

## PRCC Hatchery Subcommittee Meeting

Wednesday, June 21, 2017

GPUD Wenatchee Office

Meeting Summary

### PRCC HSC Members

Matt Cooper, USFWS

Bill Gale, USFWS

Peter Graf, GPUD (alt)

Keely Murdoch, Yakama Nation

Todd Pearsons, GPUD

Mike Tonseth, WDFW

Kirk Truscott, CCT

### Other Participants

Bryan Ishida, YN (for agenda item 1)

Deanne Pavlik-Kunkel, GPUD

Pat Wyena, Wanapum Tribe (via phone)

Elizabeth McManus, Facilitator (via phone)

Andy Chinn, Facilitator (via phone)

### Decisions

The HSC approved the March and May meeting summaries as amended, pending NOAA approval.

### Actions

1. YN will look at depth profiles in the trapping area for a sense of the best placement of the White River rotary traps.
2. YN will write up and circulate the proposed changes to White River rotary trapping activities.
3. HSC members will consider alternative methods of calculating juvenile survival of hatchery fish to the Priest Rapids project – and what is required to have sufficient confidence to use it for the purposes of estimating NNI.
4. HSC members will check in with their PRCC representatives as needed for updates on the Coho NNI decision.
5. HSC members will monitor the PRCC discussion around the Coho NNI and will take up the draft SOA once the PRCC's direction becomes clearer.

#### **I. White River Smolt Trap**

- A. Trapping Efficiency** – In 2008-2009, YN operated the 8-foot rotary trap at high flows and the 5-foot trap at low flows, in an attempt to increase efficiency. However, this scenario required four different flow efficiency models. YN decided that a single model would be better for the use of marked group releases and since 2010 YN has only operated the 5-foot trap. The flow efficiency model has improved but numbers of fish are low and with current low returns of spring Chinook the numbers are not likely to improve. Given this situation, YN proposes running both traps simultaneously but not use an efficiency model for the larger trap. The larger trap would only be used to augment the fish numbers for the smaller trap. This will allow YN to retain data from the smaller trap, build on the existing models, and work within its permits. YN does not anticipate additional cost associated with this approach. YN would like to test the approach this summer.
- GPUD stated its three interests related to the rotary trapping proposal: 1) Maintain

the existing long term data set. 2) ensure that the proposed activities fit within existing permits 3) Implement the revised trapping for no additional cost. GPUD also wants to. increase the number of fish trapped.

- YN noted that the activity falls within existing permits, which allow for handling of 20% of the White River population. Trapping efficiencies are currently extremely low and it is highly unlikely that YN will even approach 20% handling (WDFW added that efficiency of Agency trapping on the Chiwawa River is very high but is still under 20%).
- GPUD commented that if fish are caught in the 8-foot trap and released below the 5-foot trap, the estimate will be biased. Trap location will be a key factor in reducing risk for this bias.
- WDFW suggested running both traps during spring of 2018 in addition to this summer and fall, in order to capture the yearling component. WDFW is fully supportive of increasing the sample size of White River fish.

#### **B. Next Steps**

- YN will look at depth profiles in the trapping area for a sense of the best placement of the rotary traps.
- YN will write up and circulate the proposed changes to the White River rotary trapping activities.

### **II. Updates and Meeting Summary Review**

- A. HC** – The HC discussed the draft 2016 CPUD and GPUD Hatchery M&E Annual Report. The HSC is following the same review path for the document as the HC and comments on the document are due Monday, July 17. During the HC meeting, NOAA provided an update on the consultation process for unlisted programs; one of the questions for PUDs is whether anything would prohibit them from using the 4D process rather than Section 10 permitting. *Note: See Appendix A for summary of joint HSC-HCP discussion during March June meeting.*
- B. Fall Chinook Working Group** – The Hanford Reach flow protection program ended on 6/20. It was a notably long program period due to low temperatures.
- C. March and May Meeting Summaries** – HSC members approved the March and May meeting summaries as amended, pending NOAA approval.

