

## Memorandum

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To: Wells, Rocky Reach, and Rock Island HCP  
Coordinating Committees Date: November 16, 2021

From: John Ferguson, HCP Coordinating Committees Chairman

cc: Kristi Geris, HCP Coordinating Committees Support

Re: **Final Minutes of the October 26, 2021, HCP Coordinating Committees Conference Call**

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The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Coordinating Committees met by conference call on Tuesday, October 26, 2021, from 9:00 a.m. to 11:50 a.m. Attendees are listed in Attachment A to these conference call minutes.

### Action Item Summary

- Chelan PUD will continue providing Rocky Reach Dam and Rock Island Dam turbine unit maintenance updates as information becomes available (Item I-C).
- Chelan PUD will discuss internally options to evaluate the adult conversion component of the combined juvenile-adult project survival estimate calculation—consistent with the Rock Island and Rocky Reach HCPs—to potentially include summer Chinook salmon in addition to passive integrated transponder (PIT)-tagged spring Chinook salmon due to differences in run timing and environmental conditions experienced by the two runs of salmon. Anchor QEA, LLC, will add this topic as a discussion item on the November 16, 2021, meeting agenda (Item III-A).
- Anchor QEA will redistribute the *Timing of Review and Approval of HCP Documents* email as a reminder of upcoming documents for review (Item V-C). (Note: Kristi Geris redistributed this table, as discussed, following the HCP Coordinating Committees conference call on October 26, 2021.)
- Agency and tribal representatives will communicate the rescheduled HCP Coordinating Committees conference calls on November 16 and December 14, 2021, to Bryan Nordlund (Priest Rapids Coordinating Committee [PRCC] Chairman) and the PRCC (Item V-D).
- The HCP Coordinating Committees meeting on Tuesday, November 16, 2021, will be held from 9:00 a.m. to 12:00 p.m., by conference call (Item V-D).

### Decision Summary

- Rocky Reach and Rock Island HCP Coordinating Committees representatives present approved the *Chelan PUD Rocky Reach and Rock Island HCPs Draft 2021 Fish Spill Report* (draft 2021 Rocky Reach and Rock Island Fish Spill Report), as revised (Item III-B).
- Rocky Reach HCP Coordinating Committee representatives present agreed to Chelan PUD's request to begin the 2021/2022 ladder maintenance outage at Rocky Reach Dam 1 month earlier than usual to allow more time to complete required work. Rather than beginning work

during the first week in January (per usual), maintenance work will begin on December 1, 2021. Washington Department of Wildlife (WDFW) abstained (Item III-C).

## Agreements

- HCP Coordinating Committees representatives present agreed to reschedule the HCP Coordinating Committees conference call on November 23, 2021, to 1 week earlier on November 16, 2021, to accommodate the holidays (Item V-D).
- HCP Coordinating Committees representatives present agreed to reschedule the HCP Coordinating Committees conference call on December 28, 2021, to 2 weeks earlier on December 14, 2021, to accommodate the holidays (Item V-D).

## Review Items

- The draft *2021 Wells Post-Season Bypass Report and Passage-Dates Analysis* was distributed to the HCP Coordinating Committee by Kristi Geris following the HCP Coordinating Committees conference call on October 26, 2021. This draft report is available for a 30-day review with edits and comments due to Tom Kahler by November 25, 2021. Douglas PUD may also request approval of this draft report during the HCP Coordinating Committees conference call on November 16, 2021 (Item IV-A).

## Finalized Documents

- 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 September 28, 2021, conference call minutes. Kristi Geris said all comments and revisions received from members of the Committees were incorporated into the revised minutes. Under *Item III-C: 2021 Rocky Reach and Rock Island Fish Spill Report* (page 10 of the revised minutes), Keely Murdoch agreed with Tom Kahler's edits clarifying that Murdoch was referring to coho salmon natural-origin-recruit emigrants (not returns). HCP Coordinating Committees members present approved the September 28, 2021, conference call minutes, as revised. WDFW abstained because a representative of theirs was not present during the September 28, 2021, conference call.

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

Action items from the HCP Coordinating Committees meeting on September 28, 2021, and follow-up discussions were as follows. (*Note: Italicized text corresponds to agenda items from the meeting on September 28, 2021*):

- *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 conference call and will also be carried forward.

- *Chelan PUD will add coho salmon to Table 1. Rocky Reach Juvenile Bypass index sample counts, 2011-2021 and Table 2. Rock Island Smolt Monitoring Program index sample counts, 2011-2021 in the draft 2021 Rocky Reach and Rock Island Fish Spill Report and will distribute a revised draft report for approval during the HCP Coordinating Committees meeting on October 26, 2021 (Item III-C).*

A revised draft report was distributed to the HCP Coordinating Committees by Kristi Geris on October 25, 2021.

- *Chelan PUD will discuss with WDFW Chelan PUD's request to begin the 2021/2022 adult fishway winter maintenance outage at Rocky Reach Dam on December 1, 2021 (1 month earlier than usual), to allow more time to complete required work, before requesting formal Rocky Reach HCP Coordinating Committee approval during the HCP Coordinating Committees meeting on October 26, 2021 (Item III-D).*

This will be discussed during today's conference call.

- *Chelan PUD will provide to Anchor QEA, LLC, a formal Chelan PUD HCP representation designation letter for distribution to the HCP Coordinating Committees (Item IV-A).*

Lance Keller provided this letter—which designates Bill Towey as the new Chelan PUD HCP Coordinating Committees Alternate—to Kristi Geris following the HCP Coordinating Committees conference call on September 28, 2021, which Geris distributed to the HCP Coordinating Committees that same day.

