

## Memorandum

---

To: Wells, Rocky Reach, and Rock Island HCP  
Coordinating Committees

Date: September 27, 2023

From: John Ferguson, HCP Coordinating Committees Chairman

cc: Kristi Geris, HCP Coordinating Committees Support

**Re: Final Minutes of the August 22, 2023, HCP Coordinating Committees Meeting**

---

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Coordinating Committees met in person at Wanapum Dam in Beverly, Washington, on Tuesday, August 22, 2023, from 9:00 a.m. to 12:30 p.m. Attendees are listed in Attachment A to these meeting minutes.

### Action Item Summary

1. Chelan PUD will continue providing Rocky Reach Dam and Rock Island Dam turbine unit maintenance updates as information becomes available (Item I-C).
2. National Marine Fisheries Service (NMFS) will provide a summary of study fish and tagging protocols used in studies conducted at federal dams on the Columbia and Snake rivers in recent years (Item I-C).
3. Chelan PUD will inquire internally about the appropriate timing to engage the HCP Coordinating Committees in discussing the collection of additional run-timing information and conducting species composition monitoring at Rock Island Dam and Rocky Reach Dam in 2024 (Item I-C).
4. Douglas PUD will draft for Wells HCP Coordinating Committee review an updated section in the Wells HCP 2023 No Net Impact (NNI) Comprehensive Progress Report that summarizes "whether each Plan Species is rebuilding," per the Wells HCP (Item I-C).
5. Douglas PUD will conduct a post hoc analysis of passive integrated transponder (PIT) detections of steelhead within the east and west adult fish ladders at Wells Dam to evaluate passage rates during Pacific Lamprey trap operations from August 28 to September 15, 2023 (Item III-B).
6. Chelan PUD will verify the passage dates of the two PIT-tagged adult spring Chinook Salmon that were observed passing Rock Island Dam on or after July 1, 2022, which were excluded from the adult conversion rate in the 2022 Rocky Reach Confirmation Survival Study (Item IV-A).  
*(Note: Lance Keller provided a summary of PIT-tagged adult spring Chinook Salmon passage dates on September 12, 2023, which Kristi Geris distributed to the HCP Coordinating Committees that same day.)*
7. The Rocky Reach HCP Coordinating Committee will be prepared to vote on the statement of agreement (SOA) *Approval of the Methodology to Evaluate the Adult Conversion Rate for Spring Chinook Through the Rocky Reach Project in 2023* and appended *Rocky Reach Spring Chinook Salmon Adult Conversion Rate: Summary of Methods* during the HCP Coordinating Committees meeting on September 26, 2023 (Item IV-A).

8. Washington Department of Fish and Wildlife (WDFW) will correct the sample sizes used to calculate Yakima River steelhead overshoots (Slide 5) and the proportion of wild Wenatchee steelhead overshoots detected in the Wenatchee River (Slide 11), as shown in the presentation, *UCR Overshoot Steelhead Part 4*, that was shared during today's meeting (Item V-A). (Note: Andrew Murdoch provided a revised presentation on August 24, 2023.)
9. Anchor QEA, LLC (Anchor QEA), will coordinate with Bryan Nordlund (Priest Rapids Coordinating Committee [PRCC] chairman), Chelan PUD, and Douglas PUD regarding a possible joint session with the PRCC to discuss WDFW's memorandum, "Wild Spring Chinook Smolt Survival," during the HCP Coordinating Committees meeting on September 26, 2023 (Item V-B). (Note: A joint session is planned, as discussed.)
10. The HCP Coordinating Committees will discuss a possible Subyearling Chinook Salmon Workshop to occur in the near future, during the HCP Coordinating Committees meeting on September 26, 2023 (Item VI-A). (Note: Kristi Geris redistributed materials from the 2009 and 2016 Subyearling Chinook Salmon Workshops after the HCP Coordinating Committees meeting on August 22, 2023.)
11. The next scheduled HCP Coordinating Committees meeting is on Tuesday, September 26, 2023, from 9:00 a.m. to no later than 1:30 p.m. and is to be held in person at the Wanapum Dam Hydro Office Building, Room 107, in Beverly, Washington (Item VII-A).

## Decision Summary

1. There were no HCP Decision Items approved during today's meeting.

## Agreements

1. The Wells HCP Coordinating Committee agreed to Douglas PUD's proposed Pacific Lamprey trap operations from August 28 to September 15, 2023, with regard to passage of HCP Plan Species and contingent on Douglas PUD conducting a post hoc analysis of PIT detections of steelhead within the east and west adult fish ladders at Wells Dam (Item III-B).

## Review Items

1. The draft *Rock Island and Rocky Reach Anadromous Fish Agreements and Habitat Conservation Plans 2023 Comprehensive Progress Report* was distributed to the Rock Island and Rocky Reach HCP Coordinating Committees by Kristi Geris on February 10, 2023, and was available for a 60-day review, with edits and comments due to Lance Keller by April 11, 2023. This review period was extended to May 12, 2023. A draft Plan Species section of the Comprehensive Progress Report was distributed on September 12, 2023, and is available for a 30-day review with edits and comments due to Keller by October 12, 2023.

2. The draft *Northern Pikeminnow Predator Control Program, Rocky Reach and Rock Island Hydroelectric Projects, Draft Summary Report, 2021* and draft *Northern Pikeminnow Predator Control Program, Rocky Reach and Rock Island Hydroelectric Projects, Draft Summary Report, 2022* were distributed to the Rock Island and Rocky Reach HCP Coordinating Committees by Geris on July 24, 2023, and are available for a 60-day review, with edits and comments due to Keller by September 22, 2023.
3. Wells Project Land-Use Permit Applications for LUPs 109A-01, 109C-01, 128A-01, and 128B-01 were distributed to the Wells HCP Coordinating Committee by Geris on July 27, 2023, and are available for a 30-day review, with edits and comments due to Kahler by August 26, 2023 (Item III-A).
4. A draft letter to the Federal Energy Regulatory Commission (FERC), "Rock Island Hydroelectric Project No. 943 Continuation of Rehabilitation Work (Unit B8)," was distributed to the Rock Island HCP Coordinating Committees by Geris on July 29, 2023, and is available for review, with edits and comments due to Keller by August 30, 2023 (Item IV-C).
5. The draft *SOA Approval of the Methodology to Evaluate the Adult Conversion Rate for Spring Chinook Through the Rocky Reach Project in 2023* and appended *Rocky Reach Spring Chinook Salmon Adult Conversion Rate: Summary of Methods* were distributed to the Rocky Reach HCP Coordinating Committee by Geris on August 17, 2023 (Item IV-A).

