

Memorandum

To: Wells, Rocky Reach, and Rock Island HCP Hatchery Committees, and Priest Rapids Coordinating Committee Hatchery Subcommittee Date: June 16, 2021

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

cc: Larissa Rohrbach, Anchor QEA, LLC

Re: Final Minutes of the May 19, 2021, HCP Hatchery Committees and PRCC Hatchery Subcommittee Meetings

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan Hatchery Committees (HCP-HCs) and Priest Rapids Coordinating Committee Hatchery Subcommittee (PRCC HSC) meetings were held by conference call and web-share on Wednesday, May 19, 2021, from 9:00 a.m. to 12:15 p.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

Joint HCP-HCs and PRCC HSC

Long-Term

- Greg Mackey will work with Mike Tonseth to test a modeling approach and prepare a white paper on the method for determining a range for the number of females to be collected for a given broodstock in the upcoming year (Item I-A). (*Note: this item is ongoing; expected completion by August.*)
- Greg Mackey will prepare a plan for alternative mating strategies based on findings described in his previously distributed literature review (Item I-A). (*Note: this item is ongoing; expected completion by July.*)
- Mike Tonseth will distribute the analysis showing feasibility of the Methow Spring Chinook Salmon Outplanting plan based on historic run-size data (Item I-A). (*Note: this item is ongoing; expected completion by September.*)
- Kirk Truscott will work with Colville Confederated Tribe (CCT) staff to develop a model that addresses the probability of encountering natural-origin (NOR) Okanogan River spring Chinook salmon at Wells Dam (Item I-A). (*Note: this item is ongoing; expected completion by September.*)
- Kirk Truscott will determine the number of scales that should be collected from spring Chinook salmon at Wells Dam for elemental signature analysis to discern Okanogan River spring Chinook salmon from Methow River spring Chinook salmon (Item I-A). (*Note: this item is ongoing; completion depends on the outcome of the previous action item.*)

- Keely Murdoch and Mike Tonseth will obtain estimates of pre-spawn mortality from Andrew Murdoch to update the retrospective analysis for Wenatchee spring Chinook salmon (Item I-A). *(Note: this item is ongoing; expected completion by August.)*

Near-Term (To Be Completed by Next Meeting)

- Mike Tonseth and Greg Mackey will solicit input from hatchery managers on effective methods to count surplus fish (Item I-A). *(Note: this item is ongoing.)*
- Brett Farman will contact Mike Ford and Craig Busack (National Marine Fisheries Service [NMFS]) to receive input on the appropriateness of the existing Proportionate Natural Influence (PNI) Model for spring Chinook salmon programs in the Wenatchee Basin (Item III-C).
- The Chelan, Douglas, and Grant PUD representatives will update the original 2013 Statement of Agreement (SOA) on No Net Impact Recalculation Methodology (Recalculation Methodology SOA) for approval in next month's meeting (Item III-D) *(Note: Todd Pearsons provided, and Larissa Rohrbach distributed a revised version of the Recalculation Methodology SOA on June 3, 2021 to the HCP-HCs and PRCC HSC for approval in the next meeting).*
- Todd Pearsons will draft a review schedule for the 10-year Comprehensive Monitoring and Evaluation (M&E) Report for distribution prior to next month's meeting (Item III-E). *(Note: Todd Pearsons provided, and Larissa Rohrbach distributed a draft review schedule on June 3, 2021 to the HCP-HCs and PRCC HSC for discussion in the next meeting).*
- Douglas PUD and U.S. Fish and Wildlife Service (USFWS) will document the logistics within the week for collection of spring Chinook salmon broodstock at Wells Dam and potential holding, spawning, identification, and disposition of eggs or juveniles for review by NMFS to ensure alignment with existing permits (Item III-F) *(Note: Brett Farman responded on May 24, 2021 by email to communicate NMFS' agreement with a memorandum documenting the updated spring Chinook salmon broodstock collection plans at Wells Dam in 2021 [Attachment C and D]).*

Rock Island/Rocky Reach HCP-HCs

- None.

Wells HCP-HC

- None.

PRCC HSC

- None.

Decision Summary

- The draft *2022 Grant PUD Hatchery Monitoring and Evaluation Implementation Plan for the Wenatchee and Methow Basins* was unanimously approved by the Rock Island/Rocky Reach HCP-HCs and PRCC HSC.