## 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 Hatchery Committees conference call on October 20, 2021 (*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 "Rock Island/Rocky Reach"*):

- *Hatchery Production Recalculation Data Sources and Methods (Joint):* The HCP Hatchery Committees continue to evaluate data that can be used to calculate smolt-to-adult survival rates (SARs) for recalculation. At this time, there is no consensus on what tags (coded wire

tags, PIT tags, or both) should be used to estimate SARs for Chinook salmon programs. The Joint Fisheries Parties offered a method that was not acceptable to the PUDs. The Yakama Nation (YN) and WDFW offered an alternative method that is currently being reviewed by Committees' members. The hope is that all parties will reach an agreement on what tags to use to estimate SARs for recalculation. The Committees will then focus on conducting sensitivity analyses. The Committees are hoping to complete the 2024 to 2033 implementation plan by the end of the year.

- *Comprehensive Monitoring and Evaluation Report Review (Joint)*: Several chapters of the comprehensive monitoring and evaluation (M&E) report have been submitted to the Committees for review. Many of those chapters have been reviewed by members and others are still in review. Only a few chapters are left to be released by the PUDs for review.
- *Coronavirus Disease 2019 and Monitoring and Evaluation Activities (Joint)*: Each member of the Committees discussed the effects of coronavirus disease 2019 (COVID-19) on their respective M&E activities. There are no changes in COVID-19 protocols since last month.
- *2022 Hatchery Monitoring and Evaluation Implementation Plan (Rock Island/Rocky Reach)*: Although Chelan PUD submitted their draft 2022 Hatchery M&E Implementation Plan for review, they will not ask for approval of the Plan until the method used to estimate SARs for recalculation is resolved.
- *2022 Wells Complex Monitoring and Evaluation Implementation Plan (Wells)*: Douglas PUD will submit their draft 2022 Hatchery M&E Implementation Plan to the Wells HCP Hatchery Committee for review soon. Members will have 30 days to provide reviews.
- *Steelhead Mortality at Wells Fish Hatchery (Wells)*: Douglas PUD reported that 23,711 juvenile steelhead from the Methow Safety Net Program died at Wells Fish Hatchery. This left the number of steelhead in the Methow Safety Net Program below the release target of 100,000 steelhead (short by 14,933 fish). To meet steelhead release targets, Douglas PUD proposed to move 14,933 steelhead from the Columbia River Safety Net Program to the Methow Safety Net Program. To backfill the Columbia River Safety Net Program, 7,000 steelhead from the Okanogan Hatchery-by-Hatchery (HxH) Program will be moved to the Columbia River Safety Net Program. No steelhead will be transferred from or into the Okanogan Wild-by-Wild Program. The transfers will result in all programs meeting their release targets. That is, the Okanogan HxH Program will be at 110% of its release target, the Columbia River Safety Net Program will be at 104%, and the Methow Safety Net Program will be at 100%. The Wells HCP Hatchery Committee approved the transfers.
- *Next Meeting*: The next meeting of the HCP Hatchery Committees will be on November 17, 2021.

Hillman updated the HCP Coordinating Committees on the following actions and discussions that occurred during the HCP Tributary Committees conference call on October 14, 2021:

- *Peshastin Creek River Mile 3.4 Side Channel Project*: The Rock Island HCP Tributary Committee received a time extension request from Chelan County Natural Resources Department (CCNRD) on the Peshastin Creek River Mile 3.4 Side Channel Project. Because additional time is needed to complete the preliminary designs and to align the HCP Tributary Committee contract timeline with the Recreation and Conservation Office contract timeline, the sponsor requested a time extension from November 30, 2021, to January 31, 2022. The Rock Island HCP Tributary Committee agreed to extend the contract period to January 31, 2022.
- *Napeequa Side Channel Connection Project*: The Rocky Reach HCP Tributary Committee received a time extension request from Cascade Fisheries on the Napeequa Side Channel Connection Project. Because additional time is needed to work with the landowner, the sponsor requested a time extension from October 31, 2021, to October 31, 2022. The Rocky Reach HCP Tributary Committee agreed to extend the contract period to October 31, 2022.
- *Twisp River Large Wood Supplementation Project*: The HCP Tributary Committees received a General Salmon Habitat Program application from the Colville Confederated Tribes (CCT) titled *Twisp River Large Wood Supplementation Project*. The purpose of the project is to use a heavy-lift helicopter to place 1,100 logs (with root wads) in 4 miles of the Twisp River between river miles 22.2 and 26.2. This will improve habitat complexity, increase pool frequency, enhance riparian habitat, and restore floodplain connectivity. The total cost of the project is \$1,429,750. The sponsor requested \$429,750 from HCP Plan Species Account Funds. All members except the YN supported the project. The YN cannot support the project based on policy-level reasons. Therefore, in accordance with the direction from the HCP Policy Committees, the application will be elevated to the HCP Policy Committees. Hillman said he believes this decision will bypass the HCP Coordinating Committees because the “no” vote was not based on technical reasons; rather, it was based on policy-level reasons. John Ferguson said, per the HCPs (Section 11.1), disputes must first proceed to the HCP Coordinating Committees, before the HCP Policy Committees is triggered. Additionally, he thinks there is value in having the HCP Coordinating Committees review the dispute first. That said, the YN has not yet provided an official dispute letter, and he asked about the status of a letter. Hillman said Brandon Rogers, the YN HCP Tributary Committees Representative, called yesterday and indicated the YN is working on a letter. Rogers is not sure when to expect a final letter but said this should not prevent the dispute from moving forward. Rogers asked Hillman to let Ferguson know a letter is on the way and to start moving this forward. Kirk Truscott said Cody Desautel, the interim CCT HCP Policy Committees Representative, is aware of this topic. Hillman clarified that at this point, no one has raised a formal dispute. The CCT or any other voting party could dispute the “no” vote, and the YN is the party requesting this topic go to the HCP Policy Committees.

