

Memorandum

To: Wells, Rocky Reach, and Rock Island HCPs Hatchery
Committees and Priest Rapids Coordinating
Committee Hatchery Subcommittee Date: March 18, 2020

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

cc: Larissa Rohrbach, Anchor QEA, LLC

**Re: Final Minutes of the February 19, 2020 HCP Hatchery Committees and PRCC Hatchery
Subcommittee Meetings**

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plans (HCPs) Hatchery Committees (HCs) and Priest Rapids Coordinating Committee Hatchery Subcommittee (PRCC HSC) meetings were held in Wenatchee, Washington, on Wednesday, February 19, 2020, from 10:00 a.m. to 2:30 p.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

Joint HCP-HCs and PRCC HSC

- Mike Tonseth will coordinate with Andrew Murdoch (Washington Department of Fish and Wildlife [WDFW]) to present pre-spawn mortality modeling results for spring Chinook salmon at an upcoming HCP-HC meeting (Item I-A). *(Note: this item is ongoing.)*
- Brett Farman will discuss with Charlene Hurst and Mike Tonseth the potential use of a multi-population model for estimating proportionate natural influence (PNI) for the Nason and Chiwawa spring Chinook salmon programs (Item I-A). *(Note: this item is ongoing.)*
- 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.)*
- 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.)*
- Mike Tonseth will confirm the completion date for an updated plan for Outplanting Surplus Methow Composite Spring Chinook (Item I-A). *(Note this item is ongoing.)*
- Matt Cooper will provide Winthrop National Fish Hatchery spring Chinook salmon return forecasts to Mike Tonseth to update Appendix J of the draft 2020 Broodstock Collection Protocols (BCPs; Item II-A).

- All HCP-HC and PRCC HSC members will submit final edits to the draft 2020 BCPs to Larissa Rohrbach by March 4, 2020, for compilation and distribution by March 8, 2020, in preparation for the March 18, 2020 meeting (Item II-A).
- Mike Tonseth will organize a meeting with WDFW, Chelan PUD, and U.S. Fish and Wildlife Service (USFWS) Ecological Services to share the proposed Chiwawa Weir operations plan for 2020 (Item II-B).

Rock Island and Rocky Reach HCs

- Catherine Willard will send data showing the change in Eastbank Hatchery's water temperature profile due to aquifer recharging actions to Kirk Truscott.

PRCC HSC

- Tracy Hillman will forward the written responses from Craig Busack (National Marine Fisheries Service [NMFS]) on White River Spring Chinook Salmon to Dale Bambrick (NMFS) to ask for additional responses related to NMFS policy (Item V-B). *Update: Hillman emailed Bambrick on Friday, February 21, 2020.*

Decision Summary

- No decisions were made in today's meeting.

Agreements

- No agreements were made in today's meeting.

Review Items

- An updated version of *Draft 2020 Broodstock Collection Protocols, with Appendices*, were distributed via email by Larissa Rohrbach on February 19, 2020, following the meeting for review by HCP-HCs and PRCC HSC members through March 4, 2020.
- The Wells HCP Action Plan was distributed via email by Sarah Montgomery on February 12, 2020, for review through February 25, 2020.
- The RI/RR HCP Action Plan was distributed via email by Sarah Montgomery on February 13, 2020 for review.
- The Grant County PUD 2020-21 Priest Rapids Hatchery Monitoring and Evaluation Implementation Plan was distributed via email by Larissa Rohrbach on March 2, 2020, for review by PRCC HSC members through April 1, 2020.

Finalized Documents

- No documents were recently finalized.

I. Welcome

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

Tracy Hillman welcomed the HCP-HCs and PRCC HSC to the meeting and all attendees introduced themselves. Hillman provided a routine safety briefing on emergency procedures for the meeting location in the Grant PUD offices. Hillman reviewed the agenda and asked for any additions or changes to the agenda. Douglas PUD added the draft 2020 Wells HCP Action Plan to the agenda.

The HCP-HCs and PRCC HSC representatives reviewed the revised January 15, 2020 meeting minutes and approved the meeting minutes as revised.

