FINAL

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ANCHOR QEA

Memorandum

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

Date: April 18, 2019

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

cc: Larissa Rohrbach, Anchor QEA, LLC

Re: Final Minutes of the March 11, 2019 HCP Hatchery Committees and PRCC Hatchery Subcommittee Conference Call

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plans (HCP) Hatchery Committees (HCs) and Priest Rapids Coordinating Committee Hatchery Subcommittee (PRCC HSC) conference call was held on Monday, March 11, 2019, from 2:30 p.m. to 4:15 p.m. Attendees are listed in Attachment A to these meeting minutes.

Conference Call Action Items

Joint HCP-HCs and PRCC HSC

- Greg Mackey will forward Douglas PUD's suggested revisions describing broodstock and egg obtainment for the Douglas PUD Coho program (refers to Appendix K of the Protocols) to Keely Murdoch, Bill Gale and Matt Cooper for their review before inclusion in the Broodstock Protocols.
- Mike Tonseth will add language to the Protocols that allows flexibility in the future to select for older males using alternative, non-random mating strategies.
- Mackey will summarize numbers for Committee discussion and make edits to Protocols on the likelihood that all summer steelhead broodstock could be collected at the Wells Volunteer Trap in the spring to eliminate fall-collection for the MSN and Columbia Safety-Net (CSN) programs.
- Tonseth will redistribute the Methow Basin spring Chinook translocation plan for review and discussion in the March 20, 2019 meeting. Tonseth will ask Michael Humling (USFWS) and Charlie Snow (WDFW) to estimate the number of Methow returns that are likely to return to WNFH.
- Catherine Willard will send the Relative Reproductive Success (RRS) study extension memorandum to Rohrbach with the translocation plan for distribution *(Rohrbach distributed an email from Willard and the attached RRS study extension and translocation plan to the HCP-HC and PRCC HSC following the March 11, 2019 conference call).*

- Tonseth will confirm with Andrew Murdoch (WDFW) that DNA sampling of the 2018 to 2023 returns is still consistent with the original RRS extension agreement and provide an updated extension.
- Tonseth will send the Methow Basin Steelhead Conservation program broodstock collection protocols by angling to Humling and Snow for review.
- Bill Gale and Cindy Raekes (USFWS) will send suggested edits to Mike Tonseth regarding the Chiwawa Weir operations protocols to optimize operation and protect bull trout per the BiOps.
- Willard will email notes that summarize 2018 Chiwawa Weir operations. *(Willard notified Rohrbach that she emailed details on 2018 Chiwawa Weir operations to USFWS and WDFW on March 11, 2019).*
- Tonseth will convene a Joint Fisheries Parties meeting to discuss marking to identify hatchery x hatchery returns from fish used to backfill the Nason and Chiwawa Conservation Program.
- Tracy Hillman and Larissa Rohrbach will maintain a list of outstanding Broodstock Collection Protocol topics for presentation in HCP-HC and PRCC HSC meetings throughout the year.

Hillman and Rohrbach will help the HCP-HCs and PRCC HSC identify co-authors and opportunities to make revisions to the Protocols in advance of 2020 deadlines Decision Summary

- There were no decisions approved during today's conference call.

Agreements

- There were no agreements discussed during today's conference call.

Review Items

- Larissa Rohrbach sent an email to the HCP-HCs and PRCC HSC including the revised draft 2019 Broodstock Collection Protocols on March 8, 2019. Mike Tonseth requested that final comments on the clean copy of the revised protocols be submitted to him by March 15, 2019.

Finalized Documents

- No items have been recently finalized.

I. Welcome

A. Review Agenda (Hillman)

Tracy Hillman welcomed the HCP-HCs and PRCC HSC and said the purpose of today's call is to review the revised draft 2019 Upper Columbia River Broodstock Collection Protocols (Protocols).

