

Memorandum

To: Wells, Rocky Reach, and Rock Island
HCP Hatchery Committees Date: September 20, 2018

From: Tracy Hillman, HCP Hatchery Committees Chairman

cc: Sarah Montgomery and Larissa Rohrbach, Anchor QEA, LLC

Re: Final Minutes of the August 15, 2018 HCP Hatchery Committees Meeting

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Hatchery Committees meeting was held in Wenatchee, Washington, on Wednesday, August 15, 2018, from 9:00 a.m. to 12:15 p.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

- Tom Kahler and Greg Mackey will provide historical information to Tracy Hillman for incorporation in the Draft Hatchery Program Timelines (Item I-A). *(Note: this item is ongoing.)*
- Tracy Hillman will review aspects of the Independent Scientific Advisory Board's *Review of Spring Chinook Salmon in the Upper Columbia River* under Hatchery Committees' purview (Item I-A). *(Note: this item is ongoing.)*
- Greg Mackey will continue researching whether to include age-3 males in broodstock and discuss it with Craig Busack (National Marine Fisheries Service [NMFS]; Item I-A). *(Note: this item is ongoing.)*
- Keely Murdoch and Mike Tonseth will provide an update on their evaluation of the size of conservation programs in October 2018 (Item I-A). *(Note: this item is ongoing.)*
- Keely Murdoch will provide coho salmon broodstock collection protocols to Mike Tonseth by late February or early March 2019 for inclusion in the 2019 Broodstock Collection Protocols (Item I-A). *(Note: this item is ongoing.)*
- Tom Scribner will discuss internally the potential to release surplus Winthrop National Fish Hatchery (NFH) brood year 2018 wild-by-wild steelhead parr at Yakama Nation (YN) restoration sites in the Methow Basin in October (Item I-A). *(Note: this item is ongoing.)*
- Greg Mackey will revise the Draft 2018 Methow Basin Spring Chinook Adult Management Plan and provide it to the Hatchery Committees (Item I-A). *(Note: this item is ongoing.)*
- Greg Mackey will coordinate with Charles Frady (Washington Department of Fish and Wildlife [WDFW]), Charlie Snow (WDFW), Michael Humling (U.S. Fish and Wildlife Service [USFWS]), and the WDFW Methow Field Office to provide weekly updates on adult management of spring Chinook salmon in the Methow Basin to the Hatchery Committees (Item I-A). *(Note: this item is ongoing.)*

- Andrew Murdoch (WDFW) will give a presentation at the October 17, 2018 Hatchery Committees meeting on prespawn mortality modeling results (Item III-A).
- Tracy Hillman will obtain a decision from Matt Cooper whether to accept revisions to the Draft Chelan County PUD Monitoring and Evaluation Implementation Plan 2019 (Item IV-A).
- Tracy Hillman will provide an update and email the revised version of the “Genetics monitoring questions for hatchery programs” to the panel of geneticists and will provide the email to the Hatchery Committees for review prior to distribution (Item II-B).
- The Hatchery Committees will invite the geneticist panel to the September 19 and October 17 or November 21, 2018 Hatchery Committees meetings to discuss goals and expectations and then present conclusions (Item II-B).
- Brett Farman will remind the Hatchery Committees representatives to send public comment distribution lists to Emi Kondo (Item III-C).

Decision Summary

- The Rocky Reach and Rock Island HCP Hatchery Committees approved Chelan PUD’s 2019 Hatchery M&E Implementation Plan as follows: Chelan PUD, WDFW, YN, CCT, and NMFS approved on August 15, 2018, and USFWS approved via email on August 24, 2018 (Item IV-A).

Agreements

- There were no agreements during today’s meeting.

Review Items

- Sarah Montgomery sent an email to the Hatchery Committees on August 31, 2018, notifying them that the Douglas PUD’s Draft 2017 Annual Monitoring and Evaluation Report is available for a 60-day review with edits and comments due to Greg Mackey by October 30, 2018.

Finalized Documents

- Sarah Montgomery sent an email to Hatchery Committees on August 31, 2018 notifying them that the Final 2019 Chelan PUD M&E Implementation Plan is available for download from the Hatchery Committees Extranet site.