Action items from the HCP-HCs and PRCC HSC meeting on January 15, 2020, were reviewed, and follow-up discussions were addressed (*note that italicized text below corresponds to action items from the previous meeting*):

Joint HCP-HCs and PRCC HSC

- *Mike Tonseth will coordinate with Andrew Murdoch (Washington Department of Fish and Wildlife [WDFW]) to present pre-spawn mortality modeling results for spring Chinook salmon at an upcoming HCP-HC meeting (Item I-A).*
Tonseth said this item is ongoing.
- *Kirk Truscott will discuss with Colville Confederated Tribes (CCT) biologists whether elemental signature analysis could differentiate natural-origin Okanogan spring Chinook salmon from other natural-origin Chinook salmon during broodstock collection at Wells Hatchery for Methow Fish Hatchery programs (Item I-A).*
Truscott said he spoke with key individuals and will present a memorandum to the HCP-HCs and PRCC HSC. This item is complete.
- *Brett Farman will discuss with Charlene Hurst and Mike Tonseth the potential use of a multi-population model for estimating proportionate natural influence (PNI) for the Nason and Chiwawa spring Chinook salmon programs (Item I-A).*
Tonseth said he will provide Farman with necessary data. This item is ongoing.
- *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).*

Mackey said he will not push to include a modeling approach in the draft 2020 BCPs and will provide updates periodically in 2020 as the approach is further developed. This item is ongoing.

- *Greg Mackey will prepare a plan for alternative mating strategies based on findings described in his previously distributed literature review (Item I-A).*

Mackey said he will not push to include an approach in the draft 2020 BCPs and will provide updates periodically in 2020 as the approach is further developed. This item is ongoing.

- *Mike Tonseth will confirm the completion date for an updated plan for Outplanting Surplus Methow Composite Spring Chinook salmon (Item II-A).*

Tonseth said this item is ongoing.

- *Greg Mackey and Mike Tonseth will provide edits to the draft 2020 Broodstock Collection Protocols to Larissa Rohrbach by Friday, January 31, 2020, for compilation and distribution to the HCP-HCs and PRCC HSC no later than Friday, February 7, 2020 (Item III-B).*

Rohrbach distributed the most recent draft 2020 BCPs to the HCP-HCs and PRCC HSC by email following the meeting on Wednesday, February 19, 2020. This item is complete.

- *Keely Murdoch will provide Appendix K to the 2020 Broodstock Collection Protocols to Larissa Rohrbach for compilation when it is complete (Item III-B).*

Murdoch provided Appendix K on Monday, February 10, 2020. This item is complete.

- *Tracy Hillman will append the 2018 guidance from the panel of agency geneticists to the PUDs' Monitoring and Evaluation (M&E) Plan (2019 Update) for distribution (Item III-C).*

Hillman provided the updated M&E Plan and it was distributed by Larissa Rohrbach on Wednesday, February 5, 2020. This item is complete.

Rock Island and Rocky Reach HCs

- *Mike Tonseth and Catherine Willard will update the Broodstock Collection Protocols with the proposed plan for collecting Chiwawa spring Chinook salmon broodstock at Tumwater Dam and the Chiwawa Weir in 2020 (Item III-A).*

These edits were included in the draft 2020 BCPs and the draft protocols were distributed by Larissa Rohrbach to the HCP-HC and PRCC HSC on Wednesday, February 19, 2020. This item is complete.

- *Mike Tonseth and Catherine Willard will update the Broodstock Collection Protocols with the proposed plan for collecting Chelan Falls summer/fall Chinook salmon broodstock at Wells Hatchery and in the Chelan River in 2020 (Item IV-A).*

These edits were included in the draft 2020 BCPs and the draft protocols were distributed by Larissa Rohrbach to the HCP-HC and PRCC HSC on Wednesday, February 19, 2020. This item is complete.

PRCC HSC

- *Craig Busack (National Marine Fisheries Service [NMFS]) will provide written responses to the PRCC HSC's questions on White River spring Chinook salmon hatchery production (Item II-B).* Busack provided written responses that were distributed to the HCP-HC and PRCC HSC by Larissa Rohrbach on Friday, February 14, 2020. The written responses were appended to the final January 15, 2020 meeting minutes. This item is complete.

II. Joint HCP-HCs and PRCC HSC

A. 2020 Broodstock Collection Protocols Progress Update

Tracy Hillman informed the HCP-HCs and PRCC HSC that a draft of the 2020 BCPs including edits to date has been assembled and was distributed by Larissa Rohrbach to members for review. The schedule for developing a final version was discussed. All agreed to submit final edits and comments to Rohrbach by March 4, 2020. Rohrbach will compile and distribute the protocols to the HCP-HCs and PRCC HSC by March 8, 2020, as a decision item for the March 18, 2020 meeting.

Mike Tonseth noted that the schedule could be adjusted, and an extra conference call could occur between meetings if there are items that require further discussion.

Catherine Willard said two parts of the BCPs that were updated and will be discussed in today's meeting are the collection plan for Chiwawa River spring Chinook salmon and holding summer Chinook salmon broodstock for the Yakama Nation's (YN's) Yakima River summer Chinook salmon program.

