

Memorandum

To: Wells, Rocky Reach, and Rock Island HCP Hatchery Committees and Priest Rapids Coordinating Committee Hatchery Subcommittee Document Date: December 15, 2022

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

cc: Larissa Rohrbach, Anchor QEA, LLC

Re: Final Minutes of the November 16, 2022, HCP Hatchery Committees and PRCC Hatchery Subcommittee Meetings

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan Hatchery Committees (HCP-HCs) and Priest Rapids Coordinating Committee's Hatchery Subcommittee (PRCC HSC) meetings were held in person at Douglas PUD Headquarters in East Wenatchee, Washington, on Wednesday, November 16, 2022, from 10:00 a.m. to 1:00 p.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

Long-term

Joint HCP-HCs and PRCC HSC

- Kirk Truscott will work with Confederated Tribes of the Colville Reservation (CTCR) staff to develop a model that addresses the probability of encountering natural-origin Okanogan River spring Chinook Salmon at Wells Dam (Item I-A). *(Note: This item is ongoing; expected completion date to be determined.)*
- Kirk Truscott will determine the number of scales that should be collected from spring Chinook Salmon at Wells Dam for elemental signature analysis to discern Okanogan River spring Chinook Salmon from Methow River spring Chinook Salmon (Item I-A). *(Note: This item is ongoing; completion depends on the outcome of the previous action item.)*
- Keely Murdoch and Mike Tonseth will obtain estimates of pre-spawn mortality from Andrew Murdoch to update the retrospective analysis for Wenatchee spring Chinook Salmon (Item I-A). *(Note: This item is ongoing; expected completion date to be determined)*
- Members of the HCP-HCs and PRCC HSC will provide feedback to the Washington Department of Fish and Wildlife (WDFW)-revised version of questions on recalculation for Policy Committees (Item I-A). *(Note: This item is ongoing.)*

Near-term (to be completed by next meeting)

Joint HCP-HCs and PRCC HSC

- Todd Pearsons and Catherine Willard will revise Grant and Chelan PUD's draft Statements of Agreement (SOAs) on Sockeye Salmon obligations for approval in an upcoming meeting (Item I-A). *(Note: This item is ongoing.)*
- Mike Tonseth will work with Matt Cooper to distribute an analysis showing feasibility of the Methow spring Chinook Salmon Outplanting plan based on historical run size data and proportionate natural influence (PNI) targets (Item II-A).
- HCP-HCs and PRCC HSC members will review the 2017 Methow Spring Chinook Salmon outplanting plan and provide comments to Mike Tonseth by Friday, December 9, 2022 (Item II-A).
- Bill Gale will invite Greg Fraser to the January meeting to present on redd superimposition in the Entiat River (Item II-B).
- Larissa Rohrbach will share the Broodstock Collection Protocols using OneDrive for co-authoring (Item II-C).
- Tracy Hillman will provide the timeline for the next reporting milestones for the HCP-HCs and PRCC HSC (Item I-A).

PRCC HSC

- Rod O'Connor will share Grant PUD's emergency release plan for the Carlton Acclimation Facility for review by the PRCC HSC (Item III-A).

Decision Summary

- None.

Agreements

- None.

Review Items

- Douglas PUD's draft *Implementation of Comprehensive Monitoring and Evaluation of Wells Hatchery Complex Programs in 2023* was distributed on Tuesday, October 25, with comments and edits due by Wednesday, November 23, 2022.
- Grant PUD's draft *Priest Rapids Hatchery Monitoring and Evaluation Annual Report for 2021 – 2022* was distributed on Monday, October 31, with comments and edits due by Wednesday, November 30, 2022.

Finalized Documents

- The comprehensive, 2022 Broodstock Collection Protocols was approved by email on November 16, 2022.

I. Welcome

A. Agenda, Approval of Past Minutes, Action Item Review

Tracy Hillman welcomed the HCP-HCs and PRCC HSC, reviewed the agenda, and asked for any additions or changes to the agenda.