Agreements

- All members of the HCP-HCs and PRCC HSC agreed with a recommendation from Megan Finley, the veterinarian overseeing Chelan PUD's Eastbank Hatchery programs (Washington Department of Fish and Wildlife [WDFW] Fish Health), to refrain from inoculating adult spring Chinook salmon broodstock with prophylactic antibiotics for bacterial kidney disease (BKD) for 3 years based on low disease prevalence over the past 3 years.

Review Items

- No items are pending for review.

Finalized Documents

- The final *2022 Grant PUD Hatchery Monitoring and Evaluation Implementation Plan for the Wenatchee and Methow Basins* will be distributed to the PRCC HSC in the coming weeks.

I. Welcome

A. Review Agenda, Announcements, Approve Past Meeting Minutes, Review Last Meeting Action Items

Tracy Hillman welcomed the HCP-HCs and PRCC HSC and read the list of attendees. The meeting was held via conference call and web-share because of travel and group meeting restrictions resulting from the coronavirus disease 2019 (COVID-19) pandemic. Hillman reviewed the agenda and asked for any additions or changes to the agenda.

Catherine Willard added the item "Adult Prophylactic Disease Management Plan Update and Recommendation for BY 2021 to BY 2023 Eastbank Fish Hatchery Complex Spring and Summer Chinook Hatchery Programs" to the agenda to be discussed with Megan Finley.

All HCP-HCs and PRCC HSC representatives approved the revised agenda.

Revised minutes from the April 21, 2021, meeting were reviewed and approved by all members of the HCP-HCs and PRCC HSC.

Action items from the HCP-HCs and PRCC HSC meeting on April 21, 2021, were reviewed and discussed (*Note: italicized text below corresponds to action items from the previous meeting*).

Joint HCP-HCs and PRCC HSC

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- *Greg Mackey will prepare a plan for alternative mating strategies based on findings described in his previously distributed literature review (Item I-A). (Note this item is ongoing; expected completion by July.)*
- *Mike Tonseth will distribute the analysis showing feasibility of the Methow Spring Chinook Outplanting plan based on historic run-size data (Item I-A). (Note this item is ongoing; expected completion by September.)*
- *Kirk Truscott will work with CCT staff to develop a model that addresses the probability of encountering natural-origin Okanogan River spring Chinook at Wells Dam (Item I-A). (Note this item is ongoing; expected completion by September.)*
- *Kirk Truscott will determine the number of scales that should be collected from spring Chinook at Wells Dam for elemental signature analysis to discern Okanogan River spring Chinook from Methow River spring Chinook (Item I-A). (Note this item is ongoing; completion depends on the outcome of the previous action item.)*
- *Keely Murdoch and Mike Tonseth will obtain estimates of pre-spawn mortality from Andrew Murdoch to update the retrospective analysis for Wenatchee spring Chinook salmon (Item I-A). (Note this item is ongoing; expected completion by August.)*

Near-Term (To Be Completed by Next Meeting)

- *Mike Tonseth and Greg Mackey will solicit input from hatchery managers on effective methods to count surplus fish (Item I-A). (Note this item is ongoing.)*
Mackey said this item is nearly complete.
- *Catherine Willard and Todd Pearsons will distribute final versions of the Statements of Agreement (SOAs) with Chelan PUD and Grant PUD on the success of the Okanogan Sockeye Salmon Reintroduction Program (Item I-A).*
The SOAs were distributed by Larissa Rohrbach on April 29, 2021. This item is complete.
- *Members of the HCP-HCs and PRCC HSC will review the information presented by Brett Farman on Multi-population Proportionate Natural Influence (PNI) in the Wenatchee Subbasin to better*

define the intent of the PNI calculation and develop questions for model developers Mike Ford and Craig Busack (NMFS), for discussion in the next meeting (Item III-C).

This item will be discussed in today's meeting.

- *Mike Tonseth will update the HCP-HCs on spring Chinook passage and tagging activities at the Priest Rapids Dam Off-Ladder Adult Fish Trap (Item III-G).*

This item will be discussed in today's meeting.

II. PRCC HSC

A. DECISION: 2022 Grant PUD Hatchery Monitoring and Evaluation Implementation Plan for the Wenatchee and Methow Basins

Todd Pearsons said no comments or edits were submitted; only dates were changed. All members of the PRCC HSC voted to approve the *2022 Grant PUD Hatchery Monitoring and Evaluation Implementation Plan for the Wenatchee and Methow Basins*.