Todd Pearsons said Peter Graf has been working to update numbers for Appendix A that would then change numbers in other tables in the body of the BCPs. Pearsons said one way to handle these edits in a timely manner is to use the same numbers as last year because run projections are similar. Pearsons said, for instance, the Carlton Pond program has used the previous years' fecundity numbers to estimate geometric means for the upcoming year. Pearsons said the request from Carlton pond staff was to keep the brood numbers the same this year as last year. Greg Mackey confirmed the calculation results for DPUD-operated programs were very similar to last year. Tonseth agreed he would not anticipate a need for more brood at Carlton Pond as they have had adequate numbers in 2018 and 2019.

Pearsons said Wenatchee River summer Chinook could be updated based on new numbers obtained from WDFW. Pearsons said he and Graf will make the effort to review and update numbers in Appendix A. Pearsons said he updated Appendix I. Pearsons said he met with WDFW last week to make updates based on pilot releases ongoing at Priest Rapids Hatchery and approximate dates they

will be released. Rohrbach has incorporated those edits. Tonseth agreed this update shows the variance from how procedures were done in the past.

Tonseth reminded Pearsons to use geometric means (GM) as have been used in recent years. Tonseth asked co-authors to indicate in footnotes if they use a statistic other than a geometric mean. Provided all values are positive, the GM will be calculated as follows:

$$GM_y = \sqrt[n]{\prod_{i=1}^n Y_i}$$

Tonseth said there are additional updated numbers in Appendices A, C, and J sent on Saturday February 15, 2020, that had not been incorporated. Rohrbach agreed that she would update these tables and redistribute the BCPs with Appendices in one document to members immediately after today's meeting.

Tonseth said he is still waiting for spring Chinook salmon forecasts from Winthrop National Fish Hatchery to estimate age-at-return for Tables 1 and 2 and Appendix J.

Mackey asked if smolt estimates were used in Tables 1 and 2. Mackey said the estimates are not accurate because they are based on spurious screw trap estimates (where the Twisp River estimate is as large as the estimate for the entire Methow River basin for both years). Tonseth said he will re-evaluate numbers in Tables 1 and 2 to update them with more defensible numbers. Mackey asked that Tonseth update the text accordingly as well.

Willard said she updated the time period for closing the Tumwater Dam fishway trap for lamprey passage at night starting from September 1 and ending September 30 (previously ending December 31). Willard said there is no need to close the trap at night to facilitate lamprey passage after September 30 based on lamprey observations in recent years.

Mackey asked, regarding the process for submittal, were the BCPs submitted with a cover letter to a specific individual at NMFS in the past, or via the HC/HSC reps? Mackey also asked who would submit the BCPs to NMFS this year. Hillman said he and Rohrbach can distribute the BCPS to NMFS and the HC/HSC at the same time. Brett Farman confirmed that he and Charlene Hurst are the correct NMFS contacts to receive the BCPs. Tonseth confirmed that the document letterhead should be edited to reflect the PUDs and WDFW as the permittees.

No other edits or procedures were discussed for completion of the 2020 BCPs.

B. Collection Site for Chiwawa Spring Chinook Salmon Broodstock

Catherine Willard said Chelan PUD and WDFW have edited the BCPs to propose trapping operations that are similar to those implemented at the Twisp Weir where bull trout encounters also limited trapping in the past. Willard said they would try trapping only during daylight hours to avoid bull trout encounters and lower the weir at night when bull trout are most active. Mike Tonseth said the approach is being proposed as a pilot method that will be re-evaluated after the trapping season.

Matt Cooper asked if the number of trapping days will exceed the number of days allocated in the past. Tonseth said they have proposed trapping for 20 days as in previous years and operating within the take of 10% of the estimated bull trout spawning abundance.

Keely Murdoch asked if 20 days can be distilled down to number of hours. For instance, does 12 hours with the weir up count as a half day or full day? Murdoch suggested asking USFWS for their interpretation. Tonseth said, based on the biological opinion for the Section 7(a) consultation, USFWS recommended a schedule of 24 hours with the weir up and 24 hours with the weir down to allow for a 24-hour bull trout passage period, and trapping would not be allowed on back-to-back days. Tonseth said this pilot proposal proposes back-to-back trapping days with the weir up from 6 a.m. to 9 p.m., allowing 10 hours with the weir down. Cooper said he will share the language with USFWS Ecological Services staff to find out if allowing for 10 hours with the weir down is suitable to allow for bull trout passage and to show that this method may reduce encounter rate. Tonseth suggested convening a short meeting within the next week with USFWS Ecological Services, WDFW, and Chelan PUD to discuss the proposed operations plan and ensure all are in agreement on what is recorded in the 2020 BCPs.