## Finalized Documents

1. There are no documents that have been recently finalized.

### I. Welcome

#### A. Review Agenda (John Ferguson)

John Ferguson welcomed the HCP Coordinating Committees and reviewed the agenda. Ferguson asked for any additions or changes to the agenda. No additions or changes were requested.

#### B. Meeting Minutes Approval (John Ferguson)

The HCP Coordinating Committees reviewed the revised draft July 25, 2023, meeting minutes. Kristi Geris said that all edits and comments received from members of the Committees were minor clarifying edits that were incorporated into the revised minutes. HCP Coordinating Committees representatives present approved the July 25, 2023, meeting minutes, as revised. The Confederated Tribes of the Colville Reservation abstained because a representative did not participate in the July 25, 2023, meeting. (*Note: Scott Carlon provided NMFS approval of the revised minutes via email after the HCP Coordinating Committees meeting on August 22, 2023.*)

### C. Last Meeting Action Items (John Ferguson)

Action items from the HCP Coordinating Committees meeting on July 25, 2023, and follow-up discussions were as follows (*Note: Italicized text corresponds to agenda items from the meeting on July 25, 2023*):

1. *Chelan PUD will continue providing Rocky Reach Dam and Rock Island Dam turbine unit maintenance updates as information becomes available (Item I-C).*  
This will be discussed during today's meeting and will also be carried forward.
2. *NMFS will provide a summary of study fish and tagging protocols used in studies conducted at federal dams on the Columbia and Snake rivers in recent years (Item I-C).*  
This action item will be carried forward.
3. *Chelan PUD will inquire internally about the appropriate timing to engage the HCP Coordinating Committees in discussing the collection of additional run-timing information and conducting species composition monitoring at Rock Island Dam and Rocky Reach Dam in 2024 (Item I-C).*  
This action item will be carried forward.
4. *Chelan PUD will verify which populations (or hatchery programs) are represented in their Snake River steelhead (SRS) dataset along with the proportion of each group, as shared in the presentation Steelhead Overshoot Analyses in Upper Columbia River (Item V-A).*  
This will be discussed during today's meeting.
5. *Douglas PUD will draft for Wells HCP Coordinating Committee review an updated section in the Wells HCP 2023 No Net Impact (NNI) Comprehensive Progress Report that summarizes "whether each Plan Species is rebuilding," per the Wells HCP (Item IV-D).*  
This action item will be carried forward.

## II. HCP Hatchery and Tributary Committees Update

### A. HCP Hatchery and Tributary Committees Update (Tracy Hillman)

Tracy Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Tributary Committees meeting on August 10, 2023:

- *Budget Amendment:* In July 2023, following the HCP Tributary Committees meeting, the Wells HCP Tributary Committee received a budget amendment request from the City of Okanogan regarding the Salmon Creek Channel Realignment Project. The sponsor indicated that the bid price for constructing the project was well above the engineer's estimate. Because this project is scheduled to be implemented this year, the sponsor asked the Wells HCP Tributary Committee for an additional \$33,468 to complete the project. Because this was a time-sensitive request, the Wells HCP Tributary Committee approved the budget amendment on July 19, 2023. The total contribution from the Wells Plan Species Account is \$92,047.
- *Methow River M2@3R 30% Design Project:* The Methow Salmon Recovery Foundation gave a presentation on the 30% designs for the Methow River M2@3R Design Project. The purpose

of the project is to develop 30% and 60% restoration designs that will improve the complexity, quantity, and access to cold-water refuge between river miles 46.25 and 47.25 on the Methow River. The project will build upon previously completed restoration actions within the reach by implementing actions that will reengage 20 acres of floodplain habitat, increase instream structure, connect 0.4 mile of side channels, and increase critical thermal refugia opportunities. The sponsor walked the Committees through the 30% designs and described how the designs addressed concerns/comments raised by the Committees during their review of the 10% designs. The Committees provided feedback on the 30% designs and recommended the project advance to the 60% design phase.

- *Next Meeting:* The next meeting of the HCP Tributary Committees will be on September 14, 2023.

Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Hatchery Committees meeting on August 16, 2023 (*Note: Joint HCP Hatchery Committees/PRCC Hatchery Subcommittee items are noted by "joint," Wells HCP Hatchery Committee items are noted by "Wells," and Rock Island and Rocky Reach HCP Hatchery Committees items are noted by "RI/RR"*):

- *Feasibility of Alternate Gamete Collection for Okanagan Sockeye Salmon (joint):* Earlier this year, the Rocky Reach and Rock Island HCP Hatchery Committees approved an SOA regarding Chelan PUD's Okanagan Sockeye Salmon obligation. One of the statements in the SOA requires that Chelan PUD (in conjunction with Grant PUD, the Okanagan Nation Alliance [ONA], and the HCP Hatchery Committees) will determine the feasibility of collecting broodstock and/or gametes to support ONA's hatchery production in years when conditions are prohibitive or limited in the Okanagan River. Ryan Benson (ONA) joined the meeting, and the Committees brainstormed various options for collecting and transporting adults, gametes, or eyed eggs to the ONA hatchery. In general, transporting gametes or eyed eggs may be more feasible than transporting adults across the border. Chelan PUD is currently identifying and evaluating adult collection sites, Eastbank Fish Hatchery capacity, and permit requirements. If it is feasible to collect and transport broodstock, gametes, and/or eyed eggs, Chelan PUD will develop a consensus-based implementation plan.
- *10-Year Comprehensive Hatchery Program Review Summary Report (joint):* The HCP Hatchery Committees are developing a summary report based on results in the 10-year comprehensive reports. They developed a summary report template that each member is populating with key points from the 10-year comprehensive report. The summary report will also include potential changes to the monitoring and evaluation plan for the PUDs' Hatchery Programs. The Committees are currently working on the spring Chinook Salmon summary report and hope to have it completed in September 2023.
- *Tumwater Dam Maintenance (RI/RR):* Chelan PUD reported that they will begin maintenance work on Tumwater Dam beginning this fall 2023. Recall, Chelan PUD reported that the river

has eroded away some of the material under the apron of the dam. Maintenance will begin on river-right and should be completed by mid-October 2023. Work will then begin on river-left and should be completed by the end of 2023. The fishway will remain open at all times during maintenance work. Maintenance work will not interfere with Coho Salmon and steelhead broodstock collection.