Action items from the HCP-HCs and PRCC HSC meeting on October 19, 2022, were reviewed. *(Note: Italicized text below corresponds to action items from the previous meeting.)*

Long-term

Joint HCP-HCs and PRCC HSC

- *Kirk Truscott will work with Confederated Tribes of the Colville Reservation (CTCR) staff to develop a model that addresses the probability of encountering natural-origin (NOR) Okanogan River spring Chinook Salmon at Wells Dam (Item I-A). (Note: This item is ongoing; expected completion date to be determined.)*
Truscott said the work on this issue will not be resolved prior to drafting the 2023 Broodstock Collection Protocols.
- *Kirk Truscott will determine the number of scales that should be collected from spring Chinook Salmon at Wells Dam for elemental signature analysis to discern Okanogan River spring Chinook Salmon from Methow River spring Chinook Salmon (Item I-A). (Note: This item is ongoing; completion depends on the outcome of the previous action item.)*
- *Keely Murdoch and Mike Tonseth will obtain estimates of pre-spawn mortality (PSM) from Andrew Murdoch to update the retrospective analysis for Wenatchee spring Chinook Salmon (Item I-A). (Note: This item is ongoing; a presentation will be given in early 2023)*
- *Members of the HCP-HCs and PRCC HSC will discuss potential hatchery management changes for rearing and release following completion of the 10-year Comprehensive Reports (Item I-A). (Note: This item is ongoing.)*

The PUDs are still working on finalizing the report. The next step will be to present results of the 10-year Comprehensive Report to the Committees. The Committees will then prepare an executive summary report, including recommendations for changes to hatchery management, in early 2023. The M&E Plan would be updated based on recommendations prior to the next 5-year statistical report, due in 2025. An SOA exists describing the intervals for statistical and comprehensive reporting. Tonseth noted the Committees have latitude to realign the schedule, for instance to adjust the timeframe on the comprehensive report for working through

recalculation. Pearsons said that was the intent of the original schedule in the SOA; however, the schedule hasn't been met.

- *Members of the HCP-HCs and PRCC HSC will provide feedback to the WDFW-revised version of questions on recalculation for Policy Committees prior to the next meeting (Item I-A). (Note: This item is ongoing.)*

Near-term (to be completed by next meeting)

Joint HCP-HCs and PRCC HSC

- *Todd Pearsons and Catherine Willard will revise Grant and Chelan PUD's draft Statements of Agreement (SOAs) on Sockeye Salmon obligations for approval in an upcoming meeting (Item I-A). (Note: This item is ongoing.)*
- *Mike Tonseth will work with Douglas PUD and Grant PUD to prepare a draft comprehensive version of the 2022 Broodstock Collection Protocols for approval by email prior to the next meeting (Item II-C).*

This item is complete; the 2022 BCPs were approved in today's meeting.

- *Mike Tonseth will work with Matt Cooper to distribute an analysis showing feasibility of the Methow spring Chinook Salmon Outplanting plan based on historical run size data and proportionate natural influence (PNI) targets (Item II-A).*
- Tonseth said he has not yet had a conversation with Cooper. A set of documents were distributed prior to today's meeting that provide the foundation for Tonseth and Cooper's analysis. This item will be discussed in today's meeting.
- *Mike Tonseth and Keely Murdoch will reach out to staff for historical information to support a discussion on effects of redd desiccation on Chinook Salmon productivity in the Methow River (Item II-B).*

This item will be discussed in today's meeting. This item is complete.

- *Grant PUD will provide a follow-up on Carlton Acclimation Facility (AF) release approaches (Item III-A).*

This item will be discussed in today's meeting. This item is complete.

Rock Island/Rocky Reach HCP-HCs

- *Catherine Willard and Larissa Rohrbach will convene the Hatchery Evaluations Technical Team (HETT) to discuss comparisons between approaches for estimating Wenatchee steelhead escapement (Item V-A).*

The HETT will convene today. This item is complete.

II. Joint HCP-HC and PRCC HSC

A. Methow Chinook Salmon Adult Outplanting

Background materials supporting today's discussion on Methow spring Chinook Salmon Outplanting were sent just prior to the meeting, including:

- The original plan and backup analysis.
- A draft version of an updated outplanting analysis, originally prepared by Michael Humling (USFWS) in 2020, to evaluate effects on PNI.
- The March 18, 2020 meeting minutes, which summarize Humling's analysis and discussion around the permit sideboards and options for outplanting.

The analysis Humling worked on was most focused on the potential effect of outplanting Methow Hatchery females, while retaining Methow Hatchery males for broodstock, because males can be used multiple times whereas hatchery females could only contribute to one cross and their estimated contribution would be easier to estimate. This analysis would be the starting point for further discussion with Charles Frady (USFWS) and Matt Cooper.