Hillman asked if there were any questions regarding the approach to reviewing the Protocols. Todd Pearsons said that most of the questions or concerns raised by the PRCC HSC had been resolved in the most recent edits. Hillman said that all parties except NMFS and U.S. Fish and Wildlife Service (USFWS) have submitted comments. Bill Gale said USFWS had similar comments to those already submitted by the other parties and will add some in today's meeting as needed.

II. Joint HCP-HCs and PRCC HSC

A. Broodstock Collection Protocols Review (Mike Tonseth)

Mike Tonseth said that after presenting the first draft of the Protocols (Attachment B), there were two major outstanding issues to resolve: 1) trapping at the Priest Rapids Dam Off-Ladder Adult Fish Trap (the OLAFT); and 2) Wenatchee spring Chinook salmon broodstock collection. Tonseth said both have been resolved in the revised draft Protocols.

Tonseth reviewed the following outstanding issues, which were flagged for discussion and resolution. Tonseth said additional comments or edits from other parties could be addressed after discussing those he had flagged.

Appendix K: Mid-Columbia Coho Salmon, page 3

Tonseth said there is uncertainty about whether the Douglas PUD coho salmon program would receive green eggs [or eyed eggs] from coho salmon broodstock collection facilities. The comment from Greg Mackey reads,

> DPUD [Douglas PUD] would prefer to receive green eggs for our Coho program spawned at WNFH. The 2018 brood was too advanced because they were brought to Wells as eyed eggs. We need to chill the eggs to hold them back to rear the Coho at Wells – or they will get really big. Need to note this in the Appendix K when it arrives.

Tonseth said he will rely on Mackey and Keely Murdoch to decide how best to revise the coho salmon protocol. Murdoch said Douglas PUD had sent a paragraph of suggested language immediately prior to this conference call and that she will need to discuss with others not on this call to resolve the uncertainty. Murdoch said her concerns with the proposed language are the specific

naming of Winthrop National Fish Hatchery (WNFH) and that it commits the YN to the use of green eggs. Murdoch said she would rather insert language allowing flexibility to use eyed eggs or green eggs. Murdoch said there is a need to discuss the choices with WNFH and YN staff to resolve the language. Mackey said it's an issue of incubation timing. Tonseth said the parties have an opportunity to submit final edits to the Protocols by end of day (EOD) on March 15, 2019.

Bill Gale said if suggested changes need to involve USFWS staff to please keep himself and Matt Cooper informed as well. Mackey said he will forward the suggested language to Gale and Cooper.

Use of Age-3 Spring Chinook Salmon Males (Jacks) into Methow River Basin Broodstock, pages 5 and 6

Tonseth said the issue of including age-3 males (jacks) in broodstock remains unresolved. Tonseth said that Mackey is not greatly supportive of using age-3 males in broodstock, but alternatively has suggested designing better (non-random) mating strategies (to select for older males) such as those proposed in Hankin et al. (2009, 2011). Tonseth said the question for the HCs is whether to carry on with the status quo this year or take on a different strategy this year. Mackey said he initially brought up the idea of using NOR age-3 males on a limited basis in place of hatchery-origin (HOR) males if age 4+ NOR males are in limited supply. Mackey said it would be wise to pursue a mating protocol that more integrates aspects of population management. Tonseth said a protocol using genetic data and age data for each fish could produce a more robust mating matrix to avoid familial crosses. Tonseth said this approach could be done with the Nason conservation program because all fish would be handled at Tumwater Dam. It could also be used for the Twisp/Methow conservation program. Tonseth asked whether representatives still want to consider this new approach in 2019. Todd Pearsons said consideration of a new approach to the mating matrices is worth discussion, but time constraints prevent making a decision this year. Pearsons suggested adding some language that allows flexibility to consider alternative strategies in the future.