Kirk Truscott asked how moving weirs up and down during dawn and dusk would affect trapping efficiency for spring Chinook salmon. Tonseth said he does not think there are any data to examine for a potential effect because the weir was operated on a 24-hour period and not checked more frequently than once per day.

Murdoch asked if this approach is working for the Twisp Weir. Mackey said the weir does not work well anyway because it is overrun by high water in the spring, so most broodstock are collected at Wells Dam and their identity is confirmed by genetic analysis. Mackey confirmed that the bull trout movements are observed using passive integrated transponder (PIT) tags, showing movement occurs mostly at night.

Murdoch asked what will happen if bull trout encounters are reduced at the Chiwawa Weir, but spring Chinook salmon collection is still too low. Willard said they are proposing concurrent collection at Tumwater Dam for this pilot year to ensure enough broodstock are collected in 2020.

Tonseth said, at Tumwater Dam, the collection target includes previously PIT-tagged natural-origin fish (estimated as 24 fish), and surplus Chiwawa natural-origin fish collected for the Nason conservation program that genetically identify to the Chiwawa at 95% or greater likelihood would be moved into to the Chiwawa program. Tonseth said the goal is full natural-origin brood but would be backfilled with hatchery-origin brood if the program is unable to meet targets. Willard said if the PNI objectives are not met with broodstock collection at the Chiwawa Weir, trapping location discussions will need to be re-visited.

Todd Pearsons asked Tonseth whether additional natural-origin spring Chinook salmon would be collected beyond those needed for the Nason program. That is, if there are more offspring that are needed in either program, fish can be moved into the other program if they type to the other program, but no excess are intentionally collected. Tonseth confirmed that females and males are tracked at spawning and excess eggs that type to another group can be moved into the other conservation program. Tonseth confirmed that excess fish for broodstock are not collected intentionally, but fecundity can be higher than expected, creating excess offspring in some years.

Murdoch said if this does not work, she would like to revisit this topic as soon as possible after the trapping season. Tonseth said he agrees that this topic can be revisited in time for next year according to the previously approved BCP development timeline. Tonseth said trapping is flow-dependent and may not start until July. Willard said they began trapping in June the past 2 years.

This pilot approach is written into the draft 2020 BCPs and will be modified or approved in the March 18, 2020 meeting.

C. Upper Columbia Science Conference Notes

The Upper Columbia Science Conference occurred on January 22 and 23, 2020. Presentations can be found online at <https://uc2020.org/detailed-schedule/>.

Tracy Hillman said this conference typically brings state-of-the-science to the Upper Columbia. Hillman said the purpose of the discussion here is to allow time to identify presentations that would inform these committees. Hillman said, for example, the WDFW presentation on amount of bias in spawning escapements was informative and should be considered in the 10-year Comprehensive Review. It is unclear at this time how bias corrections can be applied to reference streams, which are used in Before-After-Control-Impact analyses.

Catherine Willard noted that ocean conditions really affect population status. Hillman agreed that ocean conditions are often a larger driver than our efforts to improve hatchery and habitat conditions.

Todd Pearsons said a recent paper showed a relationship between Chinook salmon size and recovery of the Northern Resident population of killer whales (Ohlberger et al. 2019)¹. Pearsons said the hypothesis in the paper was that size-selective predation by orca could be an even greater effect than size-selective harvest (e.g., gillnetting). Willard asked haven't orca always selected for the largest Chinook salmon, and weren't Chinook salmon much larger in the past? Greg Mackey said yes, but the relative abundance of very large fish is much smaller today than in the past. Mike Tonseth said it is difficult to ascribe the impact on Chinook salmon size to marine mammals compared to the millions of metric tons taken in ocean fisheries. Keely Murdoch said the species have existed together for millennia. Pearsons said the Chasco et al. paper (2017)² showed the take by marine mammals is very high. Tonseth agreed that given the reduction in numbers of salmon, it is interesting to contemplate the size of the effect of mammal predators.

Matt Cooper said Stan Gregory's presentation on predation was interesting, showing that as one predator is removed another will replace it.

Hillman concluded the discussion on the Upper Columbia Science Conference.