Mike Tonseth said an assessment that hasn't been made available yet took the 2017 plan and applied it to the previous 10 years to identify when escapement would have been large enough to make an adult outplanting strategy possible. The outcome was that there was no scenario when that plan would have worked. A contributing factor was that the ability to manage adults in the basin is limited to adults collected at the hatchery; there are a number of hatchery adults remaining in the environment contributing to proportion of hatchery origin spawners (pHOS) and driving PNI down.

Bill Gale said USFWS' concern is if Methow Hatchery adults are pulled away from broodstock collection for translocating, that will pull adults away from Winthrop National Fish Hatchery (WNFH), which could have a cascading effect on driving down PNI under the multi-population PNI approach, which was built into the permit. Use of the WNFH returns for crosses at WNFH are weighted differently in the multipopulation PNI model than Methow Hatchery returns used for crosses at WNFH. Gale said there may have been enough adults to support outplanting in 2022. Tonseth said initial questions to answer were already outlined in the 2017 Plan and it's a good time to review whether they are still relevant or if there are different objectives.

Gale confirmed the plan considered translocating mostly females to manage effects to PNI in WNFH broodstock composition, and to minimize number of hatchery-by-hatchery crosses that could occur in the wild. Tonseth said the 2017 Plan suggested outplanting at a female:male ratio of 1:0.2 to ensure there would be enough males in the translocation arena to allow for enough mating pairs. Gale agreed that's a good point, but the plan should not identify a static number, but rather should respond to return rates being observed at PRD. Gale said they should only translocate males if there

are not going to be enough NOR males. Tom Kahler said the objective was based on spawning location, to try to put adults into areas where there are not enough spawners. Tonseth said yes, that was also based on the assumption that females are more likely to stay in the location where they've been transported. Frady said there is probably enough data from the past 5 years to see areas where there are enough spawners. Frady said it will also be important to identify areas where egg-to-fry survival was better. Tonseth said the 2017 Plan was for the Chewuch River specifically; it would be worth reconsidering outplanting to the upper Methow River too. Keely Murdoch said the original plan considered the Chewuch River because it was envisioned to be implemented in concert with Goat Wall juvenile acclimation in the upper Methow River. The outplanting has never been implemented and the future releases of juveniles from Goat Wall are in question.

Kahler said 2023 will be year 6 of our current 10-year permits. Regardless of where NOAA stands on PNI, it is timely to discuss what to do in times of surplus to create a suite of tools for dealing with each life stage included in the next permit renewal and consultation. Tonseth said he supports outplanting adults as a method to test to support re-consultation in the future.

Tracy Hillman suggested the Committees review the 2017 plan and discuss a broader perspective for a more comprehensive plan that includes eyed egg outplanting, juvenile acclimation and outplanting, and adult outplanting. Gale said if outplanting eggs is considered, it should be done with wild-by-wild eggs. Murdoch said it is unlikely we will have surplus wild-by-wild eggs; the surplus wild-by-wild eggs would be moved into other programs. Frady said since starting broodstock collection at Wells Dam in 2006, there have not been excess wild fish because staff make an effort to limit the number of wild females collected for brood.

Gale said it would be challenging to evaluate the success of egg outplants. Parental-based tagging could be done but there is often a mix of offspring. Tonseth said surplus eggs are usually kept separate until eggs are shocked and picked so subsampling could be done. Gale said the parentage-based tagging (PBT) samples would need to be collected at the cross level.

Todd Pearsons indicated that it would be difficult to evaluate this with relatively small numbers of fish, and there is difficulty maintaining some treatments over time, and the effect is difficult to evaluate for any program if they are changed too often. Looking at it as one big adaptively managed program makes it hard to interpret the result of the change. Gale said when there is a surplus, we should not have evaluation in mind; outplanting would be the highest use of the individuals but would not be evaluated. Tonseth agreed that it would be such a small number of fish (5,000 to 10,000) that it would not move the needle on metrics like PNI or smolt-to-adult returns.

Brett Farman said as long as outplants are wild-by-wild or wild-by-hatchery progeny, the impact of those outplants would not be a concern given they are not often very successful in terms of returning adults. This could be an outlet that does not require a lot of extra monitoring. Farman said,

from an Endangered Species Act perspective, it's probably not a problem and he is open to further discussion.