I. Welcome

A. Review Agenda, Review Last Meeting Action Items, and Approve the July 18, 2018 Meeting Minutes (Tracy Hillman)

Tracy Hillman welcomed the Hatchery Committees and asked for any additions or changes to the agenda. The Hatchery Committees representatives reviewed the revised draft July 18, 2018 meeting minutes. Larissa Rohrbach said there are some outstanding comments and revisions, which the Hatchery Committees reviewed and addressed. Hatchery Committees representatives present approved the draft July 18, 2018 meeting minutes as revised.

Action items from the Hatchery Committees meeting on July 18, 2018, and follow-up discussions were addressed (*note: italicized text below corresponds to agenda items from the meeting on July 18, 2018*):

- *Kirk Truscott will work with Casey Baldwin (Colville Confederated Tribes [CCT]) to summarize the CCT's current protocols for genetic sampling (Item I-A).*

Truscott said this item is complete because the geneticist panel is convening.

- *Tom Kahler and Greg Mackey will provide historical information to Tracy Hillman for incorporation in the Draft Hatchery Program Timelines (Item I-A).*

Kahler said this item is ongoing.

- *Tracy Hillman will review aspects of the Independent Scientific Advisory Board's Review of Spring Chinook Salmon in the Upper Columbia River under Hatchery Committees' purview (Item I-A).*

Hillman said this item is ongoing.

- *Greg Mackey will continue researching whether to include age-3 males in broodstock and discuss it with Craig Busack (National Marine Fisheries Service [NMFS]; Item I-A).*

Kahler said this item is ongoing.

- *Betsy Bamberger (Douglas PUD) will coordinate with the Washington Animal Disease Diagnostic Lab (WADDL) to obtain optical density values to inform culling for bacterial kidney disease (Item I-A).*

Tom Kahler added this as an agenda item and an email from Bamberger was distributed to the Hatchery Committees by Larissa Rohrbach on August 16, 2018. This item is complete.

- *Keely Murdoch and Mike Tonseth will provide an update on their evaluation of the size of conservation programs in October 2018 (Item I-A).*

Keely Murdoch said this item is ongoing.

- *Keely Murdoch will provide coho salmon broodstock collection protocols to Mike Tonseth by late February or early March 2019 for inclusion in the 2019 Broodstock Collection Protocols (Item I-A).*

Keely Murdoch said this item is ongoing.

- *Tom Scribner will discuss internally the potential to release surplus Winthrop National Fish Hatchery (NFH) brood year 2018 wild-by-wild steelhead parr at Yakama Nation (YN) restoration sites in the Methow Basin in October (Item I-A).*
Keely Murdoch said this item is ongoing.
- *Hatchery Committees representatives will review and edit Todd Pearson's list of questions regarding genetics monitoring, which Sarah Montgomery distributed to the Hatchery Committees on June 19, 2018, and provide revisions to Tracy Hillman (Item II-E).*
This item will be discussed today,
- *Brett Farman will nominate a National Oceanic and Atmospheric Administration (NOAA) geneticist to participate on a panel that will help identify appropriate genetics monitoring and evaluation protocols for the upper Columbia River hatchery programs (Item II-E).*
Farman nominated Morgan Robinson and provided contact information in an email to the Hatchery Committees on August 7, 2018.
- *Keely Murdoch will send contact information for the Columbia River Inter-Tribal Fish Commission (CRITFC) geneticists she nominated for inclusion in the Genetic Monitoring panel to Larissa Rohrbach and Sarah Montgomery (Item II-E).*
Keely Murdoch confirmed contact information for CRITFC geneticists Dr. Shawn Narum and Dr. Ilana Koch in an email to Rohrbach on August 7, 2018.
- *Larissa Rohrbach and Sarah Montgomery will make an HCP Hatchery Committees distribution list for the geneticist panel (Item II-E).*
This item will be discussed today.
- *Tracy Hillman will provide an email update to the geneticist panel based on discussions during the July 18, 2018 Hatchery Committees meeting (Item II-E).*
This item is will be discussed today.
- *Hatchery Committees representatives present will review the Priest Rapids Dam (PRD) OLAFT Sampling Expansion Project document, which Larissa Rohrbach distributed to the Hatchery Committees on July 10, 2018, and provide questions and comments to Mike Tonseth and Andrew Murdoch (Washington Department of Fish and Wildlife [WDFW]; Item II-I).*
This item is complete and will be discussed today.
- *Greg Mackey will revise the Draft 2018 Methow Basin Spring Chinook Adult Management Plan and provide it to the Hatchery Committees (Item IV-C).*
Tom Kahler said this item is ongoing.
- *Greg Mackey will coordinate with Charles Frady (WDFW), Charlie Snow (WDFW), Michael Humling (U.S. Fish and Wildlife Service [USFWS]), and the WDFW Methow Field Office to provide weekly updates on adult management of spring Chinook salmon in the Methow Basin to the Hatchery Committees (Item IV-C).*
Tom Kahler said this item is ongoing.

