

Memorandum

To: Wells, Rocky Reach, and Rock Island
HCP Hatchery Committees

Date: July 25, 2017

From: Tracy Hillman, HCP Hatchery Committees Chairman

cc: Sarah Montgomery, Anchor QEA, LLC

Re: Final Minutes of the June 21, 2017, HCP Hatchery Committees Meeting

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Hatchery Committees meeting was held at the Grant PUD office in Wenatchee, Washington, on Wednesday, June 21, 2017, from 9:00 a.m. to 12:00 p.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

- Andrew Murdoch (Washington Department of Fish and Wildlife [WDFW]) will write an overview of proposed expanded sampling at the off-ladder fish trap (OLAFT) at Priest Rapids Dam (Item I-A). *(Note: this item is ongoing.)*
- Hatchery Committees representatives will review McLain Johnson's (WDFW) Genetic Monitoring Update (Item I-A). *(Note: Sarah Montgomery distributed the update on April 6, 2017. This item is ongoing, and the update will be discussed at an upcoming Hatchery Committees meeting [date TBD].)*
- Chelan PUD, Douglas PUD, and Grant PUD representatives will discuss internally HCP requirements and coverage options for the unlisted programs in the upper Columbia River basin (Item III-B).
- Charlene Hurst will distribute the draft proposed action for Methow steelhead programs to the Hatchery Committees for a 2-week review (Item IV-A). *(Note: Hurst sent the draft to Sarah Montgomery, which she distributed to the Hatchery Committees on June 22, 2017).*
- Tracy Hillman will make the following revisions to the Monitoring and Evaluation (M&E) Plan for PUD Hatchery Programs (2013 Update): 1) draft footnotes for Table 1 regarding run timing, redd distribution, and spawn timing, and 2) revise Objective 6 (Items I-A and III-C).
- Tracy Hillman will revise fish-per-pound (FPP) targets in Appendix 5 of the Hatchery M&E Plan according to the 2017 Broodstock Collection Protocols (Item III-C). *(Note: Hillman made this revision and Sarah Montgomery distributed a revised Appendix 5 and compilation of Appendices 2-5 on June 23, 2017.)*
- Tracy Hillman will invite Jeff Jorgensen (National Oceanic and Atmospheric Administration) to an upcoming Hatchery Committees meeting to present and discuss Wenatchee River spring-

run Chinook salmon life-cycle modeling (Item V-A). (Note: Jorgensen plans to attend the Hatchery Committees August 16, 2017, meeting.)

- Tracy Hillman will distribute Jorgensen et al.'s draft chapter, "Wenatchee River spring-run Chinook salmon life-cycle model: hatchery effects, calibration, and sensitivity analyses" to the Hatchery Committees (Item V-A). (Note: Hillman sent the chapter to Sarah Montgomery, which she distributed to the Hatchery Committees on June 22, 2017.)

Decision Summary

- There were no decisions discussed during today's meeting.

Agreements

- There were no agreements discussed during today's meeting.

Review Items

- Sarah Montgomery sent an email to the Hatchery Committees on June 15, 2017, notifying them the Draft 2016 Chelan PUD and Grant PUD Hatchery M&E Annual Report is available for a 30-day review, with comments due to Tracy Hillman by July 15, 2017.
- Sarah Montgomery sent an email to the Wells Hatchery Committee on June 22, 2017, notifying them the Draft Proposed Action for the Winthrop National Fish Hatchery and Wells Complex Steelhead Programs is available for review, with comments due to Charlene Hurst by Thursday July 6, 2017.
- Sarah Montgomery sent an email to the Hatchery Committees on June 27, 2017, notifying them that National Marine Fisheries Service's (NMFS) draft proposed action for the upper Columbia River unlisted programs is available for review, with comments due to Emi Kondo (NMFS) by July 17, 2017.

Finalized Documents

- There are no documents that have been recently finalized.