The Committees will review the 2017 Methow Spring Chinook Salmon Outplanting Plan and provide comments to Mike Tonseth by Friday December 9. Tonseth will locate the hindcast that was done by Humling, which could be used for forecasting and planning.

B. Methow Chinook Salmon Redd Desiccation

Keely Murdoch said to build upon the discussion in the last meeting and provide some more concrete information on redd desiccation, she asked Trenton DeBoer to join the meeting. DeBoer is now with the YN, but when he worked for WDFW in the past he was involved in collecting the egg-to-fry survival data in the Methow River, and some sites were within the desiccation area near the Goat Wall acclimation site.

DeBoer said Phil Roni (Cramer Fish Sciences) published a paper for the YN with Chris Johnson (WDFW) on the effects of parentage and spawning location on egg-to-fry survival. DeBoer, Chris Johnson, Roni, and Tom Quinn (University of Washington) have more information that will be prepared for publication in the future. De Boer said there were 10 sites in the Methow River. There were 6 sites upstream of Weeman Bridge to the Lost River in the reach that becomes desiccated to examine spring Chinook Salmon egg-to-fry survival. In all 3 years of the study, there were redds near Goat Wall Creek, below Gate Creek, and in all 3 years those sites were dewatered, and in one year eggs were not put in the gravel because the water was so low (2019). In that area, when the U.S. Geological Survey (USGS) gage showed flows were below 18 cubic feet per second, the site was desiccated. That site was typically dewatered 1 to 2 weeks after eggs were put in the gravel. In 2019, there was a lack of precipitation and then a hard freeze in the winter. Based on the USGS gage, it was dry at the surface for about a week (7 to 10 days) in October, followed by rain in mid-October. Then the freezing and dewatering was observed in February. Eggs that had water near Weeman Bridge survived, eggs upstream of that saw no survival. Egg boxes were pulled out of the gravel at 1,000 temperature units, in late March or early April of 2022. At site 7, close to Mustang Road, on October 17, 2019, the reach had probably been dewatered for about a week, then flows came up. It appeared that eggs had survived with subsurface flow during the desiccation event but later died due to a February dewatering and freezing event. Alevin with patched bellies or with yolk were observed and based on their developmental stage it was concluded that a February 2022 event killed them. Similar survival with subsurface flow was observed in fall Chinook Salmon redd desiccation studies in the Hanford Reach, and Chelan PUD has done similar work in the Chelan River.

Murdoch asked if those type of conditions, drying then re-wetting over the season, are typical in the upper Methow River. Tonseth said yes, flows are really locked up in snow during cold periods. Frady said in the reach that typically dewateres every year there is not typically much redd construction observed. In one year, there was substantial flow in the reach and as many as 20 redds were

observed there. The reach near Goat Wall and upstream reaches were used quite a bit by salmon when there was higher escapement, perhaps 10 to 15 redds were constructed in the reach, but then they would become desiccated.

Tonseth said Charlie Snow (WDFW) confirmed that many fish moved higher in the system this year because of later high flows in summer, then the hydrograph dropped substantially. Snow said WDFW took over spawning ground surveys in 2003 and did dig up dewatered redds and found eggs were desiccated. Kahler said Tom Scribner used to do spawning surveys in the Methow and in old reports they did talk about and enumerate redd desiccation. Frady said the main reach being discussed is near Goat Wall, linked to the Goat Creek gage. The other reach being discussed is downstream of Early Winters, but he was uncertain what the flow levels linked to gage levels would be. Gale asked if dewatering in that section is happening during the irrigation season. Frady said the dewatering happens in late August, and there isn't any substantial irrigation upstream of the reach.