- *Tracy Hillman will request the CCT vote on the Wells Hatchery Committees item regarding collecting 110% of the brood year 2018 brood stock collection target for Wells summer Chinook salmon (Item IV-E).*

Hillman obtained an affirmative vote from Kirk Truscott on July 24, 2018.

- *Betsy Bamberger (Douglas PUD) will research past occurrences of Saprolegnia spp. at Wells Fish Hatchery (FH) (Item IV-F).*

Tom Kahler provided an update during the meeting and an email from Bamberger was distributed to the Hatchery Committees by Larissa Rohrbach on August 16, 2018. This item is complete.

II. Douglas PUD

A. Enzyme-Linked Immunosorbent Assay Sampling for Spring and Summer Chinook Salmon Update (Tom Kahler)

Tom Kahler summarized an update from Betsy Bamberger (Douglas PUD) regarding enzyme-linked immunosorbent assay (ELISA) sampling for spring and summer Chinook salmon and Saprolegnia as follows:

- WADDL was not able to commit to providing optical density values for ELISA sampling in 2018, so Douglas PUD has contracted with WDFW for this task in 2018.
- Douglas PUD's current plan is to send virology samples (consisting of ovarian fluid, kidney, and spleen samples) to WADDL for processing and kidney samples to WDFW for traditional Bacterial Kidney Disease ELISA testing. This strategy applies to both the Methow spring Chinook and Wells summer Chinook salmon 2018 programs.
- Kahler said Bamberger also looked into the history of Saprolegnia at Wells and Methow hatcheries and did not find data beyond egg mortality numbers (cause of loss was not specified). He said there are no records of Formalin not being used.

III. Joint HCP-HC/PRCC HSC

A. Expanded Sampling at the Off-Ladder Adult Fish Trap (Mike Tonseth)

Mike Tonseth said during the May 16, 2018 Hatchery Committees meeting, Andrew Murdoch presented schemes for how sampling could be expanded at the off-ladder adult fish trap (OLAFT) at PRD. He shared the document, PRD Expansion Project, which Larissa Rohrbach distributed to the Hatchery Committees on July 10, 2018.

Tracy Hillman said that if there is a conflict of interest with an entity seeking funding, the Hatchery Committees will determine if a representative should recuse themselves. According to the Statement

on Conflict of Interest, which is outdated, a conflict of interest may occur because of employment, personal relationship, professional relationship, or financial benefit. Keely Murdoch said she has a personal relationship with Andrew Murdoch, who is proposing the OLAFT sampling expansion. She said she does not feel she has a personal bias but will let the Hatchery Committees decide if she should recuse herself from voting on funding the expansion of sampling at the OLAFT. Hillman asked whether Mike Tonseth also had a conflict of interest. Tonseth said yes.

Tom Kahler said this solicitation for funding support has been an unexpected development of this topic from what was initially a presentation on results from implementation of the action for steelhead. Kahler asked whether this is a proposal to the Hatchery Committees and a request for funding from the public utility districts (PUDs), and stated that the traditional and appropriate approach to requesting funding from the PUDs for any changes to the M&E contracts is to work directly with the PUDs. Hillman referred to an email from Deanne Pavlik-Kunkel (Grant PUD; distributed by Hillman to the Hatchery Committees on August 9, 2018), which indicated that Grant PUD would not be interested in funding expanded sampling at the OLAFT. Tonseth said WDFW's interest is whether the PUDs are in support of expansion prior to investing in development of a formal proposal. Tonseth said that it appears from Grant PUD and Chelan PUD responses that there is no interest in the cost sharing for expanded OLAFT sampling between WDFW and the PUDs.