- *Upper Beaver Creek Final Design and Restoration Project Discussion:* The Methow Salmon Recovery Foundation joined the HCP Tributary Committees to provide an update on the Upper Beaver Creek Final Design and Restoration Project. The purpose of the project is to resolve fish passage issues at the Batie Diversion, prevent avulsion around the Marracci Diversion, and enhance fish access to and habitat within the eastern floodplain. The sponsor has completed final designs for the two diversions and intends to construct those two projects in fall 2021. The eastern floodplain project is still under design and will likely be constructed in 2022.
- *Nason Ridge Stewardship Plan Review (with Priest Rapids Coordinating Committee Habitat Subcommittee):* As part of funding the Nason Ridge Acquisition Project, the Rock Island HCP Tributary Committee required that the Committee be given an opportunity to review and approve the Nason Ridge Stewardship Plan. CCNRD provided the HCP Tributary Committee with the Nason Ridge Community Forest Management Plan (hereafter referred to as the Forest Management Plan and was assumed to be the Stewardship Plan) dated November 25, 2019. Representatives from the PRCC Habitat Subcommittee joined the HCP Tributary Committee to review and discuss the Forest Management Plan and supporting documents. In addition to reviewing the Forest Management Plan and supporting documents, the HCP Tributary Committee also reviewed the letter from CCNRD and Western Rivers Conservancy, dated July 21, 2021. The letter provided the sponsor's responses to the Committee's requests and requirements regarding management of the property. The July 21, 2021, letter clearly indicated that several of the requirements identified by the HCP Tributary Committee would be addressed in the Stewardship Plan. Unfortunately, those requirements were not addressed in the Forest Management Plan. Therefore, at this time, the Rock Island HCP Tributary Committee could not approve the Forest Management Plan as the Stewardship Plan. The Committee requested that the sponsor update the Forest Management Plan. Importantly, the Rock Island HCP Tributary Committee will not approve funding for any restoration actions on the property until they approve a Stewardship Plan.
- *Next Meeting:* The next meeting of the HCP Tributary Committees will be on November 18, 2021. Hillman noted that normally the HCP Tributary Committees convene on the second Thursday of the month; however, this year this lands on Veteran's Day. Therefore, the meeting was rescheduled for 1 week later.

### III. Chelan PUD

#### A. PRESENTATION: 2021 Rock Island Dam Survival Confirmation Study (John Skalski)

Dr. John Skalski (University of Washington, Columbia Basin Research) shared the presentation, HCP Confirmation Survival Study of Yearling Chinook Salmon through the Rock Island Project in

2021 (Attachment B), which was distributed to the HCP Coordinating Committees by Kristi Geris on October 29, 2021.

Skalski reviewed the study objectives. The primary objective was to estimate survival for yearling Chinook salmon through the Rock Island Project. Four ancillary objectives included comparing this estimate to previous estimates, estimating a new 4-year average, estimating a combined juvenile and adult spring Chinook salmon survival through the Rock Island Project, and estimating route-specific passage proportions.

Skalski described the study approach, including an overview of the study area. There were two release locations in this paired release study—in the tailrace of Rocky Reach Dam (treatment group) and tailrace of Rock Island Dam (control group)—and two downstream detection sites at Crescent Bar and Sunland Estates. The survival of each group was estimated down to Crescent Bar, and the ratio of the two survivals isolates survival through the Rock Island Project.

Skalski reviewed the release-recapture process, which was performed over a 30-day period that was divided into 15, 2-day replicate releases spread across the yearling out-migration. He shared general observations, including downstream detection numbers. He noted that the study does not require release numbers to be balanced, and the design intentionally released more fish upstream in the Rocky Reach Dam tailrace compared to the Rock Island Dam tailrace. Downstream detection numbers were high for both releases. There were no within-study survival trends, which is common with yearling Chinook salmon.

Skalski reviewed assumption evaluations as follows:

- First, this model assumes that both treatment and control groups share a common survival process (i.e., the two release groups migrate through the reach concurrently). When looking at downstream mixing, the modes are almost identical for the two groups (Attachment B, Slide 11).
- Second, release groups needed to be comparable. All fish were collected at the Rocky Reach Juvenile Sampling Facility (RRJSF). Weight, length, and condition factor histograms for treatment groups show a good homogeneous composition (Attachment B, Slide 13).
- Third, test fish need to be representative of run-of-the-river fish. Histograms of fish used in the tagging study (Attachment B, Slide 14: left histogram) and fish measured at the RRJSF throughout the out-migration (Attachment B, Slide 14: right histogram) were reviewed to assess comparability between test and run-at-large fish. He noted that the smallest fish used in the study were 120 millimeters, but there were smaller fish measured at the RRJSF. Then, the study truncates the largest fish as indicated by the slight difference in mean fish size. Overall, he concluded that test fish were comparable to run-of-river fish.
- Fourth, all survival studies based on acoustic tags have a tag life study. Perceived survival is the joint survival of the fish and the tag surviving downriver. Seventy-five tags were drawn out

of the larger lot for the tag life study. The tags were activated and monitored in river water until failure. The graph on Slide 15 of Attachment B shows that tag life spanned from 12 days (first tag failure) to 80 days, and the average tag life was just under 60 days. The goal is for the fish to exit the study area well before the majority of tags start to fail. The graph on Slide 16 of Attachment B shows the red tag life curve superimposed a blue and green line that represents study fish arrival distribution timing. All fish arrived and exited the study area before average tag life occurred (59.8 days) and failure. The probability that tags were still active at the downstream detection locations was so high, a tag correction was not needed.