Pearsons said this is one example of rushing the discussion of large topics so close to the Protocol deadline such that the representatives feel constrained about making decisions. Pearsons said he would prefer to design a process that starts these discussions earlier in the year so large changes can be made prior to drafting Protocols. Tracy Hillman said that Tonseth identified this topic last March/April (2018) and that researching the use of age-3 fish in the broodstock has been an action item for some time. Pearsons clarified that the new part being proposed is the mating matrix to avoid familial crosses, not the use of age-3 fish in the broodstock. Hillman said that he and Larissa Rohrbach will keep this and other outstanding issues on the HCP-HCs and PRCC HSC agendas throughout the year to encourage earlier discussion.

Fall Collection of Summer Steelhead Broodstock, pages 8 and 9

Tonseth said the first draft of the Protocols described eliminating the fall collection of back-up steelhead broodstock for the Methow Safety-Net (MSN) and Okanogan programs. This alternative is to backfill the MSN with 160,000 juveniles from a spring-collected component. Mackey said they could move forward with the protocol as written.

Mackey said he could summarize numbers for Committee discussion to estimate the likelihood that all broodstock could be collected at the Wells Volunteer Trap in the spring to eliminate fall-collection for the MSN and Columbia Safety-Net (CSN) programs. Tonseth said he is not opposed to moving the CSN collection to spring as well as the MSN collection. Mackey said that for the CSN program, fall collection is ok, but the spawning season is long, over 10 to 12 weeks with many egg-takes, so it is easier to take all brood in the spring to coordinate spawning. Tonseth suggested adding placeholder language to the Protocols explaining that an update can be made once average numbers of fall and spring brood are reviewed and this topic can be revisited. Tonseth said for this year, there are likely to be sufficient numbers for spring collection; however, it is unknown if there will be a sufficient number of females. Mackey said he will work with Tonseth to incorporate edits to the Protocols as soon as possible.

Trapping and Utilization of Spring Chinook Salmon in the Methow Basin, pages 7, 8, and 35

Tonseth said the Methow spring Chinook salmon forecast indicates that there will not be sufficient numbers to meet a release target of 400,000 for the safety-net program at WNFH. Tonseth suggested using any Methow Hatchery returns (HOR) for translocation out to the spawning grounds. Tonseth said this will require a plan for collection of the adults and locations for translocation. Tonseth said otherwise WNFH returns (surplus to the Methow Hatchery program) would be used for broodstock to meet the 400,000-smolt production target for WNFH program and the Chief Joseph Hatchery (CJH) 10j program. Tonseth said there will probably not be a need for adult management at the Methow Hatchery trap unless the run size exceeds forecast. Gale asked if this proposed use is for Methow Hatchery HOR fish returning to Methow Hatchery. Tonseth said yes, and Methow Hatchery returns to WNFH. Gale said USFWS has PNI targets to meet for the Methow Spring Chinook Salmon Hatchery Program Biological Opinion (BiOp) and must ensure they do not violate the BiOp by shunting all fish for translocation. Gale said that PNI targets may not be relevant with such low numbers this year. Tonseth said PNI targets are provided in Table 6, page 37, and are based on estimated WNFH, Twisp, and Methow/Chewuch returns. Tonseth said even though no adult management occurs other than removal of age-3 males, PNI would still be above 0.67. Tonseth said if all surplus fish are translocated (56 WNFH fish), PNI would drop to 0.67 but given the size of the return, the PNI could go as low as 0.5 and still meet the conditions of the permit. Gale asked if these

PNI calculations were made with the 3-population model. Tonseth said this was calculated using the more rudimentary method, but it doesn't vary much from the 3-population model.

