

PRCC Hatchery Subcommittee Meeting
Wednesday, August 15, 2018
Grant PUD Wenatchee Office and via Conference Call
Meeting Summary

PRCC HSC Members

Brett Farman, NOAA (via phone)
Peter Graf, GPUD (alt)
Keely Murdoch, Yakama Nation
Todd Pearsons, GPUD
Mike Tonseth, WDFW
Kirk Truscott, CCT

Other Participants

Deanne Pavlik-Kunkel, GPUD (via phone)
Elizabeth McManus, Facilitator (via phone)
Andy Chinn, Facilitator (via phone)

Decisions

- A. Approved the May 2018 meeting summary as amended (pending USFWS approval)

Actions

1. Ross Strategic will recirculate the White River 2026 Memo to the PRCC with instructions to HSC members for review prior to the September HSC meeting.

I. Updates and Meeting Summary Review

- A. May 2018 Meeting Summary** – HSC members approved the May 2018 meeting summary as amended (pending USFWS approval).
- B. HCP** – *Note: See Appendix A for summary of joint HSC-HCP discussion during May HCP meeting.*

II. White River 2026 Memo

- A. Request from the PRCC** – A PRCC working group has met several times to review the White River memo submitted by the HSC in 2016. Since the memo is now 2 years old, the working group requests that the HSC review and update the memo and provide any updates to the PRCC so that their decisions are informed by the latest information. The main item to consider is the data table that begins on page 5 of the memo.
- B. Next Steps**
 - Ross Strategic will recirculate the White River 2026 Memo to the PRCC with instructions to HSC members for review prior to the September HSC meeting.

III. Other Items

- A. CCT Steelhead M&E** – CCT may have an operating shortfall in Okanagan basin steelhead M&E due to funding reductions from the Bonneville program. GPUD commented that the HSC is not the place to discuss these kind of funding issues and that these kind of discussions should occur between GPUD and CCT. However, scientific shortfalls may be brought before the HSC to ensure that data collection is sufficient to support steelhead M&E programs, but that GPUD thought that this would generally be accommodated

contractually.

IV. Wrap Up and Next Steps

A. Next Meeting: September 19, 2018.

B. Potential Agenda Items:

- White River 2026 Memo
- Nason Creek intake performance

Meeting Materials

The following documents were provided to HSC members in advance of this meeting:

- August meeting agenda
- June M&E Progress Report
- Nason Creek Rotary Trap summary
- White River Rotary Trap summary

Appendix A: 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 [NWFSC]).

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 OLAF
- 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 OLAF 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.