- Fifth, checking for tagger effects addresses concerns that tagging fish influenced the study inadvertently. Within each 2-day replicate release, one tagger tagged all fish, so if there was some small tagger effect it would apply to all fish. Taggers were also scheduled across the entire study to avoid having a single tagger isolated to one portion of the study. No tags were shed and there were no mortalities during the 24-hour post-tagging period. Project survival was compared between each tagger and no significant differences among taggers was observed.
- Sixth, river flow in 2021 was compared to historical values to determine whether the study year was a representative water year. On Slide 19 of Attachment B, the red line represents the middle 80th percentile in the most recent 30-year period, and discharge in 2021 fell within this range.
- Seventh, study timing was compared to the passage distribution at the RRJSF to determine if study fish were representative of the yearling out-migration. Slide 20 of Attachment B shows the cumulative bypass percentage at the RRJSF. The green line represents April 22, 2021, the first day of sampling for the tagging study. The red line represents May 21, 2021, the last day of sampling for the study. This indicates that 45.6% of the run was covered by the study as measured by fish collection at the RRJSF. Slide 21 of Attachment B shows the same data, only by daily yearling Chinook salmon counts at Rocky Reach Dam. One day after the start of sampling for the study, there is a spike in counts due to a 2-million fish hatchery release upstream of Rocky Reach Dam, which skewed the out-migration distribution. Slide 22 of Attachment B shows the cumulative bypass percentage downstream at Rock Island Dam. Here, the hatchery releases have mixed and spread out and these data indicate that 81% of the run was covered by the study as measured at Rock Island Dam. From a tagging perspective, it seems the study met the middle 80% criteria. Skalski concluded that these seven evaluations suggest the model assumptions were met, and the study provides a valid estimate of project passage survival. *(Note: Keller later clarified under the Discussion below that the first day of sampling was April 21 [not April 22], which was the same day [not day after] as the spike in counts due to the hatchery release.)*



Skalski reviewed the project passage survival estimate for yearling Chinook salmon through the Rock Island Project, including detection histories and parameter estimates (Attachment B, Slide 25). For each release group there are four critical numbers: 1) number of fish detected at both Crescent Bar and Sunland Estates; 2) number of fish detected at Crescent Bar but not at Sunland Estates; 3) number of fish not detected at Crescent Bar but detected at Sunland Estates; and 4) number of fish not detected at either Crescent Bar or Sunland Estates. These numbers were entered into a mark-recapture model that estimated survival for the two release groups, and the ratio of these estimates equaled a smolt survival estimate of 94.45% with a standard error (SE) of 1.04%. This survival estimate and the associated precision exceeded the HCP criteria for these two metrics.

Skalski said the initial survival compliance tests were conducted in 2007, 2008, and 2010. These studies resulted in a combined 3-year average yearling Chinook salmon survival estimate for Rock Island of 93.75% with a SE of 2.19%. There was no statistical difference between the 2021 estimate and the previous 3-year average estimated survival, and more importantly, the 2021 estimate was not lower than the 3-year average. That is, there is no indication that survival is declining. Additionally, because there is no statistical difference, the 2021 estimate can be combined with the historical data to create a new 4-year average of yearling Chinook salmon estimated survival of 93.93% with a SE of 1.56%.

Skalski said the criteria for compliance is not only for juveniles, but it also includes an adult compliance. PIT detections at Priest Rapids Dam and Rock Reach Dam are used to estimate the conversion rate of adult spring Chinook salmon through three projects, and then the cubed root or geometric mean is used as the mean survival through the Rock Island Project. This calculation begins with juvenile yearling Chinook salmon PIT-tagged and released above Wells Dam. Those that return as adults and are voluntarily detected at Priest Rapids Dam are included in the study. All 106 adults in the study were detected (i.e., the conversion through all three projects was 100%), which results in a Rock Island Project conversion rate equal of 100% with a confidence interval of 95%. Some may think a conversion rate of 100% seems high, so he reviewed the last 11 years of data (Attachment B, Slide 31). Five of 11 years also had a conversion rate of 100%; therefore, it seems reasonable to conclude that the 2021 result is not atypical.

Skalski said the HCP standard for combined juvenile and adult survival is 91%. In 2021, the juvenile survival was 94.45% and the adult survival was 100%, so the product is 94.45% with a SE of 1.04%. This meets the HCP combined survival standard.

Skalski said hydrophone arrays were used to help identify which passage routes fish were taking through Rock Island Dam. There are four primary routes: Powerhouse 1, Powerhouse 2, Spillway 1, and Spillway 2. As in past years, the primary passage route in 2021 was Powerhouse 2, with 71.7% of

study fish choosing this route. The overall total powerhouse passage was 81.7%, and total spillway passage was 18.3%, both also similar to past years.

Lastly, Skalski acknowledged those who contributed to this study.

## Discussion

John Ferguson said he does not recall a survival study with such consistent results and precision as this one, and he applauded Skalski's team for this analysis and presentation today. He also acknowledged the input that went into the study design and logistics to reach these results and applauded Blue Leaf for the execution of this study. Everything seemed to go according to plan despite the pulse of hatchery fish. He also applauded Lance Keller and Chelan PUD for getting everything in place. Skalski agreed and said he has been involved with a lot of survival studies across many basins and he has never seen a "cleaner" study than this one. The study was well-designed, which made analysis simple.

Kirk Truscott said he appreciates the presentation. He has a couple of observations. First, on Slide 20 of Attachment B, regarding the influence the pulse of hatchery fish had on the analysis, if tagging had started 1 day earlier, the tagging study would have occurred in the 80th percentile of the yearling Chinook salmon out-migration. Skalski said this is correct. Truscott said from a biological perspective there was no difference in the environment these fish were migrating through based on 1 day difference. Based on the proportion of fish sampled at each dam, he agrees with the statistical analysis of run timing. He also acknowledged the differences in collection efficiencies of the juvenile sampling facilities of Rocky Reach and Rock Island dams and questioned if it was appropriate to compare the two.