Gale asked if there are planned translocation areas and logistics. Tonseth said there is a translocation plan that was developed by the Hatchery Committees about 3 years ago that identified locations, but there haven't been enough adults to carry through with it yet. He said this year the low numbers almost necessitate carrying out the translocation plan to maintain some minimum level of spawner abundance in the natural environment. Tonseth said he will redistribute the translocation plan this week and it can be discussed in the HCP-HC meeting next week (March 20, 2019). Gale asked, out of the 329 expected HOR spawning escapement, how many would you transport? Tonseth said up to a total of 163 spawners would be transported (excluding the 56 surplus HOR fish from WNFH) and the proportion of hatchery-origin spawners (pHOS) would range from 23% to 29%. Tonseth said if the run-size is more robust than predicted, a management decision could be made to rapidly change the approach. Peter Graf asked what the total number proposed for translocation is and where they would be collected. Tonseth said there would be 163 HOR spawners for translocation and he could ask Humling and Snow to estimate the number of Methow returns that are likely to return to WNFH. Gale said this number also depends on how the Methow trap is operated; the proposal would be to run the Methow trap to remove WNFH fish, instead of shutting down the ladder early so that WNFH fish are passed. Tonseth agreed that this proposal depends upon running the Methow trap late in the season so spawners can be collected and moved to desirable locations rather than leaving them in the creek. Gale said USFWS is likely supportive but has concerns about sending all HOR fish that arrive at WNFH away to translocation sites. Gale will review the details of the plan and discuss it with Humling before making a decision.

Appendix C: Wenatchee Spring Chinook Salmon Adult Management, page 32-33, Table 2

Tonseth said that for the Wenatchee Basin, he does not anticipate the need for any adult management (other than removal of age-3 males). Tonseth said the run forecast is low enough that fish not needed for broodstock can be allowed to escape. Pearsons said that after removing jacks the sex ratio looks low for males and asked whether it is a good idea to remove all the jacks. Tonseth said during handling at Tumwater Dam, the sex ratio has been reduced to 75% males and assuming males can spawn with more than one female, this ratio is adequate without allowing jacks. Tonseth said trapping doesn't occur at all hours of the day at Tumwater Dam, so some jacks will likely pass when the trap is not in operation. Pearsons asked if the sex ratio could be higher toward males than reflected in Table 2? Tonseth said yes, noting it is difficult to predict the number of jacks. Pearsons said this could be an effective population size issue. Tonseth said the Committees could look at the recent 5-year summary to estimate number of age-3 males that have made it past Tumwater.

Pearsons said it is desirable to get closer to a 1-to-1 ratio. Tonseth said he would not recommend allowing all males upstream, especially if there is a high jack number.

Peter Graf asked if handling of adult spring Chinook for adult management and the Relative Reproductive Success (RRS) study occurs simultaneously at Tumwater Dam. Tonseth answered, yes. Catherine Willard asked if handling adult spring Chinook for the RRS study at Tumwater would continue past 2018. Willard said that in 2014, the HCs had approved an extension of the RRS study and asked if there is an update. Tonseth said the extension was for the 2018 brood, so there is a need to track the cohort through 2023. Willard said meeting notes indicate that no passive integrated transponder (PIT)-tagging of adults would be done from 2018 to 2023. Tonseth agreed, no PIT-tagging would be done, but DNA sampling would be necessary in 2019 to 2023 to sample the 'grandchildren' (F2 generation) of the initial 2013/2014 cohort. Tonseth said the 2018 brood will be the last group DNA-sampled as juveniles and as returning adults. Tonseth said he will confirm with Andrew Murdoch that DNA sampling of the 2018 to 2023 returns is still consistent with the original agreement that was recorded in notes or in an SOA. Willard suggested updating the January 2014 memorandum on the extension of the RRS study to clarify. Willard will send the RRS study extension memorandum to Rohrbach with the translocation plan for distribution.