- *Next Meeting:* The next meeting of the HCP Hatchery Committees will be on September 20, 2023, and will be held at Methow Fish Hatchery and will include visiting acclimation sites in the area.

### III. Douglas PUD

#### A. Wells Project Land-Use Permit Application for LUPs 109A-01, 109C-01, 128A-01, and 128B-01 (Tom Kahler)

Wells Project Land-Use Permit Applications for LUPs 109A-01, 109C-01, 128A-01, and 128B-01 were distributed to the Wells HCP Coordinating Committee by Kristi Geris on July 27, 2023, and are available for a 30-day review, with edits and comments due to Tom Kahler by August 26, 2023.

Kahler said that these are more formal permitting of existing uses at the sites to fulfill license requirements. Wells HCP Coordinating Committee representatives had no questions or comments at this time.

#### B. Pacific Lamprey Trap Testing at Wells Dam (Tom Kahler and John Rohrback)

Tom Kahler said that, for background, in 2007, Douglas PUD constructed and deployed Pacific Lamprey traps in the Wells Dam fishways. This was reviewed and approved by the Wells HCP Coordinating Committee at that time. Now, there is a renewed interest in deploying these traps.

John Rohrback (Douglas PUD) said that Douglas PUD is proposing to operate Pacific Lamprey traps in the east ladder of the Wells Dam fishway, with the goal of assessing the ability of Douglas PUD to collect Pacific Lamprey at Wells Dam. Last year, counts at Wells Dam were close to 1,700 fish. This year appears to be another high return year. To test the effectiveness of the traps, the proposal is to deploy two traps each night at 9:00 p.m. and raise the traps at 7:00 a.m. the next morning, from August 28 to September 15, 2023. This coincides with historical peak passage timing of Pacific Lamprey at Wells Dam and is when HCP Plan Species are less likely to be transiting through the fishway.

Kristi Geris shared on the video conference, photographs of the Pacific Lamprey traps (Attachment B), which were distributed to the HCP Coordinating Committees by Geris following the HCP Coordinating Committee meeting on August 22, 2023. Rohrback said, over the past several years, Douglas PUD has been translocating Pacific Lamprey from Priest Rapids Dam (PRD) to upstream of Wells Dam. Douglas PUD's traps are similar to those used at PRD. The traps sit flush with the

overflow weir and fishway wall at Ladder Pool 41. Some Pacific Lamprey that swim over the overflow weir fall into the trap.

Keely Murdoch asked about the first time the traps were tested. Kahler explained that in 2007 to 2008, Douglas PUD conducted a Dual-Frequency Identification Sonar (DIDSON) study to evaluate Pacific Lamprey behavior at the Wells Dam fishway entrances. The traps were deployed to collect study fish, but very few were collected, in part because Pacific Lamprey counts were so low at Wells Dam during that period. K. Murdoch asked what Douglas PUD will do with the fish after they are trapped. Rohrback said that fish will be enumerated and released into Ladder Pool 42.

K. Murdoch asked whether it would be beneficial to PIT-tag these fish. Rohrback said that Douglas PUD has already translocated approximately 1,000 Pacific Lamprey upstream of Wells Dam this year, all of which received PIT tags and were fin-clipped for genetics. K. Murdoch said that those fish were translocated, and these fish will have come back on their own and may be different than the translocated fish, and this could be an opportunity to learn from these fish.

K. Murdoch asked, additionally, if these traps were used in 2007 and 2008, why is there a need to test them again? She would assume that the traps still work. Rohrback said that Douglas PUD would like to see how the traps perform during a high run year. In 2007, Pacific Lamprey counts at Wells Dam were in the single digits. This year might be another high run at Wells Dam, and Douglas PUD wants to see how effective these traps are to understand whether the traps can be used for future studies. Regarding PIT-tagging fish, this requires additional staffing and planning and is not being considered because the goal right now is just to see whether these traps can collect fish effectively.

Andrew Gingerich said that historically for Pacific Lamprey studies, Douglas PUD has needed to obtain study fish from locations other than Wells Dam due to the low counts at the dam. Douglas PUD is interested in using these traps to collect study fish for the Wells Project at Wells Dam. The question here for the Wells HCP Coordinating Committee is whether the Committees have issues or concerns regarding the trapping affecting HCP Plan Species. These other non-salmonid details are discussions for the Aquatic Settlement Work Group (SWG).

Bill Gale said that PIT-tagging Pacific Lamprey this year to see how many fall back and reascend, which may be good information to understand for years with a leaner run.

Kirk Truscott said that it seems the proposed dates coincide with peak steelhead numbers at Wells Dam. In 2007, was there an assessment of passage delays for Plan Species during deployment of these traps?

Kahler recalled that the Wells HCP Coordinating Committee had a lengthy discussion, over multiple meetings, about the reasons these dates and hours were selected. The hours and dates were based on passage timing and when to expect the least interaction with Plan Species. Two topics were discussed: 1) trapping effects on Plan Species; and 2) the effects of manipulated fishway entrance

flows on Plan Species. The Standard Operating Procedures at Wells Dam stipulate that a 1.5-foot head differential at the fishway entrance be maintained. The Aquatic SWG was concerned that discharge through the fishway entrance necessary to maintain this 1.5-foot head differential was impeding Pacific Lamprey from entering the collection gallery. This DIDSON study was set up as a block design to test a 1.0-foot and 0.5-foot head differential. The Wells HCP Coordinating Committee was concerned that by diminishing the fishway head differential, this may also diminish Plan Species' ability to locate the fishway entrances. This was the primary concern back then, not so much impeding passage by operating the traps in the ladders.