Keller noted an error in the labeling of dates on Slide 21 of Attachment B. He clarified that collection of study fish started on the day of the observed spike. Chelan PUD crews knew Chief Joseph Fish Hatchery was holding back fish as was Chelan PUD at the Chelan Falls Fish Hatchery and in the Methow River. The day before, crews collected only 33 fish when the required sample size for the first replicate was 38 fish. That is, the index counts before the spike would not have met the target sample size. The next day there was a spike of 18,181 fish and crews started collecting study fish on this day of the first peak. In a 24-hour period, counts passed the 1%, 5%, 10%, and 25% passage distribution for the yearling Chinook salmon out-migration. Collection would have started earlier had there been confidence in meeting sample size requirements. He understands Truscott's comparison between facilities, but Program RealTime looks for upward ticks in trends to arrive at an estimate, regardless of collection efficiencies between facilities. Chelan PUD has confidence in the Program RealTime estimates. Chelan PUD also uses these estimates to initiate spill for annual bypass operations. He thinks acknowledging collection efficiency differences is accurate, but Chelan PUD also has confidence in the passage proportion estimates Program RealTime estimates. Skalski

concurred and said despite the difference, the Program RealTime distribution should be reliable but does not extrapolate passage abundance. Truscott was supportive of this explanation.

Truscott said his second comment is about the adult conversion component of the combined juvenile and adult survival calculation. For this study, adult conversion is characterized as project-level survival; however, he is not sure he fully embraces this. Adult conversion is the conversion from point A to point B, where project effects could be delayed beyond the point of conversion from A to B. Additionally, the juvenile survival calculation is based on yearling Chinook salmon (both spring and summer runs) and predominantly hatchery-origin fish, while the adult conversion calculation is based on spring Chinook salmon (springers). Skalski agreed characterizing adult conversion as survival is a misnomer in the combined juvenile and adult survival metric. Truscott recognized the complexity in that adult conversion is restricted to springers, while juvenile survival includes both springers and summer Chinook salmon (summers). However, combining juvenile survival of springers and summers and adult conversion of only springers to arrive at a combined juvenile and adult survival, does not encompass survival of summer Chinook salmon adults that migrate under different environmental conditions than spring Chinook salmon adults.

Keely Murdoch agreed with Truscott's comments. She also has a concern that may be unique to the Rock Island Project. By excluding Wenatchee River fish, she does not have confidence that conversion rates are representative of all adults using the project. She clarified she is referring to the Wenatchee River ESA-listed stock, which is an important part of the spring Chinook salmon run and is unique because this population enters the Columbia River later than the Leavenworth population and other stocks. She is also curious whether PIT-tagged fish used for the study were hatchery-origin, wild-origin, or both; and what each sample size was numerically. Her biggest concern about the adult conversion rate has to do with the lack of discussion that took place on this topic within the Committee. She understands this was a confirmation study, so there is a desire to replicate methods from past studies. However, the Rock Island HCP Coordinating Committee discussed, reviewed, and approved several plans for the juvenile component, but there was no similar discussion for adults. She believes there should have been discussion on selecting samples for the adult component, which did not happen at all. Overall, she is not hugely concerned because the juvenile survival was so high that only a 98% adult conversion rate would be needed to meet the 91% combined survival standard. However, it is important to have these discussions ahead of the next survival study for the Rocky Reach Project in 2022.

Keller said he appreciates this feedback from Truscott and Murdoch. Regarding Truscott's comment about measuring yearling juveniles combined with the spring adult component, it would be difficult to collect run-of-the-river springers at the RRJSF. The study plan was designed to be as representative of the population as possible. Skalski presented graphs showing there were no biases

among study fish by size, weight, and run timing. To Murdoch's point, this was a confirmation study, and while there have been technological advancements, the methodology used needs to be as comparable as possible to be included with results of the previous 3 years of study to develop a new average estimated survival based on 4 years of study, per the Rock Island HCP. Regarding the origin of study fish, he has not yet reviewed the tag list, but he believes fish were not selected based on origin. Rather, study fish included any known returning springer adult tagged above Rocky Reach and Wells dams that were also detected at the Priest Rapids Dam adult PIT array and were inside the adjustment based on travel time to not be potentially affected by harvest that begins on July 1 annually. Regarding excluding Wenatchee River fish, the top of the Rocky Reach Dam fishway had to be a detection location because of how the entire Rock Island Project is defined for the juvenile component. This is also why part of the Priest Rapids Project was included. He understands this is not perfect, but this does result in a conservative estimate.

Murdoch said she does not necessarily agree. She is talking about adult Wenatchee River spring Chinook salmon using the project area, not juveniles, and adults would exit the Project at the Wenatchee River. If Wenatchee fish were included, these fish would only need to be measured up to the Wenatchee River where they exit the Columbia River, not to Rocky Reach Dam. There are new technologies available that provide better ways to study adults. Acoustic tags could be used with the tagging of adults occurring at the Priest Rapids Dam Off-Ladder Adult Fish Trap, and each dam could be wired up. She knows Grant PUD is interested in survival data as well. Technology is available to get a more precise "per project" survival similar to what was done at Crescent Bar and Sunland Estates using autonomous receivers. Implementation of this study plan could have included incorporating detections from the instream PIT-tag array in the Wenatchee River, which she understands has a high detection efficiency for adults. Technology has come a long way since the 2012 document was written, and she suggested considering this for future studies.

Keller said he appreciates the feedback. He acknowledged and apologized that these discussions focused on juveniles and not adults. This was because there was more opportunity to directly influence collection of juvenile study fish, and selection of adult study fish was more of a PIT Tag Information System mining exercise. He said Chelan PUD will be sure to discuss both in preparation for the 2022 Rocky Reach Dam Confirmation Survival Study.