D. WDFW's Hatchery Science and Policy Review Report

Larissa Rohrbach forwarded a notice via email on February 7, 2019, about a workshop held by the Washington Fish and Wildlife Commission (Commission) to hear highlights of a recently finalized hatchery reform science report. During today's meeting, Rohrbach distributed the document entitled "A review of hatchery reform science in Washington State," the summary presentation given by WDFW to the Commission, and a link to the recorded presentation via email to the HCP-HCs and PRCC HSC.

Tracy Hillman asked Alf Haukenes (WDFW) to provide a general overview because he was a co-author of the report. Haukenes described the purpose and timeline of report development.

Haukenes said WDFW was tasked with the mission to revisit hatchery reform over 2 years ago. Two parallel paths were identified to respond to contrasting points of view on increasing production in the face of emerging hatchery reform science. This document is a renewed review of the hatchery reform documentation. Joe Anderson (WDFW) and Ken Warheit (WDFW) did most of the work on the document.

The second of two documents should be available in March to respond to the State's interest in how the agency is performing in terms of adapting to hatchery reform policy. Andrew Murdoch (WDFW)

¹ Ohlberger, J., Schindler, D.E., Ward, E.J., Walsworth, T.E., and Essington, T.E. 2019. Resurgence of an apex marine predator and the decline in prey body size. *PNAS* 116, 26682. www.pnas.org/cgi/doi/10.1073/pnas.1910930116.

² Chasco, B.E., Kaplan, I.C., Thomas, A.C. et al. 2017. Competing tradeoffs between increasing marine mammal predation and fisheries harvest of Chinook salmon. *Sci Rep* 7, 15439. <https://doi.org/10.1038/s41598-017-14984-8>.

is working with Gary Marston (WDFW) in defining how our programs have adapted to these policy recommendations. Andrew Murdoch has been working to finish the policy reform document to be presented to Commissioners on March 4 in the Tri Cities area. Andrew Murdoch should be asked to discuss the details of the policy reform document with the HCP-HCs and PRCC HSC.

The science review report was submitted to the Washington Academy of Sciences for review and all authors and academy members were brought together to decide upon a good approach to assembling the final version of the document. The draft document was submitted to WDFW leadership last fall and the final language was refined. The authors want to provide a fair update to hatchery operations.

On February 5, 2020, a workshop was held with the Commissioners that lasted 4 hours. The Commission was impressed with the effort in the document. The Commissioners now have the same information as WDFW does in terms of recent science.

At this time, 10 years after adopting a reform policy, there are data available and there also continue to be data gaps on assessing risk and benefits. The scientific foundations on hatchery reform policies are seen as sound science. The document has reached the end of agency development to educate the Commissioners. It is likely to go out to peer review at a later time.

The HCP-HC and PRCC HSC may wish to review material written by Warheit on domestication selection, proportion of hatchery-origin spawners (pHOS), and related topics. Haukenes said some information seems like old news, but some of the details on how programs are adapting state-wide may be new. Haukenes concluded by saying that Anderson would be a good resource to meet in Wenatchee or by video conference if a longer conversation was desired.

Hillman said the overarching themes of the science review, Hatchery Science Review Group (HSRG) assumptions, and knowledge gaps are provided in the abstract of the document.

Kirk Truscott asked what the next step is if the report and policy document are well-accepted by the Commissioners. Haukenes said these two documents have initiated conversations on the meaning for long-standing policy, and a next step will be working with co-managers to determine what this means for boots-on-the-ground management with a basin-level approach. Haukenes said the steps toward that are not clear at this point and need to be defined. Haukenes said this effort was about due diligence to educate our Commissioners with the best available information. Ultimately, there should be policy direction by the Commissioners on whether to prioritize hatchery reform.

Truscott said science review and recommendations have been prepared in the past without enough funding or a plan to implement the recommendations and he would like to see a strategic plan that comes from this. Haukenes said their approach to this has been received with a great level of respect

by the agencies and Commissioners and has been taken seriously with some level of debate. Haukenes said it was always a concern of the authors that the document would be left out on an island. Haukenes said leadership has been using this document to strengthen their position on what they have been doing and what they will continue to do.

Hillman asked how the increased production of salmon for orca prey fits with this document. Haukenes said the orca prey production prompted this document from the beginning as the State discovered that the proposal to increase production was in some ways counter to policy developed in 2009.

Haukenes said assembling the science document and the policy level document will complete the picture. Haukenes said the policy document will be made available once it is available for the Commission.

III. Wells HC

A. 2020 Wells HCP Action Plan

The Wells HC Action Plan was distributed via email by Sarah Montgomery on February 12, 2020. Tracy Hillman projected the draft Wells 2020 Action Plan in the meeting and asked the Wells HC if they have any comments. The Wells HCP Coordinating Committee (HCP-CC) will be asked to approve the Action Plan on Tuesday, February 25, 2020.