B. Marking Changes to Priest Rapids Hatchery Subyearling Fall Chinook Salmon

Mike Tonseth wrote, and Larissa Rohrbach forwarded, an email to the PRCC HSC on April 23, 2021, describing a change to the marking plans for approximately 1 million subyearling smolts from Priest Rapids Hatchery in 2021. Tonseth reported in a subsequent email on May 18, 2021, that the WDFW marking unit was able to reprioritize staff and equipment to mark all the fish in question. There will be no change to the marking plan for brood year (BY) 2020 Priest Rapids Hatchery fall Chinook salmon as outlined in the Broodstock Collection Protocols.

III. Joint HCP-HCs and PRCC HSC

A. Adult Prophylactic Disease Management Plan Update and Recommendation for BY 2021 to BY 2023 Eastbank Fish Hatchery Complex Spring and Summer Chinook Salmon Hatchery Programs

Catherine Willard said that over the past 3 years, the effects of prophylactic treatment of adult females in the broodstock to prevent transmission of BKD to offspring have been tested at Eastbank Hatchery. Megan Finley is making a recommendation not to inoculate fish for BKD in the Eastbank Hatchery programs this year, which will inform Appendix L of the 2021 Broodstock Collection Protocols. Finley provided a summary of results from an evaluation carried out over the past 3 years, and recommendations for the next 3 years. Finley described the evaluation and results. Finley showed the number of "low", "moderate," or "high" BKD enzyme linked immunosorbent assay (ELISA) results for each Chinook salmon program (Attachment B).

Over the past 3 years, only the NOR spring Chinook salmon in the Chiwawa and Nason broodstocks have been injected with prophylactic antibiotics to test if inoculation would reduce the number of high BKD ELISA results that were observed. Generally, low BKD prevalence and low pre-spawn mortality were observed over the course of the 3-year experiment. The results were somewhat similar for summer Chinook salmon. It would not be surprising to see more BKD fish that are collected at Tumwater Dam, which can be a stressful process. All high and moderate ELISA groups of summer Chinook salmon had been collected at the Wells Volunteer Channel, compared to the Chelan River site.

Finley noted that high BKD detections can result from dead or live bacteria and that prophylactic injection may have no impact on the number of high BKD fish identified because the dead bacteria will also be detected. Combined with the low prevalence of BKD, the results of the experiment do not indicate whether injections had any impact on transmission. Finley made a recommendation to initiate another 3-year experiment with no inoculation of any fish and observe the response in BKD levels without prophylactic treatment. Finley suggested that a culling program could achieve the same goals without injections. Pre-spawn mortality has been very low in all programs and Finley does not feel a need to continue injections to prevent pre-spawn mortality.

Kirk Truscott asked if this is an effort to reduce the risk of disease resistance. Finley said a culling program may be a better BKD management strategy at the Eastbank Complex versus inoculation that can reduce risk disease resistance from antibiotic use. Finley confirmed that Mike Tonseth, not in attendance at the meeting, is in favor of not injecting fish over the next 3 years.

Bill Gale asked if there has been any change in in-pond mortality. Finley confirmed that pre-spawn mortality was low. The Wenatchee summer Chinook group that had higher pre-spawn mortality also had a lot of fungus when they were captured and those were the fish that died after capture. Gale said not injecting the fish aligns with what has been done at the Federal hatcheries and he is in support of the plan. Brett Farman asked if 100% of females are sampled. Finley confirmed that all females are tested by ELISA. Truscott asked whether to continue the experiment or change the approach if BKD prevalence increases substantially in 1 year of the experiment. Finley recommended continuing the experiment because BKD can flare up in some years without a long-term high BKD trend. Truscott said it is unknown whether the injections would have an effect in a high BKD year. Betsy Bamberger (Douglas PUD Fish Health Specialist) confirmed that there have not been high BKD years over the past 3 years; there was an outbreak in sub-yearlings in 1 year, but it was most likely due to stressful rearing conditions. Gale said increased BKD seems to correspond with high escapement years.

Gale said fish health actions are by veterinarian prescription only and it is unclear how the HCP-HC process affects that decision. Finley said that, in this case, she does not believe prophylactic

injections are necessary but would be willing to prescribe them again if there are more observations of BKD made in the next 3 years.

Truscott commented that he would not second-guess fish health experts but noted there is a risk of significant loss of broodstock in a high BKD year. Truscott said he is willing to go forward with the experiment.

Farman said his understanding is that, even if inoculated, highly infected fish may have a high BKD result later whether the bacteria are live or not, but the transmission to juveniles would be lower. Those juveniles would still be culled based on the parent's results. In other words, this plan doesn't create a major difference in how juveniles are culled. Farman said he favors less antibiotic use in the environment.