Truscott asked if there is a reasonable approach to incorporate adult survival for summer Chinook salmon in the adult conversion. He noted that there is a fishery for summer Chinook salmon and fishery data from WDFW as well, which may lend itself to developing a summer Chinook salmon conversion, so the study can incorporate both spring and summer runs in the adult conversion estimate—similar to the juvenile survival component that includes summer and spring yearlings, for this study and future survival studies. Ferguson asked, where is this fishery located and what is the quality of estimates for harvest in this area? Chad Jackson said there are separate estimates for each

pool from Priest Rapids Dam to Chief Joseph Dam, including tributaries. The duration for the fisheries in a typical year is July 1 to October 15.

Skalski said the analysis could be corrected for harvest. This involves an accurate estimate of harvest rates, the unreported rates, and effects of delayed mortality due to catch and release. In each of these instances, the analysis is adjusted mathematically. Because of the uncertainties that come with these estimates, there are certain known biases, which are typically biased low. This is a matter of accuracy versus precision. There is the risk of producing too much noise that degrades the quality of the estimate, which needs to be taken into consideration.

Ferguson said he is hearing a more detailed analysis is feasible, but the question is if people want to go through this extra effort to do a comparison of the run-at-large fish. Keller said he needs to discuss this internally. His first thought is this is getting to be an apples-to-oranges comparison with past studies and could include variability at the cost of precision. He questions how representative this is to incorporate it into the existing 3-year juvenile and adult comparison for yearling Chinook salmon at the Rock Island Project.

Murdoch said she thinks it is worth exploring further. If not, this study is measuring yearling survival for juveniles and measuring adult conversion rates for a select population of spring Chinook salmon that does not include summer Chinook salmon. Truscott emphasized that summer Chinook salmon migrate at a different time of year than springers, so it makes sense there might be a difference in adult conversion rates when summers migrate in warmer conditions compared to springers. He asked, is there a way to address this?

Ferguson asked, is there something more that can be done with these types of data outside of what has been done in the past? Chelan PUD has applied study methodologies to produce results that can be compared to past years. Are there additional analyses that can be done outside of this study to provide more information, notably as the Committees think about a survival study for the Rocky Reach Project?

Skalski said the study design aimed to emulate as much as possible what was done in past years to determine a change in fish performance from past years. This study soundly confirms there was not a backslide in fish performance relative to past study years. If the question is, "has survival degraded?" this study answers it clearly.

Murdoch said she understands this is a confirmation study that used the same methods to compare to previous studies. However, as there are improvements in technology, e.g., smaller acoustic tags to tag smaller fish, fisheries managers are doing this. Instream arrays have come a long way and she thinks these should be used. The goal is to make everything as representative as possible, and she thinks it is worth having these conversations.

Truscott said based on what has been presented, he does not have issues with anything related to the study, analysis, and results as it relates to juvenile survival. He understands there is no information on Wenatchee River juveniles because fish were collected at the RRJSF, which might be something to discuss further for future studies. What was done was consistent with past studies dating back to 2010. He does have a concern that the previous survival studies for combined juveniles and adults had assumed an adult survival of 98%, and this study used a calculated adult survival for springers only. Keller clarified that the studies in 2007, 2008, and 2010, were initially evaluated as juvenile project survival only and thus were measured against the 93% juvenile survival standard. In 2013, the combined juvenile and adult survival for Rock Island HCP Plan Species was based on calculated adult spring Chinook salmon conversions in 2010, 2011, and 2012, which were similar to the adult conversion rates presented today.

Ferguson asked about a path forward. Truscott said at a minimum, the final report should address that juvenile survival is for summers and springers, while adult survival includes only springers. Keller noted that the juvenile survival component has always been labeled as a yearling Chinook salmon component, measuring survival of juvenile Chinook salmon out-migrating in the spring. Keller said Chelan PUD will discuss internally options to evaluate the adult conversion component of the combined juvenile-adult project survival estimate calculation—consistent with the Rock Island and Rocky Reach HCPs—to potentially include summer Chinook salmon in addition to PIT-tagged spring Chinook salmon due to differences in run timing and environmental conditions experienced by the two runs of salmon. Chelan PUD will also discuss Murdoch’s comments about potential ways to assess adult Wenatchee River spring Chinook salmon use of the project area. Ferguson said Anchor QEA will add this topic as a discussion item on the November 16, 2021, meeting agenda.

## **B. DECISION: 2021 Rocky Reach and Rock Island Fish Spill Report (Lance Keller)**

Lance Keller said no comments or questions were received on the draft spill report. He recalled last month discussing the spike in coho salmon counts and his action item to add these data to Tables 1 and 2. He completed this, and the revised draft 2021 Rocky Reach and Rock Island Fish Spill Report was distributed to the HCP Coordinating Committees by Kristi Geris on October 25, 2021. Keller said the 30-day review period ends tomorrow, October 27, 2021, and asked if committee members were ready to vote today. John Ferguson asked for any questions or comments, or if anyone was opposed to voting today. No comments were expressed.

Rocky Reach and Rock Island HCP Coordinating Committees representatives present approved the draft 2021 Rocky Reach and Rock Island Fish Spill Report, as revised.