Twisp River Steelhead Conservation Program, page 10

Tonseth said that in Appendix H (the draft preferred alternative approach for the Methow Basin Steelhead Conservation plan), Mackey suggested committing to a 5- to 10-year plan and, if necessary, to identify what modifications are needed. Mackey said that Douglas PUD has collected broodstock with USFWS by angling in the river and at the Twisp Weir, then brood go to WNFH, where they are spawned, and eggs are dispersed into the S1 program at Wells and S2 program at Winthrop. Mackey said capturing brood by angling was a stop-gap measure to address the Raiman-Laikre issue that was raised 2 years ago, but there was a question from the YN about whether it will continue to be successful to collect broodstock by hook-and-line for the preferred alternative. Mackey said last spring was the first spring when the preferred approach was implemented; it was successful even in a low return year and produced a surplus of eggs. Mackey said that hook-and-line collection could be similarly successful this year. Murdoch said YN was skeptical whether all broodstock could be collected via hook-and-line and said it will be important to keep the effort up and reevaluate the approach if it's not working. Cooper confirmed it has been easy to find volunteers. Cooper said they are close to meeting their brood component this year. Cooper said it has helped that there hasn't been a fishery, so fish are naïve and easily captured this year despite the cold water. Gale said the challenge to this approach would be if there is a large enough run that a fishery is allowed and broodstock collection should be carried out with hook-and-line; this could be a case for allowing a fall fishery only. Tonseth added, or a fishery only after brood have been

collected. Tonseth proposed moving the preferred alternative approach forward instead of maintaining it as a draft in the Protocols but adding a sunset date for re-evaluation. Gale suggested sending the Protocols to Humling and Snow for review, then making a final decision in the March 20 HCP-HC meeting.

Tonseth asked the representatives for any additional comments or questions. Gale said he had three topics to discuss further, as follows:

Use of Chief Joseph Hatchery Segregated Fish Collected in the Methow Basin

Gale said he is uncomfortable using CJH fish collected in the Methow Basin for the backup program at CJH, because it would be using identified stray fish as brood in the CJH. Gale suggested deletion of the bulleted statement at the top of page 3, adding that the action would not provide many fish for the CJH program anyway. Tonseth said this was an addition by Kirk Truscott and that Truscott did revise it to use the word "may." Tonseth said a decision on retaining or deleting this action would be made in the next HCP-HC meeting on March 20, 2019, with Truscott in attendance.

Collection of Summer Chinook Salmon at Wells Dam for the Yakima River Program

Gale noted that the collection of summer Chinook salmon at Wells Dam seems to have been struck completely by Truscott. Gale said this makes collection at Entiat Hatchery the default, which has not been discussed. Gale said the use of surplus fish at Wells Dam should be maintained as a possibility and should be discussed with Truscott in attendance. Murdoch said Truscott would not be able to approve a protocol that reserves surplus fish from Wells Dam for the YN from the outset but noted that perhaps surplus fish could be acquired as eggs. Murdoch has informed YN staff that these conversations are ongoing. Tonseth said the YN is on the surplus fish distribution list for receiving surplus eggs, but typically decline. Truscott is suggesting that YN not decline this surplus in the future. Gale asked for the parties to keep him informed so the Entiat Hatchery is not the primary source for the YN program, which would impact USFWS's ability to use surplus fish at Entiat Hatchery for other reasons.

Chiwawa Weir Operations

Gale said Cindy Raekes and Sierra Franks (USFWS) reviewed protocols for broodstock collection at the Chiwawa Weir and may suggest some edits. Raekes said USFWS has concerns about the cumulative trapping day limit. Raekes suggested holding to the 15-day trap limit and then adjusting to continue trapping later in the season, if needed. Raekes said some spawning data are also lacking for determining the 5-year estimated mean number of adult bull trout in the Chiwawa Basin. Raekes said all the other content in the Protocols seems consistent with the BiOp for the Wenatchee River

Spring Chinook Salmon, Summer Chinook Salmon, and Steelhead Hatchery Programs (November 2017).

Tonseth said the concern is the lack of NOR returning this year. Tonseth said bull trout are so much more abundant than spring Chinook salmon in years like this that the 15-day trapping limit is a handicap to broodstock collection. Tonseth said the Protocols list the same number of days allocated as last year (20 days) but the program still did not meet the NOR target.