Andrew Murdoch then provided an update on funding for the steelhead monitoring programs in the Upper Columbia. He said negotiations with the Bonneville Power Administration (BPA) on proposals are finished, so there is less uncertainty on where funding for this sampling will come from. The operations and maintenance (O&M) part of the project (e.g., passive integrated transponder (PIT)-tagging steelhead and maintaining arrays) comes from the WDFW Steelhead Viable Salmonid Population (VSP) project and has taken up most of the budget over time. The status quo of tagging and determining spatial extent of steelhead may end after 2019 because of reductions in BPA funding. Todd Pearsons asked for clarification on reduced funding. Tonseth said that in total, the funding from BPA for upper Columbia programs will be reduced by \$100,000.

Andrew Murdoch reviewed the programs that are currently BPA-funded, which include Steelhead VSP (which includes the funding for PIT tagging and PIT-tag antenna O&M) and the spring Chinook salmon relative reproductive success study. The spring Chinook salmon relative reproductive success study is considered a research project, so BPA prioritized it for reduction in funding. The 2018 brood year is the last brood year of sampling, but there are still genetic analyses to be completed. Tonseth said the reduction in funding will extend the genetic analyses out several years longer than previously scoped (led by Mike Ford at the Northwest Fisheries Science Center [NWFS]).

Andrew Murdoch reviewed how the potential reduction in funding could affect current monitoring for steelhead as part of the PUDs monitoring and evaluation (M&E) programs. He listed:

- Steelhead tagging at the OLAFT
- Origin of steelhead passage/escapement estimates over dams
- A drastic reduction in steelhead tributary escapement estimates

Andrew Murdoch said there is a large PIT-tag antenna infrastructure in the upper Columbia in its eighth year of operation that is difficult to continue to justify to BPA. He said the scope has been justifiable with automated data management, but modernization is increasing costs due to the need to upgrade from 3G modems no longer supported by Verizon and upgrades to technologies and higher costs of Biomark supplied materials and data management services. He said instead of a proposal to expand sampling at PRD, WDFW is now proposing a cost-sharing arrangement with the PUDs to continue the existing monitoring program at PRD for steelhead brood year 2020 and beyond. Keely Murdoch asked to clarify that the loss of BPA funding would not affect monitoring of brood year 2019, but it would affect monitoring of brood year 2020. Andrew Murdoch said this is correct.

Andrew Murdoch said that during the summer of 2019 in tributaries, WDFW would propose eliminating old systems (MUX systems with PVC antennas) and replacing them with acrylonitrile/high density polyethylene (ACN/HDPE) systems. However, there are so many old systems in the tributaries, it's not cost effective to replace them all at once. Barring a cost share, WDFW will have to start reducing tributary monitoring sites beginning with MUX systems. This would include systems in the Chewuch River, Methow River, Twisp River, Nason Creek, and Chiwawa River and maybe in the upper Wenatchee River. These would be prioritized for removal because these are where spawning ground surveys occur. He said by reducing these O&M costs, WDFW would try to maintain systems in small tributaries where spawning surveys are not conducted, such as Mission Creek, Gold Creek, Chumstick Creek, and Beaver Creek. The status quo would be maintained at PRD (for monitoring steelhead). He said for developing tributary escapement estimates for all tributaries, WDFW would need funding help to maintain the status quo.

Andrew Murdoch said BPA wants to remove PIT-tag arrays across the basin as part of cutting funding on their research M&E program. Eventually they would have their entire Columbia River PIT-tag array system under one umbrella for cost efficiencies. Contracting with Biomark has worked well in the past for data management, but WDFW is now considering other options to reduce costs. For the upper Columbia steelhead VSP program, brood year 2019 will be the last year WDFW will have status quo funding for the steelhead monitoring program. The easiest piece to separate is OLAFT sampling in its entirety. He said a decision is not needed today, but a decision is needed by the Committees on what level of steelhead monitoring is needed for brood year 2020 and beyond.

Tonseth said for the PUDs M&E programs, if WDFW is unable to maintain arrays to estimate tributary escapement, the alternative would be conducting steelhead spawning ground surveys. He said this needs to be a consideration and acknowledgement in the PUDs' 2019 M&E implementation plans for moving toward brood year 2020.

Hillman summarized that the issue before the Hatchery Committees is not the expansion of OLAFT sampling to other species, but the need to maintain an appropriate level of steelhead monitoring that meets the objectives of the M&E Plan beginning with brood year 2020. Currently, the steelhead M&E program is funded for brood year 2019. He said the PIT-tag arrays are also used for sockeye, Chinook salmon, lamprey, and other species. Catherine Willard said the data are also used by the HCP Tributary Committees.