### **C. DECISION: 2021/2022 Rocky Reach Adult Fishway Winter Maintenance (Lance Keller)**

Lance Keller recalled he had an action item to discuss with WDFW Chelan PUD's request to begin the 2021/2022 adult fishway winter maintenance outage at Rocky Reach Dam 1 month earlier than usual. Keller said unfortunately, he did not send an email to Chad Jackson until yesterday. He summarized that there are three big maintenance projects driving this request. First, a large dewatering pump needs to be replaced. The current pump is corroded and at lower water surface elevations in the fishway during the dewatering (pumping) process, more corrosion is exposed preventing the ladder from being fully dewatered. Second, a sluice gate needs to be replaced. Last year, when returning the fishway to service, a sluice gate became decoupled from the drive stem, dropped, and damaged the gate and seal. Interim repairs were made for last season, but mechanics want to complete a full repair during this overhaul. Third, mechanics want to start addressing expansion joint repairs in the upper fishway. An inspection last year indicated the joint compound is at the end of its life. Resealing these expansion joints will take at least 2 to 3 winter maintenance outages to complete. If an earlier outage is approved, mechanics can dewater the ladder on December 1, 2021, to provide access to the contractor to start addressing the joints and hopefully complete this project in just two outages instead of three.

Keller asked Jackson if he has any questions about this early outage request. Jackson said he does not have questions, he has read the email, and that the request makes sense. Although, at this point in time, WDFW will likely abstain from voting. Keller said Chelan PUD can accommodate additional days if Jackson wants to vet this internally before voting. Jackson said this is not necessary. He trusts that the Rocky Reach HCP Coordinating Committee has already done this.

Keller noted that Jim Craig reached out to Steve Lewis (U.S. Fish and Wildlife Service [USFWS] Federal Activities State Coordinator) regarding Bull Trout. Lewis had no concerns but requested if Bull Trout are encountered during dewatering that Chelan PUD notify USFWS. Keller said this will be done, as it is routine practice to report Bull Trout encountered during dewatering to the USFWS.

John Ferguson said another thing to note, when this request was delivered last month, no concerns were raised by the Rocky Reach HCP Coordinating Committee; rather, representatives just wanted time to think about it and discuss it internally as needed. Also, Keller mentioned last month that when Chelan PUD requests early outages, they also commit to watering up the ladder as soon as possible when the work is complete. However, in this case, because the work will likely span at least two outages, this outage will likely run the full 3 months from December 1, 2021, to February 28, 2022. However, if there is not enough time to complete another joint prior to February 28, 2022, the ladder will be watered up early. That is, the fish ladder will not remain dewatered with no maintenance occurring.

Rocky Reach HCP Coordinating Committee representatives present agreed to Chelan PUD's request to begin the 2021/2022 ladder maintenance outage at Rocky Reach Dam 1 month earlier than usual to allow more time to complete required work. Rather than beginning work during the first week in January (per usual), maintenance work will begin on December 1, 2021. WDFW abstained.

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

Lance Keller recalled reporting last meeting, work had not yet started on Turbine Unit C4 to address the trunnion bushings. On October 4, 2021, Turbine Unit C4 was taken out of service and work is progressing on disassembly. The return-to-service date for Turbine Unit C4 is April 2022. Work is also progressing well on Turbine Unit C6, and the return-to-service date of December 2021 is holding.

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

Lance Keller said similar to last month, work has not yet started on Turbine Unit B3. Crews are waiting on additional data points from testing conducted on Turbine Unit B4 to help inform the approach and strategy for Turbine Unit B3. Crews are testing Turbine Unit B4 at different operational heads and are analyzing outputs and vibration.

### **IV. Douglas PUD**

#### **A. 2021 Wells Dam Post-Season Bypass Report and Passage-Dates Analysis (Tom Kahler)**

Tom Kahler said Douglas PUD has received the draft 2021 Wells Post-Season Bypass Report and Passage-Dates Analysis from Drs. Rich Townsend and Rebecca Buchannan (Columbia Basin Research); however, it is still in the second stage of internal review and those reviewers are out-of-office. That said, he can distribute the draft for review after today's conference call.

Kahler shared the draft 2021 Wells Post-Season Bypass Report and Passage-Dates Analysis (on WebEx). The results of the passage-dates analysis indicate that Douglas PUD provided bypass passage during 100% of the migration of sockeye salmon and nearly 100% for the other Plan Species (i.e., 99.95%, 99.78%, 99.99%, and 99.95% of the subyearling Chinook salmon, yearling Chinook salmon, coho salmon, and steelhead migrations, respectively). There were no abnormal operations. There was a single period of barrier removal; the bypass barriers for Spillway 6 were removed on June 2 and reinstalled on June 10, 2021. The report, *Proportion of Juvenile Plan Species Outmigrating through Wells Dam during Juvenile Bypass Operations in 2021*, in Appendix A of the draft 2021 Wells Post-Season Bypass Report and Passage-Dates Analysis, is similar to past years. The report continues to add fish detections at Wells and Rocky Reach dams, refining median travel times for Plan Species with each passing year, except for sockeye salmon, where the median travel time is based on past studies by Chelan PUD. Figure 1 in Appendix A shows passage plots for each Plan Species. The bold lines represent the 2021 out-migration. Table 2 in Appendix A shows the estimated proportion of



Plan Species in relation to bypass operations at Wells Dam from 2012 to 2021. Both yearling and sub-yearling Chinook salmon include data for both combined hatchery and wild and wild-only. Steelhead, sockeye salmon, and coho salmon include only combined hatchery and wild. Tables 3 and 4 in Appendix A show how well the bypass passage dates provided bypass coverage for 95% or more of the yearling and sub-yearling Chinook salmon migrations. Appendix A includes a discussion of results and appended travel time summary tables.

Andrew Gingerich said another thing to note, last year, Douglas PUD requested to modify the end of 2021 bypass operations from the typical end date of August 19 to August 9, 2021, based on data that suggested an end date of August 19 was overly conservative. This request was approved by the Wells HCP Coordinating Committee<sup>1</sup>. During the 2021 bypass period, Douglas PUD monitored this adjusted timing, and the data indicate there was no challenge in meeting the 95% requirement, even with shortening bypass operations by 10 days. Douglas PUD will continue to closely monitor this each year. This adjusted bypass timing is the only major change from last year, otherwise this is a standard report. Kahler agreed.