John Ferguson asked about the review of diel patterns. Rohrback said that Douglas PUD reviewed Pacific Lamprey and HCP Plan Species PIT detections at Pool 19, from 2014 to present. For steelhead, 15.4% were detected between 9:00 p.m. and 7:00 a.m. and 20.4% were detected between August 28 and September 15. So, approximately 3.1% of the steelhead run is estimated to encounter the Pacific Lamprey traps. Ferguson said that if this includes both ladders, this value is divided by two. Truscott said that he recalled the east ladder receives heavier passage compared to the west ladder. Rohrback said that these values do include both ladders, but he can look at the individual ladders. Gingerich also noted that these traps only cover one portion of each of the two overflows located at each weir, and there are also two submerged orifices located directly below each overflow at each weir in the ladder where the bottom of the orifice is level with the floor of the ladder. Thus, these traps are not completely precluding passage opportunities at the weir.

Gale said that it seems this proposal is not really testing effectiveness. This is a "proof of concept." There is no known value to compare to. He cautioned to be careful with this language. Gingerich agreed and said this is a good point.

Kahler further explained that each of these pools has two orifices on the floor and two overflow weirs. Most fish pass through the orifices, Pacific Lamprey included. To get Pacific Lamprey to go up and over the overflow weir (and into the traps), a perforated plate can be installed in the floor orifices that presents a challenge for Pacific Lamprey attachment and help encourage fish to go up the wall to the overflow weir above the orifice. This plate will not be installed for this proposed trapping to see whether Pacific Lamprey enter the traps without it. If the plate is needed, it will need to be installed during this winter maintenance outage in preparation for a study next year.

K. Murdoch noted that no one answered Truscott's question about whether there was an assessment of passage delays in 2007 and 2008. Kahler said that at that time, there was no way to identify passage delays other than at the entrance, which was done by reviewing travel times between Rocky Reach Dam and Wells Dam. Again, any delays by this calculation were not about the trapping operations; rather, it would have been about the fishway entrance conditions that were being tested with the DIDSON study. For this year, there is PIT detection at Pool 19 in the orifice, not at the overflow weirs, so not all fish are exposed to PIT detectors, and there is really good PIT-detection



capability at Pool 67/68. Douglas PUD could do a post hoc analysis to see how long it took fish to migrate from Pool 19 to Pool 67/68, maybe in both ladders, just to see what the data look like. K. Murdoch thinks that this is a worthwhile exercise. Gingerich agreed but caveated that this analysis will likely be hampered by sample size. This would only include steelhead, and only 1.5% of the run (for the east ladder only). How many of these fish are actually PIT-tagged?

Gale asked whether this has already been approved by the Aquatic SWG. Gingerich said that no, he did not want to engage the Aquatic SWG until he received Wells HCP Coordinating Committee approval. Gale said that agreement in this Committee is just regarding HCP Plan Species, not Bull Trout, for example, because he would need to discuss this with RD Nelle (U.S. Fish and Wildlife Service Aquatic SWG Representative). Gingerich said that this is correct.

The Wells HCP Coordinating Committee agreed to Douglas PUD's proposed Pacific Lamprey trap operations from August 28 to September 15, 2023, with regard to passage of HCP Plan Species, and contingent on Douglas PUD conducting a post hoc analysis of PIT detections of steelhead within the east and west adult fish ladders at Wells Dam.

Douglas PUD will conduct a post hoc analysis of PIT detections of steelhead within the east and west adult fish ladders at Wells Dam to evaluate steelhead passage rates during Pacific Lamprey trap operations from August 28 to September 15, 2023.

## IV. Chelan PUD

### A. DECISION: 2023 Rocky Reach Confirmation Survival Study – Adult Conversion Methodology (Lance Keller)

The draft SOA *Approval of the Methodology to Evaluate the Adult Conversion Rate for Spring Chinook Through the Rocky Reach Project in 2023* and appended *Rocky Reach Spring Chinook Salmon Adult Conversion Rate: Summary of Methods* were distributed to the Rocky Reach HCP Coordinating Committee by Kristi Geris on August 17, 2023.

Lance Keller said that, based on the past 2 months of discussions and presentations by John Skalski and Rebecca Buchanan (University of Washington, Columbia Basin Research), this SOA recommends using the proposed methodology. That is, use Rock Island Dam as the starting line for spring Chinook Salmon and subsequent detections at Wells Dam, with a calibration for average travel time, being mindful of the July 1 fishery start date and taking the square root of the value to produce a conservative estimated conversion rate for the Rocky Reach Project. This methodology will be appended to the SOA. Chelan PUD feels that this is consistent with what the Rocky Reach HCP Coordinating Committee requested. That is, the Committee wanted a discussion of the methods, and this was done. There was good feedback, questions, and responses, which ultimately landed on the

original recommendation. Chelan PUD is supportive of a vote today if Committee representatives are ready, but also understands if more time is needed. To note, NMFS has not yet voted.

John Ferguson recalled that Kirk Truscott was unable to attend last month's meeting, and he noted that Chad Jackson questioned the need to arrive at an adult conversion SOA ahead of the juvenile estimate being developed with regards to meeting the survival standard as outlined in the HCP. Ferguson said that there was general agreement within the Committee to figure out the adult conversion methodology before seeing the juvenile survival results. Keller said that he was able to catch up with Truscott yesterday and shared this information with him. Ideally, Chelan PUD would like to obtain Committee approval of the adult conversion methodology and then have Skalski and Buchanan share the juvenile results and combined juvenile and adult survival and whether this can be combined with the existing average.

Truscott said that he reviewed the meeting minutes from last month and saw that there was an extensive discussion without a consensus outcome. He did talk with Chelan PUD, but he would also like to have a discussion with other colleagues before voting on this decision item.