Tom Kahler said it is showing hatchery activities in the same format as in past years. He said there are the following differences this year:

- 10-year Comprehensive Review Report will be delivered by December 2020.
- Assessment of precocial maturation will be carried out per permit conditions; now using a visual assessment of smoltification for steelhead.
- Electrofishing for the Twisp population study will occur, but it is unclear at this time exactly how it will be implemented.

Greg Mackey said they are trying to figure out why the juvenile population estimate (based on electrofishing surveys) in the Twisp is lower than the screw trap estimate. They went out to survey some habitat in person to verify the area and length in a segment of the Twisp basin and found much more side channel habitat than shown in GIS center line coverages and aerial photos, but have not figured out how to apply that area to modeling the population size. Mackey said it is complicated to determine how that side channel habitat could be used in a tractable population estimate. Mackey said they have halted field work for sampling fish while evaluating how the population estimates are generated. In 2017 and 2018, mark-recapture was done instead of

depletion surveys, and in 2019 the habitat survey was carried out, including drone flights with high resolution photography, but they were still unable to see as much of the habitat area as on foot due to overhanging vegetation. Mackey said there is a plan to restart work to determine a population estimate, but this has been taking a long time to resolve.

Kahler reviewed the rest of the elements in the Action Plan. Kahler asked others to comment if there were any activities that were not captured here.

Hillman asked about the deadline for approval of the BCP by the Wells HCP-CC. Kahler said review by the HCP-CC allows them to comment on trapping at Wells Dam, and he will update the relevant tables, but generally the HCP-CC defers to the HCP-HC in developing the BCP activities.

Kirk Truscott asked, regarding the Okanogan Water Management Tool, will spawning surveys and other related activities continue to be funded by Douglas PUD? Kahler said yes, with funding from other collaborators such as Department of Fisheries and Oceans Canada and the Province of British Columbia. Kahler said the Okanogan Nation Alliance is doing most of the field work for spawning surveys, fry estimates, etc. and that Chelan PUD and Grant PUD also fund parts of it.

Catherine Willard confirmed that Chelan PUD's support occurs via hatchery operations and M&E funding.

Hillman recommended that edits on the Action Plan be sent to Kahler prior to the February 25, 2020 HCP-CC meeting.

IV. Rock Island/Rocky Reach HCs

A. Yakama Nation's Yakima Summer Chinook Salmon Program

Catherine Willard said Chelan PUD wants to notify the RI and RR HCP-HCs that space will be encumbered to hold broodstock for the YN's Yakima River summer Chinook salmon program at Eastbank Hatchery in 2020. Fish will be spawned by the YN staff at Eastbank Hatchery. Green eggs will be transferred to the YN facilities (at Prosser, Washington) as they have been in the past. Chelan PUD cannot allow use of their space for free because they are funded by the public, so a fee will be charged to the YN. Up to 620 adults will be held to meet their target of 1 million smolts.

Keely Murdoch said last year there were challenges to holding and spawning fish at Wells Fish Hatchery. The YN reached out to all the hatchery operators to prepare a plan. Murdoch said surplus adults would be collected at Wells Fish Hatchery, but then YN needed a place to hold and spawn the adults.

Kirk Truscott said at one point in time there was a concern with the temperature regime of the groundwater at Eastbank Hatchery, prompting the circular re-use experiment to alleviate use of the

groundwater from the local aquifer. Truscott asked if the water saved using re-use is similar to the demand created by this new adult holding plan? Willard said the other reason for re-use was to reduce demand to 620-700 gallons per minute (gpm) of extra water. Dave Clark has been looking at the flow index for Methow and Wenatchee summer Chinook salmon and found they are too high and would be reduced to 300 gpm, approximately 1% of Eastbank Hatchery's water right. Willard said, regarding the effect on temperature that Truscott is referring to, Eastbank Hatchery has been recharging the Eastbank aquifer in February and March over the past 3 years with 5,000 gpm of extra water to counterbalance high water temperatures in late summer/fall and has proven effective. There is a 1- to 2-month lag time from when colder water is added to the aquifer and when temperatures are reduced. Mackey said at Wells Hatchery the well-water is around 54°F, but the river can be around 35°F, so that could be a large difference in water temperatures. Truscott said he would like to see the temperature data if available. Truscott said the warmest water occurs in October from the groundwater source. Willard agreed to send those data to Truscott.

Todd Pearsons asked where the water goes that is pulled into the hatchery. Willard confirmed it is discharged to the Columbia River.