All members of the HCP-HCs and PRCC HSC agreed to accept the recommendation to not inoculate spring and summer Chinook salmon from the Eastbank fish hatchery complex program over the next 3 years (BY 2021, BY 2022, and BY 2023).

B. Marking Errors and Implications

Willard reported last spring (in the April 21, 2020, HCP-HCs meeting) that a high rate of partial adipose clips (bad clips) was observed across Chelan PUD's programs in 2019, ranging from 14% to 28% of a given rearing group. Last winter (in 2020) bad clips were again observed during monthly sampling—mainly among summer Chinook salmon at Carlton Pond. The WDFW marking group followed with a quality control sampling and confirmed a bad clip rate of 18.6%. Chelan PUD chose to conduct ad-clip quality control for their programs and observed bad clip rates of 8% in the Chelan Falls summer Chinook salmon and 9% of Wenatchee summer Chinook salmon. WDFW marking staff confirmed the bad marks occurred mainly in the group of fish that were hand-clipped as compared to those clipped in the automated marking trailer. Some fish must be clipped by hand because they are of a size that cannot be automatically clipped or were abnormal in some other way.

Bad clips have implications for fish counts at dams and M&E. Willard informed the Committees that Chelan PUD and WDFW are working to improve the clip rates. Previously, WDFW had used temporary labor to staff that work but will staff that now with WDFW staff. In addition, WDFW Eastbank hatchery staff will also conduct quality control checks four times per day while the tagging trailer is on site.

Kirk Truscott suggested reviewing the coefficient of variation (CV) in sizes of those groups of fish that had high clip rates; groups with higher CVs may be more likely to have been hand-clipped. Truscott suggested improving CVs in order to reduce the need for hand clipping.

Greg Mackey said Douglas PUD has observed similar patterns at Wells Hatchery in recent years and try to do quality control sampling while marking is ongoing. Their M&E crew also samples the fish once fish are healed. If there is a problem, they ask the WDFW marking group to confirm the numbers. Truscott asked if bad clips in the Wells Hatchery program were also associated with hand clipping. Mackey did not recollect reporting on which group had the poor mark rates.

Tracy Hillman asked if this is happening statewide. Katy Shelby said a review of marking protocols and improvements are being made statewide. Truscott said the CCT had some problems a few years ago at Chief Joseph Hatchery. This year, they are sending the trailer to be retooled and replacing critical equipment. Willard said WDFW is updating their trailers as well. Bill Gale noted marking operations have been difficult to accommodate during the pandemic. Modifications were made successfully but with a lot of work.

C. Multi-Population Proportionate Natural Influence Model

Keely Murdoch said many options were discussed during last month's meeting for the populations that could be included in a Wenatchee Basin multi-population PNI model. Past work in the Methow Basin sought to resolve two major issues: 1) capturing the gene flow from the conservation program to the safety net program because the original PNI model didn't capture that; and 2) ability to create a partial proportion of hatchery-origin (HOR) returns for the Winthrop National Fish Hatchery (WNFH) and Methow programs to discern where the responsibility lies for managing the PNI, which was high overall in the Methow. We have not fully identified the issues we are trying to solve in the Wenatchee Basin. There is value in capturing gene flow from the Nason conservation program to the safety net programs, and potentially the overall contribution of each program to PNI, to better understand what drives PNI and make management adjustments. Murdoch did not support creating an overly complex PNI model that micromanages every spawning aggregate.

Brett Farman suggested refocusing the discussion on what questions to answer with PNI as a first step toward determining what populations should be examined. Kirk Truscott said members should consider the management feasibility and strategies at the same time. Bill Gale said identifying the intent of the three hatchery programs (Chiwawa, Nason conservation, and Nason safety net) should dictate the levels and scales at which PNI is calculated.

Catherine Willard said goals are identified in the permits. The Chiwawa program has its own PNI target of 0.67; Nason has one as well. The question is how we calculate PNI. Gale said if the Chiwawa program has a PNI target of 0.67, it is unclear if that is only for fish in the Chiwawa program or includes Chiwawa-origin fish that end up in the Nason program. Murdoch said she thought the goal was 0.67 for the whole basin, so that if Chiwawa and Nason fish end up in the other programs it does not matter. Murdoch said the use of the multi-population model was part of the method for solving issues specific to the Methow Basin subsequent to development of the language in the Wenatchee

spring Chinook salmon permit. Gale asked, if that is the case, is there a need to develop a multi-population PNI or a single PNI calculation for all aggregates in the whole basin? We appear to be trapped between two scenarios.