Truscott said that, to note, he was perplexed by the discussion about evaluating adult conversion scaled by square root versus by river kilometer (rKm). He is not fully supportive of "taking the easier route," versus doing something that is a little more complicated but makes more sense biologically. Ferguson said that there was a fair amount of discussion on this topic, and neither method is clearly better or clearly worse. This is a judgement call. Keller said that he appreciates the thorough discussion and Skalski and Buchanan's answer to the question posed, as well as their recommendation to stick with the square root method. Chelan PUD understands the question but does not feel there is an equal calibration using the rKm method. Some parts of the two reservoirs are different, and some parts are the same. Truscott said that he can appreciate this. He just wants to cover all the bases and know the Committee has done everything possible to incorporate and address the fact that these reservoirs are different in length and different in how water moves through them and address the potential impact of these differences in how fish to travel through them.

Keely Murdoch said that this proposal does not consider wild fish after July 1. She is disappointed in this and believes this may be creating bias in the data. She is concerned about the low sample sizes Buchanan presented. Most years had around 100 fish or fewer, in which case, 1 fish after July 1 may make a difference. She also agrees with Truscott that the square root method may not be the most representative, and just because it is simple and has been done in the past, it should not limit the ability to improve methods to make the estimate more representative of the run at large. Skalski and Buchanan always seem to recommend doing things one way because it has always been done that way and it is simple. Skalski and Buchanan are statisticians who care about the math. She gets this. As a biologist, she is more concerned with improving the methods and being more representative.

She agrees with Truscott about needing more time and circling back with others in the group before making a decision.

Ferguson recalled that Skalski also said scaling by square root was chosen because he could not figure out a better way to refine the approach. K. Murdoch said that what she heard is that Skalski and Buchanan like the method because it is simple. She does not think what she is asking is that hard—to include 1 or 2 more fish and split the reservoirs differently. Skalski and Buchanan kept saying that this would not make much of a difference either way, so why not do it? Keller said that at the same time, the Committee asked Skalski and Buchanan to recommend how to do this calculation, and part of this was to remove biases that cannot be controlled. Regarding the fish detected after July 1, these all converted, which would have moved the estimate up. K. Murdoch said that this theme of biases keeps coming up. Chelan PUD consistently tries to remove biases, yet at the same time, this may be creating other biases. For example, later-running fish may be more susceptible to conditions that reduce survival, such as warmer water temperatures or potentially a longer migration time—reasons unrelated to a fishery. She has the same concerns about biases and using smaller fish. It seems Chelan PUD picks and chooses which biases to include and exclude.

Bill Gale asked whether Chelan PUD is concerned that later-returning wild fish might be handled. Keller clarified that K. Murdoch's concern is about wild fish. Chelan PUD is concerned that spring Chinook Salmon, in general, might be handled or retained between Rock Island Dam and Wells Dam. Gale asked whether there is evidence of this occurring. Keller said that yes, this was discussed during the last meeting. Chelan PUD wants to have confidence about potential impacts from harvest that might be introduced by including fish that are passing through the evaluation area during an active summer Chinook Salmon fishery. Ferguson recalled that last month, Jackson said that WDFW assumes 10% mortality occurs during catch and release when developing their regulations and provided estimates of catch and release from creel surveys for Rock Island and Rocky Reach reservoirs from 2019 to 2022.<sup>1</sup> Gale asked, if there is always a fishery component in a project area, this is the baseline, so why remove this from the study? Tom Kahler said that the reason the HCPs say survival cannot be definitively calculated is because there is no way to disentangle project effects from non-project effects, for example, fisheries. When the Biological Opinions, Environmental Impact Statements, and HCPs were drafted, no one could come up with a good way to do this. Gale said that he also needs more time to think about this before a decision.

Jackson said that WDFW is supportive of Committee members taking more time before a decision. WDFW does not have a strong stance on this and can agree to support whichever method the Committee thinks is best. Andrew Murdoch asked whether the species needs to be the same for the juvenile and adult components of a confirmation survival study. Keller said that yes, and if the

---

<sup>1</sup> Distributed to the HCP Coordinating Committees by Jackson on July 25, 2023, and Attachment C to the July 25, 2023, meeting minutes

combined juvenile and adult survival is valid and not statistically different, it will be introduced into a new average estimate for the phase designation. Ferguson clarified that the Rocky Reach HCP Coordinating Committee needs to approve that the estimate is valid, which Chelan PUD will capture in an SOA. A. Murdoch asked whether, next time, a different species will be chosen to be the representative species. Keller said that species selection is reviewed and approved by the Rocky Reach HCP Coordinating Committee as part of approving the confirmation survival study design.

Truscott asked Jackson whether the creel estimates he provided encompass the entire fishery, July 1 to October 15. Jackson said yes. Truscott said that the spring Chinook Salmon run likely would not encompass this entire period. Jackson said that most catch and release occurs in July, there is some in August, and much less in September and October. All spring Chinook Salmon programs are coded-wire-tagged, so these data could be reviewed in the Regional Mark Information System database.

Truscott asked about the passage dates of the two spring Chinook Salmon observed after July 1, 2022. Ferguson asked how much of a difference two fish will make. Keller said that this was Skalski's point, but he will verify the passage dates of the two PIT-tagged adult spring Chinook Salmon that were observed passing Rock Island Dam on or after July 1, 2022, which were excluded from the adult conversion rate in the 2022 Rocky Reach Confirmation Survival Study. *(Note: Keller provided a summary of PIT-tagged adult spring Chinook Salmon passage dates on September 12, 2023, which Geris distributed to the HCP Coordinating Committees that same day.)*

Truscott said that he just does not want to set a precedent. Keller said that he is not hearing a desire to take what is decided here and apply it to future years. Future evaluations will be decided by Committee representatives at that time. Truscott agreed.

The Rocky Reach HCP Coordinating Committee will be prepared to vote on the *SOA Approval of the Methodology to Evaluate the Adult Conversion Rate for Spring Chinook Through the Rocky Reach Project in 2023* and appended, *Rocky Reach Spring Chinook Salmon Adult Conversion Rate: Summary of Methods* during the HCP Coordinating Committees meeting on September 26, 2023.