### **III. Coho NNI**

- A. Priest Rapids to Rock Island Survival** – Per the request at the June HSC meeting, GPUD presented research on adult conversion between Priest Rapids and Rock Island and how that conversion could be accounted for in project returns. GPUD calculated the adult Coho conversion rate from Priest Rapids to Rock Island, juvenile hatchery Coho survival from Leavenworth to Rock Island, and juvenile hatchery Coho survival from Winthrop to Rocky Reach. The summary spreadsheet is available [here](#).
  - USFWS noted that the calculation for Coho NNI should be consistent with the NNI calculation for other species. USFWS recommended using GPUD’s revised data during the next recalculation period so all species can be treated consistently.

- YN commented that in most years, Priest Rapids adult fish counts have been lower than Rock Island fish counts and it is unclear which data set is more accurate. Given the proximity to Priest Rapids Hatchery, the Priest Rapids counts might be Coho miscounted as jacks. YN also does not support an NNI methodology for Coho that is separate from all other species. This could set a precedent for calculating NNI for all other species, which will require further conversation.
- GPUD noted that the HSC specifically requested that GPUD look at more accurate data for calculating Coho NNI and there is nothing that prevents use of the most accurate, scientifically defensible data and calculation available. The choice before the committee is whether to 1) use more accurate estimates, or 2) produce estimates that are more consistent with the previous recalculation methods. GPUD favors the use of a more accurate estimate and intends on pursuing more accurate estimates of NNI during the next hatchery recalculation.
- CCT commented that additional studies may be required before the next recalculation, before all parties are comfortable changing the methodology.

**B. Suggested Revisions to Coho NNI SOA** – YN stated that its recommended addition of background language from the settlement agreement is important context for the draft SOA.

- GPUD commented that the draft SOA was deliberately kept basic because otherwise the amount of background context (for example, previous related SOAs) would be too cumbersome. For example at least 3 SOAs involving coho have been approved by the PRCC since the settlement agreement. One of those SOAs involves using spring Chinook to estimate coho survival through the Priest Rapids Project Area.
- YN commented that using spring Chinook as a surrogate for estimating coho survival was inconsistent with the settlement agreement and that discussions of this issue would be discussed within the PRCC.
- CCT noted that the SOA is premature until the PRCC meets on 6/28.

**C. Next Steps**

- HSC members will consider alternative methods of calculating juvenile survival of hatchery fish to the Priest Rapids project – and utility for use for the purposes of estimating NNI.
- HSC members will check in with their PRCC representatives as needed for updates on the coho NNI decision.
- HSC members will monitor the PRCC discussion around the Coho NNI and will take up the draft SOA once the PRCC direction becomes clearer.

**IV. Wrap Up and Next Steps**

**A. Next Meeting:** Wednesday, July 19, 2017

**B. Potential Agenda Items:**

- Coho NNI
- White River rotary trap

### **Meeting Materials**

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

- June meeting agenda
- Draft May meeting summary
- Draft SOA on Coho NNI
- March White River rotary trap summary
- March Nason Creek rotary trap summary
- Draft 2016 CPUD and GPUD Hatchery M&E Annual Report

## Appendix A: Joint Agenda Item from June 2017 HCP-HC Meeting

### A. USFWS Bull Trout Consultation Update (Matt Cooper)

Matt Cooper said Karl Halupka (USFWS) has no progress to report on bull trout consultations. Emi Kondo asked who she should coordinate with at USFWS regarding the Methow steelhead consultations. Bill Gale said Kondo should coordinate with Sierra Franks.

### NMFS Consultation Update (Brett Farman/Emi Kondo)

#### *Unlisted Programs*

Emi Kondo said she is providing an update on consultation for the unlisted programs in the upper Columbia River. The programs are Wenatchee summer Chinook salmon, Chelan Falls summer Chinook salmon, Wells summer Chinook salmon, Priest Rapids fall Chinook salmon, Methow summer Chinook salmon, and Ringold upriver bright fall Chinook salmon. She said the Ringold program will likely be a direct consultation with the U.S. Army Corps of Engineers, and her update today focuses on pathways to receive Endangered Species Act (ESA) coverage for the other five programs.