The draft 2021 Wells Post-Season Bypass Report and Passage-Dates Analysis was distributed to the HCP Coordinating Committee by Kristi Geris following the HCP Coordinating Committees conference call on October 26, 2021. This draft report is available for a 30-day review with edits and comments due to Kahler by November 25, 2021. Douglas PUD may also request approval of this draft report during the HCP Coordinating Committees conference call on November 16, 2021.

## V. HCP Administration

### A. Corona Virus Disease 2019 Updates (John Ferguson)

John Ferguson asked if there are any updates HCP Coordinating Committees members would like to share regarding impacts of COVID-19 on HCP activities.

Chad Jackson said October 18, 2021, was the last day to become fully vaccinated under Governor Inslee's mandate. In total, 38 WDFW employees were separated for not becoming vaccinated. Another 61 employees are in a "pending" status, which include those awaiting a reasonable accommodation decision or job reassignment, employees claiming plans to become vaccinated, and/or those on protected leave (e.g., Family and Medical Leave Act). Some of these 61 employees will likely become separated from WDFW. Specific to the Upper Columbia River Basin, one Fish Culturist and three to four Science Division staff were separated and WDFW is actively working to fill these positions. Combined with the already vacant positions and those pending, filling these positions could take up to 4 months. WDFW staff are allowed to return to working in the office

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<sup>1</sup> The Wells HCP Coordinating Committee approved the *Statement of Agreement to Adjust the Timing of the Annual Termination of Bypass Operations at Wells Dam* on January 26, 2021.

with no capacity constraints beginning October 2021, and WDFW offices may be reopening to the public in December 2021. Teleworking is still encouraged for those able to do so. Currently, it is unknown how many WDFW employees will be returning to work in the office.

No other new updates were shared.

#### **B. HCP Policy Committees June 8, 2021, Conference Call Minutes (John Ferguson)**

John Ferguson said the final HCP Policy Committees June 8, 2021, conference call minutes were distributed to the HCP Policy Committees by Kristi Geris on September 28, 2021.

#### **C. Timing of Review and Approval of HCP Documents (Kristi Geris)**

Kristi Geris recalled briefly discussing last month the timing of review and approval of HCP documents that was agreed upon by the HCP Coordinating Committees during the HCP Coordinating Committees conference call on March 23, 2021. With annual reporting approaching, Geris thought revisiting these changes would be a helpful reminder of upcoming documents for HCP review. She shared the table summarizing the changes (on WebEx), as distributed to the HCP Coordinating Committees by Geris on March 8, 2021. John Ferguson said Geris will redistribute this email as a reminder. *(Note: This table was redistributed, as discussed, following the HCP Coordinating Committees conference call on October 26, 2021.)*

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

John Ferguson asked if HCP Coordinating Committees representatives needed to reschedule the meetings in November and December to accommodate holiday plans this year.

Ferguson asked about the meeting on November 23, 2021. Keely Murdoch said she prefers to move this meeting 1 week earlier to November 16; however, can also accommodate November 23. Jim Craig said he can attend November 16 and he is unavailable the following week. Scott Carlon said he can attend November 16. Chad Jackson said he can attend November 16 or November 30. Kirk Truscott said he prefers November 16 over November 23. HCP Coordinating Committees representatives present agreed to reschedule the HCP Coordinating Committees conference call on November 23, 2021, to 1 week earlier on November 16, 2021, to accommodate the holiday.

Ferguson asked about the meeting on December 28, 2021, and suggested moving this meeting 2 weeks earlier to December 14. Carlon said he might be available December 14, but also might be out-of-office. Craig, Murdoch, Truscott, and Jackson said they can attend December 14. HCP Coordinating Committees representatives present agreed to reschedule the HCP Coordinating Committees conference call on December 28, 2021, to 2 weeks earlier on December 14, 2021, to accommodate the holidays.

Agency and tribal representatives will communicate the rescheduled HCP Coordinating Committees conference calls on November 16 and December 14, 2021, to Bryan Nordlund and the PRCC.

The next scheduled HCP Coordinating Committees meeting is on Tuesday, November 16, 2021, from 9:00 a.m. to 12:00 p.m., to be held by conference call.

The December 14, 2021, and January 25, 2022, meetings will be held by conference call or in person, as is yet to be determined.

## **VI. List of Attachments**

Attachment A List of Attendees

Attachment B *HCP Confirmation Survival Study of Yearling Chinook Salmon through the Rock Island Project in 2021*

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

Name	Organization
John Ferguson	Anchor QEA, LLC
Kristi Geris	Anchor QEA, LLC
Tracy Hillmant	BioAnalysts
John Skalski††	University of Washington, Columbia Basin Research
Rich Townsend††	University of Washington, Columbia Basin Research
Kyle Hatch††	Blue Leaf Environmental
Alene Underwood††	Chelan PUD
Lance Keller*	Chelan PUD
Bill Towey*	Chelan PUD
Tom Kahler*	Douglas PUD
Andrew Gingerich*	Douglas PUD
Scott Carlon*	National Marine Fisheries Service
Jim Craig*	U.S. Fish and Wildlife Service
Chad Jackson*	Washington Department of Fish and Wildlife
Kirk Truscott*	Colville Confederated Tribes
Keely Murdoch*	Yakama Nation

Notes:

- \* Denotes HCP Coordinating Committees member or alternate
- † Joined for the HCP Hatchery and Tributary Committees update
- †† Joined for the 2021 Rock Island Dam Survival Confirmation Study presentation