## **B. 2023 Rocky Reach and Rock Island Summer Fish Spill (Lance Keller)**

Lance Keller said that since last meeting, Chelan PUD ended summer fish spill at both Rocky Reach Dam and Rock Island Dam after meeting all three shutdown criteria outlined in the 2023 Rock Island and Rocky Reach Fish Spill Plan.

At Rocky Reach Dam, a notification to end summer spill was distributed to the Rocky Reach HCP Coordinating Committee by Kristi Geris on July 31, 2023. Keller said that spill ended on July 31, 2023, at 2400. From July 22 to July 31, 2023, or 10 consecutive days, daily index count percentiles were below 0.3% of the cumulative index count. Looking at the data since spill ended from August 1 to

August 21, 2023, or 21 consecutive days, daily index count percentiles were also below 0.3% of the cumulative index count. All three criteria were initially met on July 20, 2023, which is the earliest on record, but Thad Mosey (Chelan PUD) wanted to continue to monitor the data from a trend perspective, ultimately ending spill on July 31, 2023.

At Rock Island Dam, a notification to end summer spill was distributed to the Rock Island HCP Coordinating Committee by Geris on August 11, 2023. Keller said that spill ended on August 11, 2023, at 2400. Since then, there have been 11 consecutive days where the daily index count percentiles were below 0.3% of the cumulative index count.

Keller said that these data will be summarized in a fish spill report later this year.

### **C. Rock Island Dam Powerhouse 1 Maintenance Update (Lance Keller)**

A draft letter to FERC, "Rock Island Hydroelectric Project No. 943 Continuation of Rehabilitation Work (Unit B8)," was distributed to the Rock Island HCP Coordinating Committees by Kristi Geris on July 29, 2023, and is available for review, with edits and comments due to Lance Keller by August 30, 2023.

Keller said that this letter is not a FERC requirement; rather, Chelan PUD sees value in keeping the Rock Island HCP Coordinating Committee updated on the rehabilitation of turbine units. This letter is specific to Turbine Unit U8. The rehabilitation is expected to result in a reported best gate installed capacity of 14,344 kilowatt (kW) at 39.7 feet of head versus the current of 18,000 kW at 45 feet of head. Parts will be replaced in kind and will not involve substantial changes. Work is scheduled to begin in May 2024 and be completed by June 2026.

Keller said that work continues on Turbine Unit B3. The return-to-service date is Q1 2024, which is outlined in Attachment A to the FERC letter.

### **D. Rocky Reach Dam Turbine Units Maintenance Update (Lance Keller)**

Lance Keller said that work continues on Turbine Unit C11. The return-to-service date is Q1 2024. Recall, this maintenance is to return the unit back to its original Kaplan configuration from the fixed blade configuration due to the crack in the servo rod.

Chelan PUD will continue providing Rocky Reach Dam and Rock Island Dam turbine unit maintenance updates as information becomes available.

### **E. PRESENTATION: Steelhead Overshoot Analyses in the Upper Columbia River (Lance Keller)**

Lance Keller recalled that Chelan PUD presented a review of steelhead overshoot data during the HCP Coordinating Committees meeting on June 27, 2023. This produced good discussions and several questions. To answer the questions, today's presentation, *Steelhead Overshoot Analyses in the*

*Upper Columbia River* (Attachment C), was distributed to the HCP Coordinating Committees by Kristi Geris on August 21, 2023.

Slide 2 describes the updated PIT Tag Information System (PTAGIS) query methods for this analysis. As a reminder, this analysis uses juveniles tagged in basin that were subsequently detected as returning adults at McNary Dam (MCN). Keller recalled that Keely Murdoch had questions about hatchery versus wild fish represented in the Snake River dataset, which is shown on Slide 3. Yakima River steelhead are also broken out by rear type on this slide. Slide 4 breaks down Snake River and Yakima River overshoots by rear type. For SRS overshoots, these values are very similar across rear type. Chelan PUD had an action item to look at which hatchery programs are represented in the SRS dataset, and they are shown on Slide 5. Niagara Springs Hatchery is the largest proportion, and the rest are similar. Keller recalled that Kirk Truscott had a comment about fish possibly passing MCN without detection, so Slide 6 looks at fish detected above MCN, but not at MCN, which are small numbers for both rear types (hatchery fish and wild or natural production). Slides 7 to 9 look at effects of transport on overshoots. This analysis follows the guidance in the Frequently Asked Questions section on the PTAGIS site. On Slide 9, "FALSE" means the fish was not transported, and "TRUE" means the fish was transported. For Yakima River steelhead, the query yielded zero transported fish, which makes sense because the only opportunity for transport would have been at MCN, and that program ended in 2013.

Truscott asked how to interpret the table on Slide 9. John Rohrback said that, for example, in the Snake River, 18,490 PIT-tagged steelhead were not transported. Of these, 1.83% are overshoots—1.10% overshoot Rock Island Dam, and 0.81% overshoot Rocky Reach Dam. A total of 6,461 steelhead were transported. Of these 2.51% are overshoots—1.38% overshoot Rock Island Dam, and 1.18% overshoot Rocky Reach Dam. Andrew Murdoch said that based on these data, quantitatively, there is more overshooting with transported fish. Keller said that this is correct. A. Murdoch said that this has been a discussion about transport, about the likelihood of transported fish straying. Keller said that this has been discussed at U.S. Army Corps of Engineers Anadromous Fish Evaluation Program reviews in past years.

Truscott asked whether the value on Slide 4, 24,951, represents SRS detected at MCN. Keller said that this is correct, and this analysis now also includes Yakima River steelhead, which were not included in the presentation shared in June 2023.