Tracy Hillman said in annual reports, PNI is calculated in two different ways based on a recommendation provided by Pearsons several years ago. One is based on the given program and the other is based on fish that have moved into other programs.

Murdoch asked if there is something wrong with the way PNI has been calculated so far. Gale said the problem as he sees it is the standard PNI calculation is intended to describe a relationship between two populations in equilibrium. What we have in the upper Wenatchee is not two separate populations. There is a wild population, two conservation populations, and a safety net population. The current approach is not designed for multiple populations. Additionally, a lot of extensive broodstock collection methods are done that affect not only spring Chinook salmon handling and delay, but also other species (e.g., bull trout and other nontarget species).

Farman agreed that this is generally true—the calculation is designed for two populations that are interlinked. He added that the multi-population model is intended for populations that interact. The questions become complicated in situations where groups are not intended to interact. Just this week, Craig Busack presented to their internal group about adjusting the basic model for population-specific selection strength to account for varying proportionate influence by population. Farman said an updated model would not change the current approach used for consultation, but it would be a refinement to better understand selection strength. More guidance from Busack may be forthcoming. Murdoch suggested waiting until Busack has shared those adjustments before further discussion on PNI.

Murdoch said all the populations are linked; they are all one Wenatchee population and managers should not overthink this. For instance, Chiwawa fish spawn in the White River and have been moved into the Nason program.

Todd Pearsons asked if goals have been specified in the permits and Hatchery Genetic Management Plan. Is there something else that has not yet been provided? Farman said he is not suggesting the goals of the programs are unclear, but there is a need to ensure it is clear that PNI calculations accurately address the need. Pearsons said PNI is a theoretical index of domestication, so from that standpoint, fish should be included whether they are strays or not because they can have an influence on domestication. Stray rate calculations are also done separately.

Hillman asked if Mike Ford or Busack could be asked about how PNI could be calculated for the four upper Wenatchee subgroups (wild, Chiwawa program, Nason conservation program, and Nason safety net program). Specifically, is the current method for calculating PNI suitable or is a different or

multi-population model more appropriate? Pearsons and Willard agreed with that approach. Willard said permits refer to using a sliding scale of PNI goals for the Chiwawa River, but the Hatchery Genetic Management Plan was written before the permits and before agreement to composite the Nason program, so it does not reflect what is currently in the permits. Farman agreed to reach out to Busack and Ford with this question.

D. Hatchery Production Recalculation – Methodology

Tracy Hillman said after last month's review of how hatchery production recalculation was carried out previously, he confirmed that sensitivity comparisons were done for Federal programs and PUD programs. Hillman asked if there were any suggested changes to methodology or approaches.

In an email, Mike Tonseth said at this time, WDFW has no plan to propose a new method or framework for recalculation but understands some adjustments may occur while working through the process.

Catherine Willard said Chelan PUD would go forward with the general methodology, understanding that some tweaks, such as which data to use, would occur later in the process. Todd Pearsons said Grant PUD would agree to pursuing the same general methodology as before and suggested starting from the original 2013 SOA on No Net Impact Recalculation Methodology (Recalculation Methodology SOA) to determine whether updates or tweaks to the language of the Recalculation Methodology SOA are needed. Greg Mackey said Douglas PUD would work with the methodology used before; it is well documented though it does take some time to disentangle the calculations that were done before. Pearsons noted it would be favorable to have a more direct method for measuring productivity for NOR fish and data are a bit uneven for the different basins. Grant PUD would be interested in a better direct method, like smolt trapping, for estimating productivity, but is uncertain if it would be feasible to implement. Kirk Truscott echoed the same concerns for estimating NOR smolt production. They have been unable to produce an estimate in the Okanogan Basin with much precision or accuracy. He agrees with using the same general methodology as before, which will be much better than starting from scratch. In some options he questions the use of the hatchery smolt-to-adult returns (SAR). Using Chief Joseph Hatchery as an example, there are only 3 years of data for SAR, though perhaps they could couple this with earlier Similkameen SARs. Hillman agreed this is a detail that will probably need to be tweaked. Keely Murdoch said she supports using the same method as last time but is curious to know what people mean by tweaks. Hillman said some tweaks will be based on better information than was available last time but agreed that it will be important for all to identify and document changes, so it is clear for future recalculation efforts. Pearsons said most of the tweaks would occur within the step for approval of datasets. Bill Gale said he is okay with moving forward with the existing methods. Brett Farman said he knows that Craig

Busack spent a lot of time on this topic with the Committees previously and so is comfortable going forward with the same general methodology.