I. Welcome

A. Review Agenda, Review Last Meeting Action Items, and Approve the May 17, 2017, Meeting Minutes (Tracy Hillman)

Tracy Hillman welcomed the Hatchery Committees and asked for any additions or changes to the agenda. Catherine Willard added a Chelan Falls Broodstock Collection update, and Hillman added

updates about the Draft 2016 Chelan PUD and Grant PUD Hatchery M&E Annual Report and the Independent Scientific Advisory Board's planned visit to the upper Columbia River basin.

The Hatchery Committees reviewed the revised draft May 17, 2017, meeting minutes.

Sarah Montgomery said there are some outstanding comments to be discussed, which the Hatchery Committees reviewed and revised. Hatchery Committees representatives present approved the draft May 17, 2017, meeting minutes, as revised.

Action items from the Hatchery Committees meeting on May 17, 2017, and follow-up discussions were addressed (*note: italicized text below corresponds to agenda items from the meeting on April 19, 2017*):

- *Andrew Murdoch (Washington Department of Fish and Wildlife [WDFW]) will write an overview of proposed expanded sampling at the off-ladder fish trap (OLAFT) at Priest Rapids Dam (Item I-A).*

This item is ongoing. Mike Tonseth said the overview may be completed in July 2017.

- *Hatchery Committees representatives will review McLain Johnson's (WDFW) Genetic Monitoring Update for discussion at the Hatchery Committees June 21, 2017, meeting (Item I-A).*

Sarah Montgomery distributed the update on April 6, 2017; Mike Tonseth postponed the update via email on June 13, 2017. Tonseth said this item may be discussed at the August 16, 2017, Hatchery Committees meeting.

Regarding genetic sampling in the Wenatchee River and broodstocking in the Methow River, Todd Pearsons asked if genetic samples collected and analyzed for that project could also be used as the genetic analyses needed to meet the M&E objective. Tonseth said he believes the same samples and analyses can be used to meet both objectives. Pearsons requested that WDFW also discuss whether samples that have already been collected and samples collected as part of ongoing collection plans can be used in the M&E genetic monitoring scheme. Tonseth said he will provide that information in addition to the broader genetic sampling discussion.

- *Tracy Hillman will draft footnotes for Table 1 of the Monitoring and Evaluation (M&E) Plan for PUD Hatchery Programs (2013 Update) regarding run timing, redd distribution, and spawn timing (Item II-F).*

This item is ongoing.

- *Sarah Montgomery will distribute Craig Busack's (National Marine Fisheries Service [NMFS]) 2013 document "Methow Basin Management Frameworks for Spring Chinook and Steelhead" to the Hatchery Committees (Item II-G).*

Montgomery distributed the document following the meeting on May 17, 2017.

II. Chelan PUD

A. Chelan Falls Broodstock Collection (Catherine Willard)

Catherine Willard reminded the Hatchery Committees that Chelan PUD is continuing their pilot project to collect summer Chinook salmon broodstock at the Chelan River Habitat Channel Water Conveyance Canal Outlet. She said the pilot project is included in the 2017 Broodstock Collection Protocols, which were approved by the Hatchery Committees. Willard said she wants to ensure that the approval of Broodstock Collection Protocols provides Hatchery Committees approval for the pilot project, and asked if anyone has questions about the project. Mike Tonseth asked if installing the trap and making it operational was delayed this year. Willard responded yes, and broodstock collection is scheduled to begin in the second week of July instead of the first week as planned. Bill Gale said surplus summer Chinook salmon from the U. S. Fish and Wildlife Service (USFWS) Entiat National Fish Hatchery (NFH) are identified as the backup broodstock source in case of a shortfall in collection. He asked if USFWS and Chelan PUD have discussed the logistics of this arrangement for 2017 and when fish would be transferred. Willard said nothing has been discussed in 2017 besides what is included in the Broodstock Collection Protocols. Tonseth said mid-August is the check-in point to decide if surplus fish from Entiat NFH will be needed. Gale said staff at Entiat NFH prefer to surplus summer Chinook salmon early, so it is important to communicate broodstock needs with as much notice as possible. Gale also said that the State and Chelan PUD had some disease concerns with receiving brood late in the return cycle in 2016 and asked if this was still a issue of concern. Willard said the fish Chelan PUD received from Entiat NFH in 2016 were in fine condition for broodstock needs.

