference	
Air-spawn (Conservation)	140,587 <sup>1</sup>	92%	129,340	3,050	1 additional female
Lethal-spawn	169,731 <sup>2</sup>	78% <sup>3</sup>	132,390		
Air-spawn (Safety-net)	134,587	89%	119,782	11,323	3 additional pairs
Lethal-spawn	154,241 <sup>2</sup>	85% <sup>4</sup>	131,104		

<sup>1</sup>The total number of green-eggs collected with the air-spawn method only (no residual eggs included).

<sup>2</sup>The total number of green-eggs collected (air-spawn eggs plus residual eggs) with the air-spawning method was used as a hypothetical number of green-eggs collected for the lethal spawn method.

<sup>3</sup>Median percent green-egg to eyed-egg survival for the brood year 2013-2022 conservation program.

<sup>4</sup>Median percent green-egg to eyed-egg survival for the brood year 2013-2022 safety-net program.

#### Contribution of reconditioned kelt spawners

Based on the 2023 Broodstock Collection Protocols, the collection target for brood year 2024 conservation program was 34 females. Live-spawned steelhead broodstock in the YN's Upper Columbia Steelhead Kelt Reconditioning project have average survival to release rate of 41.4%. In this example, 14 females would be successfully reconditioned and released back into the wild in October to spawn the following spring.

#### Ovaplant-L and LHRHa

Ovaplant-L has traditionally been used as the spawning hormone to induce gonadal maturation, including for the 2024 air-spawn evaluation. However, for kelts that are to be released into the wild, LHRHa is the only approved spawning hormone. During the November Hatchery Committee meeting, Megan Finley noted that LHRHa has not been assessed for its potential impacts on egg development, eye-up rates, or its overall effectiveness. For the 2023 brood year, 8 of 52 females required injection with a spawning hormone, while for the 2024 brood year, 18 of 62 females needed to be injected. Based on the past two years of spawning, 15% and 29% of the females needed to be injected with a spawning hormone to induce gonadal maturation.

Spawning hormones are also used to induce gonadal maturation for males. It is recommended that all males receive Ovaplant-L injections going forward. Males are thought to have limited value in a

reconditioning program and their inclusion may not outweigh the challenges the use of LHRH seems to create for the Eastbank program. If YN wishes to experiment with reconditioning live-spawned males, it could be done with those that do not require Ovaplant-L, if there are any.