Pearsons suggested making revisions to the Recalculation Methodology SOA and voting on it during next month's meeting to ensure there is agreement to move forward.

Willard said she has started putting together the datasets. It is a lot of work, and Willard offered to provide the Committees with a rough version of the data that have been compiled so far. The Committees can then discuss the data and its relevance (e.g., use of passive integrated transponder [PIT] tags versus coded wire tags [CWTs] to calculate SARs). This will save others from having to compile datasets for recalculation. Committees can review the datasets and decide if modifications are needed. Pearsons said Grant PUD may not have all their information compiled by next month but may be able to outline their approach to hear feedback on ways to improve on the data.

The PUDs' representatives will make tracked changes to the Recalculation Methodology SOA for approval in next month's meeting. All parties will consider datasets that should be used to inform the recalculation process.

Pearsons asked that, in order to make things easy for the Committee, a single SOA be created for joint HCP-HC and PRCC HSC agreement, then after approval, a separate SOA would be created with minor changes to the language specific for the PRCC HSC. The PUDs may need separate SOAs with the organization's names on them, but the text would be consistent among the SOAs.

E. Comprehensive Monitoring and Evaluation Report Review Discussion

Todd Pearsons sought agreement among Committees' members on how to review the significant amount of content in the 10-year Comprehensive Report, available after July 1, 2021. The different chapters would be provided on the Douglas PUD's Extranet and a schedule created for all members to review all sections over 90 days.

Tracy Hillman said budgeting time effectively will be critical over the next several months as review of the annual report will begin in July, and the Committees are also working on recalculation. The workload to review will be large, but it will also be exciting and engaging to review 10 years of information integrated with results from other programs where studies have been published.

Kirk Truscott asked whether sections could be reviewed as they are completed. Pearsons said individual chapters could be reviewed separately. The Executive Summary will contain the abstracts of each chapter, and this will provide some information on how the chapters relate to each other. Greg Mackey said Sharepoint should allow for coauthoring a live document, but that it has not worked well in the past. Douglas PUD will create an organizational structure that allows all to view the document chapters by objective. Hillman said they are written in manuscript format, which differs

from the last comprehensive report, but will also be interesting as they integrate results from other studies.

Hillman suggested staggering chapters or categories to be reviewed within certain windows of time, starting with the abundance and productivity chapters. Other supporting chapters would be reviewed following the abundance and productivity chapters. This order is already established in the M&E plan.

Pearsons will draft the schedule for a staggered 90-day review by the Committees.

F. Spring Chinook Salmon Broodstock Collection at Wells Dam

Greg Mackey said that recently Chris Pasley (USFWS) informed Douglas PUD that the Methow Spring Chinook salmon returns to WNFH were looking quite poor and asked whether additional HORs (identified by presence of a CWT mark only) could be collected at Wells Dam backfill a shortfall of broodstock. They discussed how collection at Wells Dam would affect interrelated programs. The CWT-only fish could originate from the Methow Hatchery programs or the Okanogan 10j programs. It is undesirable to incorporate Okanogan 10j fish into the Methow program, and the CCT do not want Okanogan 10j fish removed from migrating to the Okanogan River. (In recent days, the collection rate of NOR brood for the Methow program has improved, although their genetic identities needed to be confirmed.)

Matt Cooper said the WNFH program is concerned with falling short of program needs. If the Methow Conservation program does not meet broodstock targets, the WNFH cannot collect NOR fish and will fall short of the target of 75% or more of the broodstock that should be from the Methow Hatchery program. Michael Humling (USFWS) created a data table to estimate expected returns (Appendix C). He presented a spreadsheet of calculations, initially looking at broodstocking with WNFH fish only. The target is 200 male and 200 female adults to produce the 400,000 smolt release and 200,000 for the Okanogan 10j program. He calculated some expansions on expected fish returning per PIT tag detected downstream and estimates that WNFH may have a shortfall of approximately 172 fish without use of Methow Hatchery fish. The outlook may be slightly better now with feedback on the number of NORs captured at Wells Dam so far. There may be up to 232 age-4 and age-5 HORs to the combined Methow Hatchery zones, but this is a narrow margin for error. Approximately three-quarters of all CWT-only spring Chinook salmon encountered at Wells Dam would be suitable for brood at WNFH. He estimated the number that would potentially be collected and the number of Okanogan 10j fish that would remain in the river if that were pursued.