Willard said a remaining question is how Chelan Falls summer Chinook salmon broodstock collection is going to appropriately coincide with a declaration of surplus at Wells Dam. Mike Tonseth said for the Chelan Falls program last year, the BCPs proposed collecting the full program at Wells Dam. Tonseth said this year's target is 386 fish and the number to be collected at Wells Dam is 200. Tonseth said this year's return forecast is similar to 2019 and the program should also be able to obtain approximately 200 fish from the Chelan River weir. Tonseth said in the future the expectation would be to obtain all broodstock at the weir, meaning that any excess fish collected at Wells Dam could be rolled into the YN program. Tonseth said the conflict would be that this prioritizes allocation of excess summer Chinook salmon to the YN program. Tonseth recommended tracking the Chelan Falls collection on a weekly basis. That is, collect for 2 weeks, and if collection is on track, do not collect any fish at Wells Dam for the Chelan Falls program. If collection falls behind, continue trapping at Wells Dam. Tonseth said by collecting at Wells Dam they are less likely to obtain 400 fish that are only Chelan Falls summer Chinook salmon, but this approach allows the program to pilot the scenario without relying on collecting the full 386 in the Chelan River, and provides up to 200 fish to the Yakima program at Wells Dam.

Tonseth said the 200 fish for the Yakima program would be collected at Wells Dam before fish would be collected in the Chelan River because the weir cannot begin operating until July 15. Willard said she thought they discussed delaying collection at Wells Dam to coincide with trapping in the Chelan River. Tonseth said that would delay the declaration of surplus at Wells Dam but that would reduce the quality of surplussed fish.

Murdoch proposed moving fish into surplus as soon as targets are met in season; the management would be a bit complicated, but the math could be done. Truscott said he wants to ensure there are equitable allocations of surplus fish. Tonseth agreed that allocation to surplus could be managed in season regardless of how complicated the logistics and communication may be. Truscott suggested that as soon as excess fish are identified, all parties could be invited to collect surplus, including the 200 for the Yakima program. Truscott will provide language in the BCPs to the effect that surplus allocation will be equitable to all parties. Mackey agreed that the potential for a surplus should be obvious by mid-season. Tonseth suggested that he could write out the surplus allocation strategy to support co-manager discussions on determining surplus (not to be included in the BCPs).

Willard and Tonseth will also include seining as a collection method in the Chelan River in the BCPs.

Hillman summarized that a total of 400 adults will be collected for broodstock, 200 at Wells Dam and 200 from Chelan River, and if more than 200 are collected in the Chelan River, fewer fish would be needed from Wells and more would be made available for other non-HCP programs. Tonseth added they want to ensure the target of 200 are collected for the Chelan PUD program at Wells Dam first, because those fish will return before collection in the Chelan River begins.

Tonseth said he anticipates collecting at Wells Dam by mid-June to better capture the beginning of the return. Tonseth said last year fish were already there and were being recycled at the dam. Truscott said fish arriving in June will not leave to go elsewhere, so collecting brood in July will capture a composite that includes early arriving fish.

Tonseth asked if the Wells Dam Volunteer Trap is being run for spring Chinook salmon. Mackey said yes, it is another avenue for collecting wild spring Chinook salmon to take advantage of fish in hand rather than returning them to the river to recapture them in the Methow River. Mackey said the other objective is to remove hatchery steelhead for gene flow management. Tonseth said part of the reason for last year's decision to collect fish from multiple sites was due to the low run forecast and to take advantage of fish in hand.

B. 2020 RI/RR HCP Action Plan

The 2020 RI/RR HCP Action Plan was distributed via email by Sarah Montgomery on February 13, 2020. Tracy Hillman projected the Action Plan for consideration by the HC. Catherine Willard said there are no substantive changes to the Action Plan, and it represents a continuation of previous years' work. Generator installation at Eastbank Hatchery was removed from the 2020 Action Plan because the project was completed. Willard said additions include the following:

- 10-year Comprehensive Review Report delivery by December 2020.
- Implementation of year 3 of 3 of the steelhead release plan.

- Continuing Chelan Hatchery rehabilitation engineering feasibility. This hatchery needs several safety upgrades as well as modifications for the steelhead program.
- The Chiwawa weir needs reinforcement of the abutments and some in-river work to strengthen the substrate. Chelan PUD is working on permits for that work.

Mike Tonseth asked which genetic analyses are anticipated for this year (and asks the same question regarding Douglas PUD's Action Plan)? Willard said those samples are identified in the 10-year Comprehensive Review. Kirk Truscott noted that is also an action in the 2020 Implementation Plans.