B. Tumwater Dam Pacific Lamprey Passage Feasibility Study Update (Alene Underwood)

Tracy Hillman said Chelan PUD has been working on a feasibility study for lamprey passage at Tumwater Dam. Alene Underwood said the report on the feasibility study has been in review by Chelan PUD management. Underwood said one question from management was, "what is Chelan PUD's legal requirement regarding lamprey passage at Tumwater Dam?" Another was, "if a passage structure is constructed, what is the expected biological benefit?" Underwood said staff are currently working to address these questions. Particularly, staff are working on the following three items: 1) distributing the feasibility study as soon as possible, 2) determining regulatory nexus and requirements including off-license mitigation, 3) preparing a biological evaluation to assess lamprey presence in the study area including historical data and potential expected abundance.

Bill Gale said the USFWS has continuing concerns about approving operations at Tumwater Dam through the Broodstock Collection Protocols due to impacts to Lamprey at this facility. Further, he

said these impacts are directly related to Chelan PUD's Non-Target Taxa of Concern requirements in M&E plans. Gale urged Chelan PUD to release the feasibility study soon.

III. Joint HCP-HC/PRCC HSC

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.

B. 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.

C. 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. 2015¹). 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

¹ 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.

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.

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.

D. 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.

IV. Douglas PUD/WDFW/NMFS

A. Methow Steelhead Gene Flow (Greg Mackey/All)

Mike Tonseth said many discussions regarding Methow steelhead gene flow have taken place within the Joint Fishery Parties and in coordination meetings. Greg Mackey said the current plan includes moving the Douglas PUD 100,000 safety net steelhead release to the lower Methow River, where the fish used to be released. Keely Murdoch asked why the release was moved to Methow Fish Hatchery (FH). Tonseth said the release was moved to Methow FH to increase fidelity to the facility for gene flow management; however, steelhead do not reliably enter the volunteer channel and trap at Methow Hatchery nor ascend the ladder and go into the pond at WNFH. Tonseth said the Methow

safety-net program is spring-acclimated in contrast to the Winthrop NFH program, which is fully acclimated. He said even the Winthrop NFH steelhead do not reliably return to the fish hatchery. Michael Humling (USFWS) said fine scale analyses of returning fish show that quite a few fish return to Spring Creek (the outlet of Winthrop NFH), but very few fish make it to the hatchery ponds.

Mackey said the latest gene flow plan includes areas for conservation zones and fishery zones. Tonseth said the terms may be revised. Bill Gale suggested the terms "natural production emphasis area" and "Methow mainstem," for referring to the differential gene flow management zones. Tonseth said management activities such as adult removal would occur in the Methow mainstem (previously called the fishery zone). Mackey said another item for discussion includes the proportion of hatchery-origin spawner (pHOS) targets for the two zones. Most recently discussed, the natural production emphasis zone would have a pHOS target of 0.25 and the overall basin target would be 0.5 (so the pHOS in the Methow mainstem zone could be higher than 0.5 as long as the overall basin target is met). Charlene Hurst suggested using a proportion of natural influence (PNI) target of 0.67 for the basin, instead of having a pHOS target. Tonseth said using a PNI instead of pHOS target for the basin makes more sense for meeting basin-wide objectives and in cases of low productivity.