#### *Section 10 vs Section 4(d) Coverage*

Kondo said NMFS General Counsel favors using the Section 4(d) process for ESA coverage for these programs. She said the mechanism for receiving 4(d) coverage is that applicants provide NMFS with a detailed program plan and NMFS reviews then approves it. She said NMFS can also help develop the plan and one benefit of 4(d) is that applicants develop and have more control over their own programs. She said the other option for ESA coverage for these programs is a Section 10 incidental take permit. She said a Section 10 direct take permit has been used for the Methow spring Chinook salmon program and the process would be similar for Methow steelhead.

Todd Pearsons asked what the differences are in legal coverage, application material, and timeline between Section 10 and 4(d). Kondo said the legal difference is that Section 4(d) is more protective and provides a wider range of actions a program can operate by (such as a comprehensive plan), whereas Section 10 permits are very specific and operation would have to comply with permit conditions. She said application material is the same (comprehensive Hatchery and Genetic Management Plan [HGMP] for the public to review), and she said timelines for Section 4(d) are more flexible than Section 10, specifically when considering changing program operations, a situation in which Section 10 could result in additional consultation.

Brett Farman said the coverage mechanism for Section 4(d) and Section 10 is different in that Section 10 allows take under permitted actions to be exempt, whereas Section 4(d) allows for categories of actions meeting certain criteria not to be considered take. He said Section 4(d) is more

flexible and would have fewer conditions. Kondo added that Section 4(d) is a continuing form of coverage compared to Section 10 which is an expiring form of coverage, and extending Section 10 coverage in lieu of a new permit is a legal vulnerability.

Alene Underwood asked if there is an existing exemption under ESA that would already apply to these unlisted programs. Farman said the exemptions are broad categories of actions (such as forestry, fisheries, and hatchery), and approved actions under these categories do not count as take. Kondo said NMFS can write a letter describing program coverage for 4(d) permit holders, specifying requirements such as monitoring requirements.

Underwood asked if a National Environmental Protection Act process applies to Section 4(d) coverage. Kondo said yes, it applies to both Section 4(d) and Section 10. Underwood asked how consultation with USFWS occurs through these permit pathways. Bill Gale said NMFS is the action agency, so NMFS consults with USFWS regarding bull trout.

Mike Tonseth said although the HCPs specify that NMFS will issue Section 10 coverage, permit applicants should consider using Section 4(d) because it affords the same level of protection and requirements, but is more flexible. He said unlisted programs do not change very much except during recalculation, so only reconsulting when needed (such as during a major program change) would be preferable to reconsulting every 10 years as would occur with Section 10.

Greg Mackey asked if permit applicants for the upper Columbia River unlisted programs could be issued different forms of coverage—some receiving Section 10 and some Section 4(d). Tonseth said the Biological Opinion (BiOp) would consider all six programs, but the permit coverage types can be different. He said the Ringold program, for example, will have Section 7 coverage because the U.S. Army Corps of Engineers is the action agency. Pearsons asked what materials (in addition to HGMPs) NMFS needs from permit applicants for pursuing Section 4(d) or Section 10 coverage. Kondo said she is currently drafting the proposed action section of the unlisted programs BiOp, which will then be reviewed by the permit applicants. Pearsons asked if the HGMPs will need to be revised. Tonseth said all the information necessary for writing the proposed action has been submitted to NMFS and the next step is determining whether any sufficiency letters have been issued by NMFS stating that HGMPs and their supplemental information are sufficient. Pearsons said Grant PUD's unlisted programs have been operating under an extension letter. Underwood said she does not believe Chelan PUD received a sufficiency letter for its programs. Kondo said she will move forward with the BiOp assuming no sufficiency letters have been issued and she will distribute the proposed action for a 2-week review soon. Pearsons said Grant PUD may need more than 2 weeks for review.

Gale asked Kondo to consider, while she is drafting the proposed action, that the USFWS will be using the language in the proposed action to begin considering how the consultation will impact

bull trout. Gale said the USFWS will need the HGMPs and proposed action to begin consultation soon, so that programs can receive coverage before December 2017. Tonseth said the Ringold program is the only one requiring coverage by December 2017. Tonseth suggested that Kondo discuss the proposed action with Karl Halupka, as he may have started a gap analysis for this consultation that could be helpful.