A. Murdoch asked whether the last column on Slide 5 is the 18,335 hatchery-reared SRS broken out by hatchery. Keller said that this is correct. Bill Gale noted that at Niagara Springs Hatchery, two stocks are reared there, and there are at least three to four release sites. Hagerman National Fish Hatchery also has multiple release sites. There could be more to delve into in trying to understand which fish are overshooting. A. Murdoch said that Richins and Skalski published a paper that did a good job of breaking down overshoots by hatchery and population. Keely Murdoch said that another

comment that could be made about the presentation in June 2023 was that if the intent of the analysis was to show what level of impact overshooting has on a natal population, this could not be garnered from the dataset. There are 34 steelhead populations in the Snake River, so there may be big impacts to 2 to 3 populations, but when the data are lumped together, it dilutes the impacts. Additionally, she thinks that Gale made an interesting point about different release sites. If the Committees go down this path, it would be helpful to understand where these fish are coming from. Gale said that he thinks there is opportunity with this list (Slide 5), and he plans to pass it along to Snake River managers. K. Murdoch agreed that this is a good idea. Catherine Willard (Chelan PUD) also noted that Clearwater Hatchery releases directly into the Snake River, while Niagara Springs Hatchery has to truck fish to release sites.

## V. WDFW

### A. PRESENTATION: Steelhead Overshoots – Part 4 (Andrew Murdoch)

The presentation *UCR Overshoot Steelhead Part 4* (Attachment D) was distributed to the HCP Coordinating Committees by Kristi Geris on August 11, 2023.

Andrew Murdoch clarified differences between WDFW’s analysis and the respective PUDs’ analyses, as bulleted on Slide 3. He explained that since 2010, at the beginning of the tagging exercise at PRD, WDFW’s focus was on how project operations could impact downstream populations, regardless of status. It was not WDFW’s focus to evaluate potential impacts of overshoots to the overall downstream population. Catherine Willard explained that Chelan PUD’s presentation in June 2023 used Snake River fish that clearly overshoot to estimate how big the problem is. A. Murdoch said that these are different perspectives. The PUDs looked at the overall Snake River population. WDFW looked at, of the fish that overshoot, what was going on in the project area. It is a different way of looking at the same issue.

A. Murdoch said that Yakima River steelhead is the second largest group of overshoots. Using a patch occupancy model, he estimated annual overshoot fallback abundance to Prosser Dam (x); expanded by annual overshoot fallback rate (y) to estimate total Yakima River steelhead overshoot abundance at PRD ( $t = [x/y]$ ). He estimated unknown overshoots ( $u = t - x$ ) and added this to wild Prosser Dam counts to estimate total Yakima fish from July 1 to June 30 ( $p = u + \text{dam count}$ ), and then estimated the impact on Yakima River steelhead ( $i = u/p$ ), as shown on Slide 5. *(Note: the column headers below, showing the variables for these calculations, were added to the revised presentation distributed on August 24, 2023.)*

Run Year	Prosser Dam Wild Steelhead Count (7/1-6/30)	Overshoot Fallback (X)			Mean Fallback Success (Y)	Estimated Total Overshoot (T)	Unknown Overshoots (U)	% of Yakima MPG (I)
		Estimate	SE	N (PIT tags)				

Keely Murdoch asked whether the last column is how many more fish there would be if all unknowns were successful. A. Murdoch said that this is correct.

A. Murdoch said that he did not try to analyze why there is interannual variability, and it does appear that there is a proportion of fish that potentially do not make it back to Prosser Dam. Andrew Gingerich noted that if water temperature is a driving factor to overshoot behavior and if these data are correct, he would expect 2015 to look worse than it does on Slide 5. A. Murdoch said that the interannual variability could be due to a combination of things, but he thinks that generally, overshooting is an environmentally driven response.

A. Murdoch also looked at Upper Columbia River (UCR) steelhead overshoots within the UCR. Using PIT detections, he summarized the proportion detected at an upstream dam and proportion of overshoot fish detected in the release basin. These data were not adjusted for detection probability, but he has done this in past presentations, and detection probabilities are high. For wild Entiat steelhead (Slide 9), on average, from 2010 to 2022, about half were detected above Wells Dam. Of those, about two-thirds were detected in the Entiat. For wild Wenatchee steelhead (Slide 11), on average, from 2010 to 2022, of the fish over Rock Island Dam, only 10% overshot Rocky Reach Dam. Of those, 45% overshot Wells Dam. For hatchery Wenatchee steelhead (Slide 13), on average, from 2010 to 2022, about one-third overshot Rocky Reach Dam, and most of these fish (74 or 80%) were detected above Wells Dam, which is a little different (higher) than wild Wenatchee steelhead, perhaps due to a hatchery effect.

Willard asked, regarding Slide 11, how the wild Wenatchee steelhead data were pooled. A. Murdoch said that he added fish across all years or the average of those proportions across all years. Some years are the same, but some are different, partly due to small sample sizes driving high proportions. John Rohrback asked what proportion of non-overshoots were detected in the Wenatchee. A. Murdoch said that he did not calculate this.

A. Murdoch looked at harvest versus non-harvest for hatchery Wenatchee steelhead (Slide 14). He said that there is likely no statistical difference. The concern would be if fish overshot Rocky Reach Dam and were harvested, but this does not appear to be the case. Lastly, of unknown hatchery Wenatchee overshoots, most were last detected at Wells Dam (Slide 15), and there is a greater proportion showing up on the spawning grounds in non-harvest years compared to harvest years.

In summary, UCR steelhead do overshoot within the UCR, a lack of downstream passage routes negatively impacts fish from both local and downstream populations, overshoot behavior should only increase due to climate change impacts on river water temperatures and the distribution of overshoots within UCR will likely shift upstream, and improving observed fallback success rates requires that all UCR projects provide surface passage routes during typical non-spill periods and will benefit both UCR and downstream populations (Slide 16).



Kirk Truscott said that it appears overshooting is occurring. The question is whether the Committees can agree on what level of overshooting is occurring and what the potential impacts are to steelhead populations. What are the options for addressing this, regardless of the mechanism? John Ferguson agreed and suggested that the process the Committees are following is to fully discuss and understand new data, relate the information to Plan Species and the HCPs, and then discuss potential management implications and actions. A. Murdoch said that the idea is to implement actions to see a response and adaptively manage to improve fallback success rates for HCP Plan Species and downstream populations.