Willard asked if WDFW still has money for Steelhead VSP monitoring that must be divided among OLAFT sampling, PIT tagging, and monitoring PIT-tagged fish in tributaries. Andrew Murdoch answered yes, as well as for other sampling. He said the best place for a cost share is OLAFT sampling. WDFW and others want to maintain high-quality data management. He said so far, the WDFW approach is similar to the Integrated Status and Effectiveness Monitoring Program. To sustain the current level of high-quality data, WDFW will need a cost share. Otherwise, they will have to cut interrogation sites.

Kirk Truscott asked when would the reduction in sites occur? Andrew Murdoch said after the 2019 outmigration, sites would be reduced or replaced. Truscott asked what is the cost difference over time between upgrading interrogation sites versus conducting annual spawning ground surveys? Willard said arrays are also used to monitor spring Chinook salmon return timing. Keely Murdoch said there is a need to consider data quality—steelhead spawner surveys are difficult to do because of high water and turbidity. Truscott said the Hatchery Committees would need more information from WDFW post-2019 outmigration season to determine the long-term cost tradeoffs.

Andrew Murdoch said there is a need to figure out costs and decisions prior to sending contract information to BPA by March 1, 2019.

Tonseth said maintaining the status quo may include sampling at OLAFT for 2019, but activities carried out in fall of 2019 that affect the 2020 brood need to be included in the 2019 M&E plan, which is currently being discussed.

Andrew Murdoch said the ask is a \$100,000 cost share to do the OLAFT sampling at PRD and data analysis. He believes this would be enough to cover the OLAFT O&M needs. Tonseth said monitoring at the OLAFT is the easiest to demonstrate the value and certainty of the data. Having uncertainty around O&M costs at the OLAFT is preferable to uncertainty around O&M costs in the tributaries.

Truscott said this is why the cost analysis is needed. Tonseth said there is a need to examine the value of other analyses dependent on the arrays to understand the total value versus cost.

Andrew Murdoch said Entiat River monitoring will be reduced. PIT-tagged fish will not be monitored upstream and downstream of Ardenvoir. He said USFWS will not be able to staff the Entiat River smolt trap because of new hiring policies, so WDFW is taking over smolt trapping in the Entiat River starting October 1, 2018.

Willard said the next step will be for the PUDs to discuss budgets with WDFW outside of the Hatchery Committees and that budget discussions are not a purview of the Hatchery Committees.

Andrew Murdoch also gave an update on spring Chinook salmon prespawn mortality modeling. He said WDFW is compiling data and Jeff Jorgensen (NOAA Fisheries NWFSC) is doing the modeling to figure out what factors affect mortality. He is starting by modeling Wenatchee spring Chinook salmon for the 2008 and 2009 brood years. There have been some challenges with high variances in tributary estimates because of few resights. Members present indicated interest in Andrew Murdoch presenting this work at an upcoming meeting. Andrew Murdoch said he may be able to present the data to the Hatchery Committees in October.

B. Genetic Monitoring (Tracy Hillman)

Todd Pearsons shared the document entitled, "*Genetics monitoring questions for hatchery programs*," which Sarah Montgomery distributed to the Hatchery Committees on June 19, 2018. Tracy Hillman led the discussion to finalize the panel of geneticists invited to answer monitoring questions and refine the monitoring questions being proposed.

Tom Kahler said Douglas PUD approves of the existing panel of geneticists nominated. Pearsons said a glaring omission would be that NMFS geneticists Craig Busack and Mike Ford, who both have a long history working in the upper Columbia Basin, are not participating. Brett Farman said he asked Busack, who suggested Morgan Robinson. Farman said it's outside of their influence to ask Mike Ford who is a NWFSC research scientist. Hillman said the panel is complete and he will contact them with follow-up information.

Tracy Hillman asked whether there are comments or revisions to the questions proposed by the PUDs. USFWS provided their input in an email to Hillman. Hillman showed the existing questions during the meeting to ensure all agree with wording. All Hatchery Committees members approved of the language of questions No. 1 and No. 2. Language in question No. 3 was revised.