Gale said USFWS is suggesting starting with 15 days of trapping, then evaluating whether more days should be added. Gale said that last year the additional days didn't help to collect additional NOR spring Chinook salmon. Tonseth said the Protocol lacks flexibility and does not want to be constrained to using the additional trapping days at the end of the season. Tonseth said that if they had allocated those additional 5 days at a different time, the flexibility could have allowed them to be used at the beginning or middle of the run. Willard noted the weir did not begin operation until later in the season due to high flows. Gale said spring Chinook salmon were missed at the beginning of the season not because days were being held in reserve but because of high flow conditions. Tonseth said he wants to avoid a situation that limits trapping days and then requires two to three weeks to resolve in season so that resolution occurs too late in the season. Gale and Raekes said they will suggest edits that would be amenable to both WDFW and USFWS and in line with the bull trout BiOp. Willard said she will look through notes and emails to confirm what happened last year.

In-Season Brood Number Adjustments

Mackey said that for programs using hatchery fish (safety-net and harvest programs, in particular), it would be helpful for all to agree to a range in the target numbers rather than a single target number.

Mackey said a range would provide some bounds for program managers to make decisions in-season and make adjustments if the fish look beat-up, smaller, or younger than expected so that fecundity and/or survival would be low. Mackey said he has a model for estimating confidence intervals to arrive at a range of target numbers instead of point estimates. Tonseth agrees to have this discussion but that to change the past practices it should be presented to the HCP-HCs and PRCC HSC as a proposal. Tonseth said there will be variability in how much latitude could be provided, especially for listed populations. Mackey agreed that listed stocks might be tightly regulated to a specific number; however, the safety-net and harvest programs often have surplus fish anyway, and this would allow some flexibility on using them for brood so as to provide a greater likelihood of meeting program targets. Tonseth said there is currently some latitude built-in to the Protocols; currently there is no latitude for changes in uses due to pre-spawn mortality related to culturing issues. Tonseth said he would not want to see any flexibility used as a crutch for bad culturing practices. Tonseth said this would need to be tailored to a program by program approach.

Mackey said he will reserve the issue of establishing ranges for broodstock collection targets for future discussions.

Update on Nason Conservation Program Size Discussions

Pearsons asked whether a decision was made about the sizing of the Nason program. Tonseth agreed in a discussion with Murdoch that it was premature to propose a reduction in the program at this time and that the parties may have different interpretations of the direction of the program at this time. Tonseth said that all information needs to be made available from the previous analysis for original sizing of the program, as well as updates to the life cycle model for updating the program size, and updated run size information. Tonseth notes that there is more work to do before the Joint Fisheries Parties (JFP) can move forward with a formal proposal to reduce the conservation programs.

Pearsons asked if there will be a combination of NOR and HOR fish in the Nason Conservation Program broodstock this year and if they will all be marked as conservation program fish. Tonseth said, yes. He said in discussions with Murdoch it was decided that tracking wild x wild fish for brood or escapement to the spawning ground will always be the priority. Tonseth said there is a footnote in Appendix B about the JFP discussing a secondary mark for identifying hatchery x hatchery fish to be used for adult removal, passage, or inclusion into hatchery programs. Murdoch said YN does not think a supplemental mark is necessary, but if it's important to other parties, she is willing to discuss it in the JFP. Tonseth said if there is no secondary mark, the program would lose ability to prioritize crosses when fish return. Willard asked if a decision will be made before marking this year? Tonseth said this decision may not be made prior to marking the Chiwawa fish but could be made for the brood to be marked one year from now. Willard said she will need some direction because there will be ~70% HOR fish for the brood year 2018 conservation program. Tonseth said the default mark will be a snout coded wire tag and no adipose clip.

Brett Farman said he has not had time to update his analysis of PNI using the 3-population model (to determine the influence of hatchery x hatchery spawners). Murdoch said as permits are written, it doesn't make a difference who the parents were, but it would be nice to know for the implementation of the program. Tonseth said the biggest impact to PNI when these fish return are how many we allow on the spawning grounds, which depends on the number of NOR fish. Lower NOR results in higher pHOS and higher PNI. Tonseth said the permit condition is to calculate PNI on a rolling 5-year average such that 1 or 2 bad years could be counterbalanced by good years. Tonseth will convene a JFP meeting soon to discuss this topic.