Lance Keller agreed that there are differing methodologies. He said that, regarding Slide 16, he does not agree that there is a requirement for surface spill. A. Murdoch said that he is saying that the data have shown good passage success, and to improve this, there needs to be the same thing at upstream projects. This is not as effective if only some projects do it. His use of "require" was in a biological sense, not the regulatory sense.

Tom Kahler said that he also looked at Yakima River steelhead using PIT detections, and the percent impact is different than the data developed based on the patch occupancy model. A. Murdoch said that with PIT tags, it is not clear whether the data represent the population of inference, whereas this is a clean analysis when using models. Additionally, in the Yakima River, tag rates differ depending on location. Kahler said that when analyzing the Yakima River dataset of PIT-tagged adult returns to McNary from 2010 to 2021, there were four categories of PIT-tagged Yakima-origin fish that passed McNary: 1) those that strayed to the Snake River; 2) those that passed PRD, some of which returned to the Yakima (the "overshoot fallbacks" from A. Murdoch's presentation) and some that did not (the "unknown overshoots" from A. Murdoch's presentation); 3) those detected in the Yakima without passing any dams in the upper Columbia or Snake rivers; and 4) those with no upstream detections beyond McNary. Those in the last category were similar in number (22 tags; 4.8% of the Yakima major population group [MPG]) to those that passed upper Columbia dams and did not fall back (19 tags; 4.2% of the Yakima MPG). Kahler asked A. Murdoch about those fish without detections after passing McNary; they did not overshoot any dams and did not fall back to the Yakima River, and are about the same number as the unknown overshoots. There is no dam effect for those fish. What happened to those fish? Is 4% to 5% some natural loss rate for overwintering fish, irrespective of overshooting behavior?

WDFW will correct the sample sizes used to calculate Yakima River steelhead overshoots (Slide 5) and the proportion of wild Wenatchee steelhead overshoots detected in the Wenatchee River (Slide 11), as shown in the presentation, *UCR Overshoot Steelhead Part 4*, that was shared during today's meeting. (Note: A. Murdoch provided a revised presentation on August 24, 2023.)

## **B. Wild Smolt Survival (Chad Jackson and Andrew Murdoch)**

The memorandum "Wild Spring Chinook Smolt Survival" was distributed to the HCP Coordinating Committees by Kristi Geris on August 11, 2023.

John Ferguson suggested, due to time, deferring this topic to next month. Bill Gale noted that he is unable to attend next month's meeting but can review the meeting minutes. Chad Jackson suggested, if the topic is deferred, convening a joint session with the PRCC.

Anchor QEA will coordinate with Bryan Nordlund (PRCC chairman), Chelan PUD, and Douglas PUD regarding a possible joint session with the PRCC to discuss WDFW's memorandum, "Wild Spring Chinook Smolt Survival," during the HCP Coordinating Committees meeting on September 26, 2023. *(Note: A joint session is planned, as discussed.)*

## **VI. Chelan PUD / Douglas PUD**

### **A. Subyearling Chinook Salmon Studies – Quarterly Check-In (Lance Keller and Tom Kahler)**

John Ferguson asked Chelan PUD, Douglas PUD, and the HCP Coordinating Committees whether anyone had anything to report on subyearlings this month.

Keely Murdoch said that it is getting close to being time for a good sit-down to review data to date. There are smaller tags available now, and Chelan PUD has reviewed results of 2 years of subyearling behavioral investigations. The federal system is already studying subyearling survival, so new information is available. She suggested looking at how federal projects are measuring subyearling survival.

Ferguson recalled that the previous subyearling workshops were held in 2009 and 2016, and he said this topic will be added to next month's agenda.

The HCP Coordinating Committees will discuss a possible Subyearling Chinook Salmon Workshop to occur in the near future, during the HCP Coordinating Committees meeting on September 26, 2023. *(Note: Kristi Geris redistributed materials from the 2009 and 2016 Subyearling Chinook Salmon Workshops after the HCP Coordinating Committees meeting on August 22, 2023.)*

## **VII. HCP Administration**

### **A. Next Meetings (John Ferguson)**

The HCP Coordinating Committees meeting on September 26, 2023, is from 9:00 a.m. to no later than 12:00 p.m. and will be held in person at the Wanapum Dam Hydro Office Building, Room 107, in Beverly, Washington. *(Note: the end time for this meeting was changed to 1:30 p.m. to allow more time for discussions.)*

The HCP Coordinating Committees meeting on October 24, 2023, is from 9:00 a.m. to no later than 12:00 p.m. and will be held in person at the Wanapum Dam Hydro Office Building, Room 107, in Beverly, Washington.

The HCP Coordinating Committees meeting on November 28, 2023, is from 9:00 a.m. to no later than 12:00 p.m. and will be held by conference call.

## **List of Attachments**

Attachment A List of Attendees

Attachment B Photographs of the Pacific Lamprey Traps

Attachment C *Steelhead Overshoot Analyses in the Upper Columbia River*

Attachment D *UCR Overshoot Steelhead Part 4*

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

Name	Organization
John Ferguson	Anchor QEA, LLC
Kristi Geris	Anchor QEA, LLC
Tracy Hillman <sup>††</sup>	BioAnalysts
Lance Keller <sup>*</sup>	Chelan PUD
Bill Towey <sup>*†</sup>	Chelan PUD
Catherine Willard	Chelan PUD
Tom Kahler <sup>*</sup>	Douglas PUD
Andrew Gingerich <sup>*</sup>	Douglas PUD
John Rohrback	Douglas PUD
Bill Gale <sup>*</sup>	U.S. Fish and Wildlife Service
Chad Jackson <sup>*</sup>	Washington Department of Fish and Wildlife
Andrew Murdoch <sup>*</sup>	Washington Department of Fish and Wildlife
Keely Murdoch <sup>*</sup>	Yakama Nation
Kirk Truscott <sup>*†</sup>	Confederated Tribes of the Colville Reservation

Notes:

- \* Denotes HCP Coordinating Committees member or alternate
- †† Joined by phone for the HCP Hatchery and Tributary Committees update
- † Joined by phone