Question No. 3a: Mike Tonseth said using the language "management actions" is problematic because that is not what we want the geneticists to decide. Kahler said that the actual intent of the meaning is

to determine approaches that provide the information necessary for managers to act upon. Pearsons agreed and said they are looking for information to be able to interpret how reliable different methods may be. Pearsons asked whether there have been long-term genetic monitoring plans that have changed the way programs manage themselves? He said he is unaware of a western regional program with standardized methodologies used for management. He suggested that if the geneticists can land on some consistent monitoring, it should be written up in a paper, so methods can be used across large areas consistently. Kahler said he is aware of some Atlantic Salmon programs where genetic monitoring guides program management. Tonseth said the challenge is that the technology changes. He said the geneticists can answer 'what is the appropriate test?'. Pearsons said, for instance, in notes from the White River program, geneticists concluded the power of single-nucleotide polymorphism and microsats was noted as being similar, which was surprising. Tonseth said to ensure comprehension of the questions, we will go through these questions with the geneticists and allow them to ask questions prior to convening.

Question No. 3b: Tonseth suggested changing language to "level of biological change." Kirk Truscott asked whether the Hatchery Committees want the geneticists to indicate at what level there is a link between genetic change and biological change? Pearsons said yes, and agreed that it is context and population specific. Pearsons said geneticists may punt on this question, but it's worth asking. It's the combination of tradeoffs that may be most important when evaluating risk of extinction. Tonseth said an example is monitoring for the Ryman-Laikre effect in Methow steelhead. That change is likely to occur in any population supplemented by a hatchery program, so perhaps we should be concerned about the rate at which the change is occurring rather than whether it is occurring. He emphasized that we need to have an understanding that we need to know how genetics will affect abundance and survival. Pearsons agreed and said this information should be in the existing M&E Objectives section leading to the questions. Hillman said this document will hopefully get them engaged and asking questions. All agreed that these questions are intended to be a conversation starter. Tonseth said the intent is these questions could be refined after Hillman engages with geneticists.

Question No. 3c/d: Pearsons said this question is trying to get at sampling intervals and sample sizes and asked if they should be different for large and small programs? Tonseth said the Hatchery Committees should be prepared to offer examples of the different programs. Catherine Willard asked about sample size. Tonseth and Truscott agreed and said sample size may depend on size of population too. Hillman recorded revisions to each subpart of question No. 3 with input during the meeting to reflect intent.

Pearsons said the interesting outcome in the White River process was the areas of consensus; what we want to know is where all the geneticists agree. Hillman said he will send the latest M&E Report to the geneticists as background information, along with the list of questions.

Hillman asked whether the Hatchery Committees want to invite the geneticists to an upcoming meeting. Pearsons suggested they could join the October meeting to present their findings. Tonseth recommended they attend or call in to the September meeting so that representatives can explain the purpose of this panel and answer any initial questions. Andrew Murdoch suggested they call in to the September meeting for an introduction, and then attend the meeting in October or November to present their findings. Representatives present concurred with this suggestion and Hillman said he will coordinate with the geneticists accordingly.

C. NMFS Consultation Update (Brett Farman)

Brett Farman said the National Environmental Policy Act consultation for the unlisted Columbia River summer and fall Chinook salmon programs is still in review internally and James Archibald (NOAA) has been working on permits.

He said Charlene Hurst has more work to do on the Methow steelhead permit and will be coordinating with individuals who need to provide input or comments. Catherine Willard asked whether there is a timeline on commenting? Farman asked whether the Hatchery Committees representatives responded to Emi Kondo regarding public comment distribution lists? Farman said he will remind representatives in an email to send their lists to Kondo.

IV. Chelan PUD

A. Draft 2019 Implementation Plan (Catherine Willard)

Catherine Willard shared the draft document, *Chelan County PUD Hatchery Monitoring and Evaluation Implementation Plan 2019*, which Larissa Rohrbach distributed to the Hatchery Committees on July 18, 2018.

Tracy Hillman asked the Hatchery Committees whether they agree with edits proposed so far, which include the following topics:

1. Discontinue Chiwawa spring Chinook salmon parr estimates (developed with snorkel survey data) because there is a correlation between parr estimates and smolt estimates (developed with smolt trap data). Parr estimates were carried out to support estimates of carrying capacity, but enough years of data have been collected to precisely estimate capacity. Adding more years will not improve the capacity estimates unless there is a very low or very high spawning escapement, or there is a large change in habitat conditions (e.g., major forest fire in the Chiwawa River Basin).