Kirk Truscott said he recognizes the benefits of reaching broodstock targets for the Methow programs but noted the intent of the Okanogan 10j program is to get those fish back on the spawning grounds to develop the reintroduction program and a population specific to the

Okanogan River. To supply 200,000 juveniles for the program there would be a gap in adults allowed on the spawning grounds. He is not opposed to collecting some CWT-only adults at Wells Dam and then apportioning those fish out to the appropriate programs but wants to limit the collections. Based on conversion of spring Chinook salmon from Bonneville Dam to the Dalles Dam as of today, roughly 68% have converted to the Dalles and asked if there is any knowledge of the timing of the peak of the run at Wells Dam at this time this year. Mackey said the fish just started to come through over the past week, and numbers are increasing recently, trapping 10 to 11 fish per day over the past few days.

Truscott asked if run expansion based on PIT tags detected downstream is an underestimate for the run as it is generally in other basins. Humling said yes, they have found this could be an underestimation of approximately 25%. This work projects a worst-case scenario and a precautionary approach. Truscott asked whether the expectation moving forward is to revisit the collection status weekly and move forward with collection at Wells Dam, as necessary. Cooper said approximately 10% of Methow fish detected at Bonneville Dam have already converted to Wells Dam and 20% to 30% of other runs have already converted to Wells Dam, and he would caution against waiting on making a decision that would cause them to collect more fish during the second half of the run.

Truscott said at times they encounter CWT-only fish in the Chief Joseph Dam ladder and surmise they are Okanogan 10j fish. He suggested they could reduce collection at Wells Dam and transfer fish from the Chief Joseph Dam ladder to the Winthrop Hatchery for the Okanogan 10j program, though there is some concern that they are fish that are straying and perhaps should not be incorporated into the Okanogan 10j program. There could be a permit compliance issue, although permit provisions say nothing about collecting CWT-only fish at Chief Joseph Hatchery.

Bill Gale said the USFWS is concerned about waiting to collect after the median point of the run. Gale asked if there is a permit issue for collecting CWT-only fish at Wells Dam. Brett Farman said he would look at how the language is written, but that it is unlikely a problem. If it wasn't addressed directly, it could be dealt with relatively easily in a memo, outside of formal consultation, because it is using a facility that has already been permitted.

Gale asked the Committees to consider a collection target of approximately 100 fish next week from Chief Joseph Hatchery or Wells Dam that could be used as appropriate in the Methow Hatchery, WNFH, and Okanogan 10j programs. Truscott said he agreed with that. Farman said he supports making the decisions sooner than later to avoid skewing the collection to later in the season. He agreed to review the Tribal Resource Management Plan for compliance on collection at Chief Joseph Hatchery and permits for collection at Wells Dam. Truscott suggested meeting again early in the week after next to assess and readjust collection at Wells Dam as needed. Gale said at the local level, Douglas PUD and USFWS can meet to confirm the details and logistics.

Truscott said another question is, if fish are in hand but are ultimately not needed, what would be done with them? Would they be used and collection in the Methow Basin be deferred? Gale said he thinks there will be a need in the WNFH and the Methow-assigned brood will get used. For the Okanogan 10j fish, it makes sense to incorporate returning Chief Joseph fish (riverside-collected fish) for broodstock in the Okanogan 10j program. If WNFH returns are available, they would go to surplus for ceremonial uses or consumption. It is uncertain how excess Okanogan 10j fish could be returned to the Okanogan Basin.

Mackey suggested holding fish at Wells Dam until it is determined whether they are needed, then if adults are not needed, they could be released into the west ladder upstream of the trap early enough in the run that they could still migrate to their spawning grounds. If retained for broodstock, they could be spawned at Wells Hatchery, or live adults could be trucked upstream. Truscott agreed with this approach. Mackey said he will know by mid-June whether fish at Wells Dam will be used for broodstock or not.

Farman requested that a summary and an email be submitted to him later this week that outlines the logistical plan with the collection point(s) and program origins so he can respond to whether it comports with the permits (Mackey and Farman exchanged emails and a memo outlining the plan on May 25, 2021; Appendix D).