Hurst said the proposed gene flow model includes weighting the fishery (Methow mainstem) zones at 30% of the population and the natural production emphasis zones at 70% of the population, which allows for higher pHOS in the Methow mainstem (such as a pHOS of 0.8 resulting in a basin-wide PNI of 0.71). She said one caveat to this is that the safety net program brood would have to be 100% from the conservation program, and she is not certain how often that is feasible. Mackey said that is not always feasible, and depends on whether broodstock is collected in the spring or in the fall. Tonseth agreed and said there is not enough mark differentiation to identify specific elements of programs. Tonseth said he recently distributed alternatives for marking so that adult returns to the conservation program could be better identified. Gale asked if all conservation program fish are marked with a coded wire tag (CWT). He said the program does not require many fish, so angling in the lower Methow River and transporting fish to Wells FH could work for broodstock collection instead of relying on broodstock collection at Wells Dam. Mackey said he thinks trapping at Wells Dam would achieve the desired number of broodstock, thus reaching a high percentage of safety net program source being from the conservation program. Tonseth said one concern for fall collection at Wells Dam is intercepting Wenatchee basin fish that have the same markings. Gale suggested reading the CWTs when fish are spawned and then backfilling with additional broodstock collection in the spring as needed. Truscott added that the passive integrated transponder (PIT) tag array in the lower Methow River can also be used to determine how many out-of-basin strays are in the area where broodstock is collected.

Gale said it would be reasonable to set the proportion of natural-origin broodstock target for the Winthrop and Twisp conservation programs at 0.9. Hurst said she will use those pNOB values in consultation. Tonseth said with the current marking scheme, programs can acquire as much conservation hatchery-origin broodstock for the safety-net program as possible (i.e., almost 100%).

Hurst explained the the 25% pHOS in the conservation zone would only apply when the total spawning abundance in the Methow basin exceeds 500 spawners, in which case the pHOS in the conservation zone would be divided between programs such that conservation programs would have a pHOS target of 0.2 and the safety-net program would have a pHOS target of 0.05. Hurst said this would result in a basin-wide PNI of equal to or greater than 0.67 when the number of total spawners is greater than 500 fish, with the pHOS in the "fishery" zone being flexible as long as the basin-wide PNI target is met. Hurst also confirmed that the Methow FH release is being moved to a release location at a lower bridge and those fish will be reared at Wells FH. Gale asked if the 500 total spawners minimum is only natural-origin spawners. Mackey said no, the aggregate of hatchery plus wild spawners should be 500 fish, and when below 500 fish, the basin is managed for an escapement target of 500.

Tonseth summarized that PIT tag detections, viable salmon population (VSP) monitoring at Priest Rapids Dam, and maximizing PIT tags in steelhead will help managers track steelhead throughout the basin and maximize broodstock collection at favorable locations. Matt Cooper asked how the gene flow goals would be assessed. Tonseth said 5-year geometric means would be calculated, similar to the spring Chinook salmon programs. Cooper asked if every facility would perform parental based tagging analyses as part of this plan. Tonseth said yes. He also stated that Charlie Snow (WDFW) performs supplemental PIT tagging at Wells Dam during broodstock collection and run sampling. He summarized that maximizing tags and analyses for steelhead and maximizing steelhead trapping at Wells Dam to increase sample sizes will help inform managers where steelhead are going in the basin. Mackey said the lower Methow River PIT tag array is has low detection efficiency. WDFW is re-locating this array from its current location at Miller Hole. A new array will be installed at the new WDFW access site on the lower Methow.

Hurst said due to different pHOS targets for the conservation and safety-net programs, there is a need to differentiate between Wells FH mainstem releases from the safety-net releases in the Methow River. Tonseth said he is not sure if the juvenile PIT tag rate is high enough to address that question; however, tagging at Priest Rapids Dam and Wells Dam as part of the run composition assessment could improve differentiation. Tonseth said further discussion is warranted about how steelhead are marked in the upper Columbia River and how to maximize flexibility to implement and manage programs.