2. Discontinue observer efficiency data collection.

Kirk Truscott asked whether one could still get estimates on parr metrics from fall smolt trapping. Hillman answered that there is a correlation between parr and trapping estimates. He added that the M&E plan still plans for capturing fry, summer/fall migrants and yearling migrants. Hillman said that the NWFSC uses the parr data in their lifecycle models. Given that they are the largest consumer of the parr data, perhaps they can fund the work in the future.

Truscott said one would expect the Chiwawa spring Chinook salmon program to become more integrated with more wild by wild crosses over time and increased productivity due to managing percent of natural influence, percent of hatchery origin spawners, etc. If no improvement is observed in emigrant numbers, changes in the program could be considered. Would the data be sufficient to show that? Hillman said past program effects were observed in both parr and smolts. Thus, he expects that any changes in the program would likely be detected in data collected at the smolt trap. He said a weakness in the juvenile monitoring program is a lack of pretreatment data and suitable reference areas. However, this affects both parr and smolt monitoring programs. He added that density-dependence occurs sometime between the fry and parr stages. Jason Lundgren (Cascade Columbia Fisheries Enhancement Group) may be doing nutrient enhancement work in the Chiwawa River, which may address the factor most limiting juvenile production in the basin. The effects of nutrient enhancement (e.g., changes in condition, growth, size) are more likely to be observed in data collected at the smolt trap. Hillman said the smolt trap on the Chiwawa River is one of the best in the state with precise estimates.

Hillman asked whether the Rocky Reach and Rock Island Hatchery Committees representatives approve the proposed edits to the Chelan PUD M&E Implementation Plan for 2019 (with the exception of finalizing language around steelhead VSP monitoring). All members present approved the proposed edits. USFWS sent an email to Hillman indicating that they approved the edits.

1. For Wenatchee steelhead monitoring, language was added during the meeting to make the language more flexible for brood year 2020.

Mike Tonseth suggested indicating where methods are still relevant for the 2019 brood and adding a paragraph that addresses the uncertainty around 2020 brood monitoring. Willard and Truscott agreed but noted that the methods and scope of monitoring the 2020 brood may change depending on funding developments. Tonseth agreed and suggested adding language that allows for a later amendment and Rocky Reach and Rock Island Hatchery Committees' approval of this implementation plan. Keely Murdoch said similar language should be added to the M&E Plans from Douglas PUD and Grant PUD when they are prepared.

Hillman recorded revisions to scope and potential methods of steelhead monitoring in the Chelan PUD M&E Implementation Plan for 2019. The Rocky Reach and Rock Island Hatchery Committees representatives approved the M&E Implementation Plan as follows: Chelan PUD, NMFS, YN, CCT, and WDFW approved during the meeting on August 15, 2018. Hillman said he will follow up with USFWS to obtain their vote. *Note: USFWS provided an affirmative vote on August 24, 2018.)*

V. HCP Administration

A. Next Meetings

The next Hatchery Committees meetings are on September 19, 2018 (Grant PUD), October 17, 2018 (Grant PUD), and November 21, 2018 (TBD).

VI. List of Attachments

Attachment A List of Attendees

Attachment A
List of Attendees

Name	Organization
Tracy Hillman	BioAnalysts, Inc.
Sarah Montgomery	Anchor QEA, LLC
Larissa Rohrbach	Anchor QEA, LLC
Catherine Willard*	Chelan PUD
Tom Kahler*	Douglas PUD
Todd Pearsons‡	Grant PUD
Peter Graf‡	Grant PUD
Deanne Pavlik-Kunkel‡ °	Grant PUD
Mike Tonseth*	Washington Department of Fish and Wildlife
Andrew Murdoch	Washington Department of Fish and Wildlife
Alf Haukenes°	Washington Department of Fish and Wildlife
Mclain Johnson°	Washington Department of Fish and Wildlife
Brett Farman*°	National Marine Fisheries Service
Keely Murdoch*	Yakama Nation
Kirk Truscott*	Colville Confederated Tribes

Notes:

* Denotes Hatchery Committees member or alternate

° Joined by phone

‡ Joined for the joint HCP-HC/PRCC HSC discussion