V. PRCC HSC

A. Review Agenda, Announcements, Approve Past Meeting Minutes

The PRCC HSC representatives approved the January 15, 2020 meeting minutes as revised.

B. White River Spring Chinook – Next Steps

Tracy Hillman noted that Craig Busack (NMFS) responded in writing to the Subcommittees questions on the importance of White River spring Chinook (distributed by Larissa Rohrbach on February 14, 2020, and attached to the January 15, 2020 meeting minutes). Hillman said he shared Busack's responses with PRCC facilitator Denny Rohr to keep him informed. Hillman asked how the PRCC HSC wants to move forward?

Todd Pearsons asked if the HSC is satisfied with NMFS' responses. Pearsons said one of the key issues is that we may not have access to Busack in the future. Busack's answers may be sufficient, but if not, there may be a need for follow-up questions. Hillman noted Busack will be on-call for at least a year.

Keely Murdoch noted the written responses were quite a bit shorter than the verbal responses. Murdoch (in coordination with Tom Scribner) suggested sending the questions to Dale Bambrick (NMFS Columbia Basin Branch Chief), but would want to coordinate with Busack so their answers are not in conflict, the approach is tactful, and does not have the appearance that the PRCC HSC is seeking different answers.

Mike Tonseth suggested framing this as an ask for additional information. Pearsons said it is likely that Bambrick would reach out to Busack and this may be a vehicle for a coordinated NMFS response. Hillman said Brett Farman and Busack made clear their ability to respond to policy questions and they recommended reaching out to Bambrick or Michael Tehan (NMFS Assistant West Coast Regional Administrator). Pearsons asked Farman's opinion. Farman supported the approach for Hillman to send the written responses directly to Bambrick. Farman said he would provide Bambrick notice that he would be receiving this material.

Pearsons asked if Tehan should be Cc'd to obtain a broader NMFS perspective. Farman recommended sending only to Bambrick, assuming Tehan would rely on Bambrick to respond, and Bambrick would ask Tehan for policy guidance if he needs it.

Hillman will forward Busack's written responses regarding the importance of White River spring Chinook salmon to Bambrick with an email soliciting additional feedback.

VI. Meeting Administration

Todd Pearsons said the Washington/British Columbia and Western Division American Fisheries Society (AFS) meeting is in Vancouver, BC, April 12 through 16 in the same week as the April HCP-HC and PRCC HSC meeting. Grant PUD and Chelan PUD will be participating in the AFS meeting. Keely Murdoch said the new combination of HCP-CCs and PRCC meetings frees up April 21, 2020, for the HCs and HSC meetings. The HCP-CCs meeting will occur on the morning of April 28, 2020, and the PRCC meeting will occur in the afternoon.

The PUDs, CCT, NMFS, WDFW, and YN agreed to move the April HCP-HCs and PRCC HSC meeting to Tuesday April 21, 2020. Matt Cooper will confirm this meeting date change with Bill Gale.

Kirk Truscott asked Brett Farman when the next 5-year Status Review would be coming out from NMFS. Farman said he did not know exactly though it is planned for completion in 2020 or 2021. Tracy Hillman suggested asking Bambrick. Hillman suggested they may want to use analyses developed in the 10-year Comprehensive Review in 2020.

VII. Next Meetings

The next HCP-HCs and PRCC HSC meetings will be March 18, 2020, April 21, 2020 (*note date change*), and May 20, 2020, at Grant PUD in Wenatchee, Washington.

VIII. List of Attachments

Attachment A List of Attendees

**Attachment A
List of Attendees**

Name	Organization
Tracy Hillman	BioAnalysts, Inc.
Larissa Rohrbach	Anchor QEA, LLC
Scott Hopkins	Chelan PUD
Catherine Willard*	Chelan PUD
Kirk Truscott*‡	Colville Confederated Tribes
Tom Kahler*	Douglas PUD
Greg Mackey*	Douglas PUD
Todd Pearsons‡	Grant PUD
Deanne Pavlik-Kunkel	Grant PUD
Brett Farman*‡°	National Marine Fisheries Service
Matt Cooper*‡	U.S. Fish and Wildlife Service
Alf Haukenes°	Washington Department of Fish and Wildlife
David Clark°	Washington Department of Fish and Wildlife
Chris Moran°	Washington Department of Fish and Wildlife
Mike Tonseth*‡	Washington Department of Fish and Wildlife
Keely Murdoch*‡	Yakama Nation

Notes:

* Denotes HCP-HC member or alternate

‡ Denotes PRCC HSC member or alternate

° Joined by phone