Hatchery Committees representatives present generally stated that they prefer pursuing Section 4(d) coverage due to its flexibility, and Chelan PUD, Douglas PUD, and Grant PUD, as permit applicants, indicated they need to discuss coverage options internally and look at language in the HCP and consult legal counsel. Tonseth said if all the HCP signatories are amenable to using Section 4(d) coverage, amendments to the HCPs could be written. Tom Kahler added the Wells HCP states that hatchery programs should have Section 10 coverage; however, the HCP also mentions Section 4(d) coverage, so further assessment and discussion about coverage options is warranted.

### **Review Hatchery M&E Plan Objectives (All)**

Tracy Hillman said the first objective to discuss is Objective 6, specifically, brood year stray rates.

Mike Tonseth suggested not assigning a target, but using the brood year stray rates as an indicator and management tool to help guide programs. Greg Mackey agreed and said in some cases, there are a number of actions a program could implement if a brood year stray rate is so high that it is impeding recovery efforts, and in other cases, there are limited actions available to make improvements in homing depending on the circumstances under which fish are released. Tonseth agreed and said he is concerned about setting an arbitrary target that is not actively managed for.

Hillman shared the draft Chelan PUD and Grant PUD Hatchery M&E Annual Report (which Sarah Montgomery distributed to the Hatchery Committees on June 15, 2017), and showed that Tables 5.34, 5.35, and 5.36 address stray rates. Specifically, Table 5.36 includes brood year stray rates, and the only proposed change would be deleting the language about the 5% target—the information about brood year stray rates would still be reported in the annual M&E report and can be viewed and assessed.

Kirk Truscott said without a target, there is potential for one party to believe there is an issue with brood year stray rates, but other parties may disagree. He said not having a target reduces direction and the potential to resolve these issues. Hillman said there is currently a brood year stray rate target of 5%, and some brood year stray rates are vastly over the target; however, this has not been a primary concern for the Hatchery Committees compared to the other stray rate targets. Bill Gale said brood year stray rate targets have been discussed extensively and some program changes have been made to address these high rates. Keely Murdoch said, for example, the intake and other items at the Chiwawa Acclimation Facility have been changed. Tonseth said those discussions and decisions were based mainly on recipient and between-population strays, not brood year stray rates.

Murdoch asked if removing the brood year stray rate target would affect discussions about the differences between homing and straying. Hillman said he does not believe it affects those discussions, because the tables in the annual report still includes both homing and straying rates. Gale said he is concerned that a program could achieve the recipient stray rate targets, but in a way that elevates the number of fish throughout all recipient targets. He said he does not favor a numbered target, but brood year stray rates are important to track. He proposed setting a qualitative target (e.g., "minimization") instead of a quantitative target. Brett Farman said there is still value in having a threshold value for context during discussions. He said removing the target altogether removes action incentives if there are continuing issues.

Mackey suggested thinking about brood year stray rates in a more integrated way, by considering escapement goals, the ratio of hatchery and wild fish on spawning grounds, and homing. He said homing is a tough metric to focus on, and broader management targets should be considered. For example, are the right number of fish in specific spots in the basin at the right ratio? Are released fish posing a risk? Is program size the right size so that not too much adult removal occurs?

Hillman said the current 5% brood year stray rate is not based on literature and is not even included in the text of the M&E Plan. He said it is included in the table and he thinks it was added to make statistical analyses easier. He said language should be added discussing the importance of this metric, minimizing strays, maximizing homing, and how the metric is related to other metrics with which it should be evaluated. He said he will draft this language for the Hatchery Committees to review.

Todd Pearsons advised against using the term "minimization" because it could put managers in a bad position, and suggested instead to integrate the stray rate variables and write new language.