Broodstock Collection Protocols Document Production

Hillman asked why the Protocols are authored by WDFW and not by the permit holders. Tonseth said WDFW is co-permittee and there was a clause that WDFW would develop them. Murdoch said this

came from the history of WDFW operating all of the hatchery programs. Pearsons said some of their (Grant PUD) permits say the permit holders should develop the annual spawning protocols. Willard said permit holders would be WDFW and the PUDs. Tonseth said that in a way, all parties do write the Protocols together during the editorial process. Tonseth said there are a number of elements that are becoming streamlined, such as materials in the appendices, allowing them to be made available earlier. Tonseth said Pearsons' comment on timelines for developing the Protocols should be addressed in the Committees and potentially lead to revising the SOA on Protocol development timelines. Tonseth said the parties would have to develop a list of which elements could be developed earlier versus later in the year.

Deanne Pavlik-Kunkel said this process feels a bit broken; there did not seem to be enough time to discuss major proposed changes to programs for the Protocols. Pavlik-Kunkel said Grant PUD's position is that there should be modifications to this process. Hillman suggested drafting parts of the Protocols in November or December of the previous year and perhaps sharing the drafting responsibility with the PUDs. Hillman said he and Rohrbach can help identify some of the big changes that require discussion prior to first draft of Protocol development and identify sections that can be worked on by others in the Committees to share the workload. Pearsons agreed that the reasonable starting point would be modifying that SOA. Pearsons said Tonseth has done everything consistent with the SOA; perhaps the Committees just need to back up the due dates. Tonseth agreed that modifying the SOA is a good place to start because the SOA is already on the books; however, it may not be an SOA for the HSC. Tonseth agreed to identifying certain pieces that can be worked on earlier.

III.PRCC HSC

A. Broodstock Collection Protocols for PRCC HSC Programs

Discussion topics pertaining to the PRCC HSC were addressed in the Joint HCP-HCs and PRCC HSC section of the agenda.

IV. Administration

A. Next Meetings

The next HCP-HCs and PRCC HSC meetings will be held on March 20, 2019 (Grant PUD), April 17, 2019 (Grant PUD), and May 15, 2019 (Grant PUD).

Tonseth requests that comments on the revised draft 2019 Protocols be submitted to him by EOD Friday, March 3, 2019, so he can distribute a final draft back out to the representatives by EOD Monday March 6, 2019 (depending on scope of the comments).

The HCP-HCs and PRCC HSC will approve the 2019 Broodstock Collection Protocols during the March 20, 2019 meeting.

V. List of Attachments

Attachment A List of Attendees

Attachment B Draft 2019 Broodstock Collection Protocols (Second Draft)

Attachment A
List of Attendees

Name	Organization
Larissa Rohrbach[o]	Anchor QEA, LLC
Tracy Hillman[o]	BioAnalysts, Inc.
Catherine Willard*[o]	Chelan PUD
Greg Mackey*[o]	Douglas PUD
Todd Pearsons‡[o]	Grant PUD
Peter Graf‡[o]	Grant PUD
Deanne Pavlik-Kunkel[o]	Grant PUD
Brett Farman*‡[o]	National Marine Fisheries Service
Matt Cooper*‡[o]	U.S. Fish and Wildlife Service
Bill Gale*‡[o]	U.S. Fish and Wildlife Service
Cindy Raekes[o]	U.S. Fish and Wildlife Service
Mike Tonseth*‡[o]	Washington Department of Fish and Wildlife
Keely Murdoch*‡[o]	Yakama Nation

Notes:
* Denotes HCP-HC member or alternate
‡ Denotes PRCC HSC member or alternate
º Joined by phone