Hurst said regarding release sites for consultation, please provide the furthest upstream site so it can be factored into evaluating ecological effects, as well as the highest expected release number. Murdoch asked if all release sites need to be identified. Tonseth said no, and this topic and the marking topic can be discussed at the next coordination call.

Hurst said she will draft the proposed action for review and distribute it to the Hatchery Committees. Gale asked if the proposed action will be exclusive to Douglas PUD actions. Hurst said no, the proposed action will include Winthrop NFH actions in preparation for the BiOp. Sarah Montgomery clarified that the Wells Hatchery Committee will review the aspects of Hurst's plan pertaining to Douglas PUD actions.

V. HCP Administration

A. Hatcheries and Life Cycle Modeling (Hillman)

Tracy Hillman said Jeff Jorgensen and others have been working on a life-cycle model for Wenatchee River spring Chinook salmon, which includes a hatchery component. He said he asked Jorgensen if he would be interested in attending a Hatchery Committees meeting and presenting an overview of the model. Hillman said Hatchery Committees representatives could then provide questions and comments about Jorgensen's draft chapter describing the model (and Hillman has already provided some comments to Jorgensen). Hatchery Committees representatives present welcomed the idea of Jorgensen presenting the model, and Hillman said he would invite him to an upcoming meeting. Hillman said he will also distribute Jorgensen and others' draft chapter, "Wenatchee River spring-run Chinook salmon life-cycle model: hatchery effects, calibration, and sensitivity analyses," to the Hatchery Committees as background material.

Todd Pearsons said it would also be helpful for Jorgensen to share the comments he has received from the Independent Scientific Advisory Board (ISAB), and describe how he plans to incorporate those comments.

B. ISAB Visit (Hillman)

Tracy Hillman reminded the Hatchery Committees that the ISAB is visiting the upper Columbia River basin from July 19 to 21, 2017. He said the current plan is that they will take a 1-day field trip to both the Methow basin and the Wenatchee basin, and have 1 day for presentations and meetings.

C. Draft Hatchery M&E Annual Report (Hillman)

Tracy Hillman reminded the Hatchery Committees that the Draft 2016 Chelan PUD and Grant PUD Hatchery M&E Annual Report is available for a 30-day review, with comments due by July 15, 2017. Hillman said some sections of the report currently have placeholders. Specifically, he said 2016 data

that rely on scale readings are incomplete because scale readings are not yet complete. He said the sockeye juvenile section is also missing data and there are some issues with Okanogan summer Chinook salmon data in the Regional Mark Information System. WDFW and the Colville Confederated Tribes are working to fix CWT data.

Tonseth added that WDFW will not be able to participate in Hatchery Committees tasks if Washington State does not have an approved budget by July 1, 2017, until the budget is approved.

D. Jeff Korth Retirement (Hillman)

Tracy Hillman reminded the Hatchery Committees that Jeff Korth (WDFW) is retiring at the end of June. Hatchery Committees representatives and alternates present collectively expressed best wishes for Korth in his retirement.

E. Next Meetings

The next Hatchery Committees meetings are on July 19, 2017 (Grant PUD), August 16, 2017 (Grant PUD), and September 20, 2017 (Grant PUD).

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
Catherine Willard*	Chelan PUD
Alene Underwood	Chelan PUD
Greg Mackey*	Douglas PUD
Tom Kahler*	Douglas PUD
Todd Pearsons‡	Grant PUD
Peter Graf‡	Grant PUD
Deanne Pavlik-Kunkel‡	Grant PUD
Bill Gale*	U.S. Fish and Wildlife Service
Matt Cooper*	U.S. Fish and Wildlife Service
Michael Humling	U.S. Fish and Wildlife Service
Brett Farman*†	National Marine Fisheries Service
Charlene Hurst*†	National Marine Fisheries Service
Emi Kondo†	National Marine Fisheries Service
Mike Tonseth*	Washington Department of Fish and Wildlife
Charlie Snow†	Washington Department of Fish and Wildlife
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