Truscott suggested keeping the 5% brood year stray rate target and explaining in the annual report each year that it is not a management concern. Tonseth said this language can be added to the annual report regardless of whether the target remains. Tom Kahler said one concern for keeping the brood year stray rate target is how parties outside of the Hatchery Committees may interpret brood year stray rates not meeting the target. Truscott said his opinion is that it is preferable to have a target and explain why it was missed and why it is not biologically significant, rather than having no target at all. Catherine Willard added that in discussions about straying in the Methow basin, the questions regarding brood year stray rates were not about whether or not the target was exceeded; there were bigger concerns that were apparent with or without a target for comparison.

Tonseth suggested inserting an expectation that brood year stray rates fall in line with other metrics. He said, for example, in the Chewuch River, brood year stray rates are high and there are also facility limitations. Improvements to homing fidelity have been discussed, and a study design for adult translocation is one potential way to address the homing concerns. Hillman said setting a target for

brood year stray rates would be difficult because Ford's work indicates that natural-origin stray rates in the Wenatchee basin range from 0 to 99%, and Chiwawa spring Chinook salmon from 1989 to 2004 had higher than 5% stray rates in all years except years when the program was not operating (Ford et al. 2015<sup>1</sup>). Truscott said he is wary of a situation where discussions about brood year stray rates are not considered because there is no longer a target. Gale said he thinks there is a stray problem in the Chiwawa River, and despite program changes and progress, if the brood year stray rate continues to be as high as 30% and other targets are being met, it should be a concern and should be discussed. Tonseth said brood year stray rates are calculated retrospectively and should be not relied on too heavily as a primary metric. Willard agreed and said return year data are better for assessing stray rates. Hillman summarized that he would draft new language for brood year stray rates under Objective 6 and provide a revised version for Hatchery Committees review.

Hillman said the next monitoring indicator objective in Table 1 of the M&E Plan for discussion is "determine if hatchery fish were released at program targets." He said these data are summarized in Appendix 5; however, k-factor targets are not included in the appendix. Mackey said appropriate k-factors for stocks included in Appendix 5 are unknown (and standard K-factors that have previously been used have been found to be inappropriate for the some stocks in the Upper Columbia). Tonseth agreed and said there are many fish culture differences; however, the expectation that the k-factor of hatchery fish is close to the k-factor for wild fish would be a reasonable target.

Hillman asked if there is anything in the M&E Plan that should be changed regarding this objective. Hillman pointed out that Appendix 5 lists the FPP target for Nason Creek at 18 to 24 FPP; however, in the Nason Creek chapter of the annual report, the program is compared to a target of 24 FPP. Pearsons said the Nason Creek program does not have a typical FPP goal because the growth profile is managed to reduce precocious maturation up to February. He said it is more accurate to compare the program to the target range of 18 to 24 FPP.

Hillman asked if the Chelan Falls summer Chinook salmon program has a range target for the same reason. Willard clarified that the target was changed to 13 FPP in the final 2017 Broodstock Collection Protocols and this target should be updated in Appendix 5. Hillman said he will make this update and distribute a revised version to the Hatchery Committees.

Hillman said the last objective in Table 1 for discussion is the monitoring indicator, "provide harvest opportunities when appropriate." Hatchery Committees representatives present voiced no changes or concerns for this objective.

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<sup>1</sup> Ford, M., A. Murdoch, and M. Hughes, 2015. Using parentage analysis to estimate rates of straying and homing in Chinook salmon (*Oncorhynchus tshawytscha*). *Molecular Ecology* 24:1109-1121.

Hillman said Table 2 of the M&E Plan addresses program objectives, indicators, and goals for segregated harvest augmentation hatchery programs including monitoring indicators. The monitoring indicator objectives in this table that have not been previously discussed include "determine if hatchery survival meets expectations," "determine if hatchery fish were released at program targets," and "provide harvest opportunities when appropriate." Hatchery Committees representatives present voiced no changes or concerns for these objectives.

Pearsons asked if this document will replace the 2013 update version. Hillman said yes, this document will be called Hillman et al. 2017.

Tonseth stated there will be no change to the genetic objectives because those updates are still pending.

### **Brood Year Stray Rate Targets (All)**

The brood year stray rate targets discussion was covered under the Hatchery M&E Plan Objectives review in section III-C.