G. Update on Spring Chinook Tagging at the Priest Rapids Dam Off-Ladder Adult Fish Trap

Mike Tonseth provided an update in an email to Tracy Hillman and Larissa Rohrbach on May 18, 2021. To date, staff have sampled approximately 2% of the spring Chinook salmon run over Priest Rapids Dam and approximately 100 PIT tags have been deployed.

H. COVID-19 and Monitoring and Evaluation Activities

Tracy Hillman asked Committees' members to provide their monthly updates on impacts of COVID-19 restrictions on M&E activities.

- Kirk Truscott had no new updates from the CCT.
- Katy Shelby said WDFW has started a phased approach to returning to work. WDFW will allow in-office work at 25% capacity from July to September with changes in 3-month incremental stages after that. There is no change to field work practices.
- Brett Farman had no new updates from NMFS. No reopening or travel has been approved or proposed for the future.
- Keely Murdoch had no additional reopening updates from the Yakama Nation.
- Matt Cooper said guidance from USFWS is forthcoming.

- Todd Pearsons said vaccinated people do not need to be tested for working at the off-ladder adult fish trap. All other guidance is the same.
- Greg Mackey had no new updates from Douglas PUD. Douglas PUD is following the Centers for Disease Control and Prevention recommendations for masking. No masks are required for vaccinated workers within the facilities.
- Catherine Willard had no new updates from Chelan PUD. They are awaiting specific guidance.

IV. Administrative Items

A. Next Meetings

Tracy Hillman said the HCP Policy Committee is convening a meeting on June 8. Hillman will provide an overview of the HCs. Todd Pearsons asked if the Policy Committee meeting is a regular occurrence or being scheduled to address a specific issue. Hillman said the HCP Policy Committee determined they should meet at least annually outside of any dispute resolution to stay informed of other HCP Committees activities. There are also some new members on the Policy Committees that would benefit from a discussion on the HCPs and the work of the Committees.

Hillman plans to report the following regarding the HCs: 1) they function well, and since his time as chair, there have not been any formal disputes; 2) they are meeting the high technical standards outlined in the HCPs on developing plans, reporting, broodstock collection protocol preparation, and producing the number of fish directed by the agreements and implementation plans; and 3) they generally make adjustments to resolve problems as they arise in a short period of time (e.g., dealing with surplus fish on station). He will also share the status of work on recalculation and the 10-year Comprehensive Review.

The next HCP-HCs and PRCC HSC meetings will be Wednesday June 16, 2021; Wednesday, July 21, 2021; and Wednesday August 18, 2021; held by conference call and web-share until further notice.

V. List of Attachments

Attachment A List of Attendees

Attachment B Wenatchee Spring and Summer Chinook Salmon Bacterial Kidney Disease Inoculation Experiment Outcomes

Attachment C 2021 Spring Chinook Salmon Trapping Strategy at Wells Dam

Attachment D Email confirmation from Brett Farman (NMFS) to Douglas PUD and USFWS regarding spring Chinook salmon trapping strategy decision at Wells Dam

**Attachment A
List of Attendees**

Name	Organization
Larissa Rohrbach	Anchor QEA, LLC
Tracy Hillman	BioAnalysts, Inc.
Scott Hopkins*	Chelan PUD
Catherine Willard*	Chelan PUD
Kirk Truscott*‡	Colville Confederated Tribes
Betsy Bamberger	Douglas PUD
Tom Kahler*	Douglas PUD
Greg Mackey*	Douglas PUD
Peter Graf‡	Grant PUD
Rod O'Connor	Grant PUD
Deanne Pavlik-Kunkel	Grant PUD
Todd Pearsons‡	Grant PUD
Brett Farman*‡	National Marine Fisheries Service
Matt Cooper*‡	U.S. Fish and Wildlife Service
Bill Gale*‡	U.S. Fish and Wildlife Service
Michael Humling	U.S. Fish and Wildlife Service
Megan Finley	Washington Department of Fish and Wildlife
Alf Haukenes	Washington Department of Fish and Wildlife
Katy Shelby	Washington Department of Fish and Wildlife
Keely Murdoch*‡	Yakama Nation

Notes:

* Denotes HCP-HCs member or alternate

‡ Denotes PRCC HSC member or alternate

Attachment B

Wenatchee Spring and Summer Chinook Salmon
Bacterial Kidney Disease Inoculation Experiment Outcomes

Attachment C

2021 Spring Chinook Salmon Trapping Strategy at Wells Dam

Attachment D

Email confirmation from Brett Farman (NMFS) to Douglas PUD and
USFWS regarding spring Chinook salmon trapping strategy decision at Wells Dam