Kirk Truscott asked if egg boxes were deployed near the hatchery and if redd superimposition was observed. DeBoer said yes, and they did observe Coho Salmon redd superimposition, but typically did not see spring Chinook Salmon spawning in the area. Truscott said typically in the Methow the spawning density tends to be high, and more spawning occurs near the hatchery. One motivation for outplanting was to move adults into new areas to reduce the number returning to spawn near the hatchery. Murdoch said redd superimposition by other spring Chinook Salmon may be a problem near Spring Creek and in Reach 9. Gale said redd superimposition is also a problem with summer Chinook Salmon. Gale said the challenge is to understand what the tradeoff is between allowing redd superimposition versus moving fish out to acclimation sites or outplanting adults to sites that might have lower productivity but reduced densities. Gale said USFWS has been working on redd superimposition in the Entiat River for 6 to 7 years. Greg Frasier (USFWS) could be invited to present the information in the next meeting to discuss egg-to-fry survival in areas where spring Chinook Salmon and summer Chinook Salmon co-occur.

Truscott agreed that information on redd superimposition would be helpful to make an evaluation of risk of juvenile acclimation near reaches that become desiccated. Murdoch said density-dependent mortality is more than just the redd superimposition; the mortality can occur in later stages and spreading fish out in later stages can reduce some of that density dependence.

Murdoch said she has questions about the egg boxes. She asked whether egg boxes would be an effective tool for measuring survival with superimposition. An egg box might not be a good surrogate for survival of that redd. DeBoer said on a couple of sites in the Chewuch River, spring Chinook Salmon on spring Chinook Salmon superimposition was observed by wild fish. One box was found approximately 10 feet downstream, another box was scoured out so the top of it was visible, another seemed to have been buried rather than dug up. The egg box provides some protection to the eggs and is a bit difficult to move. Scott Hopkins asked if there was zero survival with those

scenarios. DeBoer said he could not recall but thought it ranged from 0% for those that were dug up to 40-60% for those that were buried deeper. DeBoer said these studies do not incorporate swim-up mortality.

Tonseth said it's reasonable to assume the egg boxes could be used to study superimposition with some uncertainty about how much of the redd, or how many eggs, which are distributed among different pockets within the redd, would have been affected. It may not be an exact measure but could provide an ability to apply a mortality factor.

Tonseth said it would be interesting to develop a study to see what minimum flows in that upper reach would still allow for subsurface flows that support survival. If there are hatchery fish spawning in reaches that become desiccated, perhaps that would be reported as 100% loss, but perhaps should not be applied to estimates of PNI in the basin.

Gale said for adult outplanting, the assumption was that fish would be released to the river to allow the fish to do what they want to do. Perhaps some block nets could be put in to keep them there and to avoid having fish drop down into areas that dewater.

Kahler said the plan is written to put the fish out at peak spawning. Frady said the preferred approach would be to outplant fish right when they are ready to spawn. Pearsons confirmed that in the Cle Elum Hatchery spawning channel experiments, some fish that were placed in the channel spawned almost immediately.

Kahler said in the study in the Nicola River for productivity, they found it was the discharge during rearing that determined population productivity (adult-to-adult). Kahler said if adults are outplanted, it will be important to consider where the juveniles are going to go for rearing. Tonseth asked if stranding is typically observed. Kahler said yes, there are stranding rescue programs. Frady said the focus should be on where these juveniles are going to estimate a survival rate. The upper Methow can have the highest number of spawners and the lowest (adult) recruits.

Truscott said initially his focus was on dewatering in August through October, but the subsurface flow may be supportive of survival, but now understands the critical risk may be the freezing in winter. The gage data should be analyzed to also understand the freezing extent.

Committee members agreed to continue the discussion in the December meeting.

C. 2023 Broodstock Collection Protocols

Needs were discussed for preparing the 2023 Broodstock Collection Protocols (BCPs). Larissa Rohrbach will share the most recent version for co-authoring on OneDrive. The recently completed 2022 BCPs included recalculated production levels. Tonseth said biological assumptions could start to be updated now.

A brief list of topics that may be addressed in the 2023 BCPs includes the following:

- The interrelated issue of Methow spring Chinook Salmon outplanting and juvenile acclimation.
- Megan Finley (WDFW Fish Health) will be invited to a future meeting to present recent disease trends and the disease management plan for 2023.
- Any needs for additional eggs or fry to support studies.

III. PRCC HSC

A. Carlton Acclimation Facility Update on Intake and Release Approaches

Rod O'Connor provided a presentation of aerial photos on the Carlton Acclimation Facility (Carlton AF) site development, change in flows with seasons, and adjacent channel form changes over time. O'Connor said, in winter, challenges to flow include when freezing limits surface flow to the intake. During low flows, the side channel becomes a cul-de-sac, and in an emergency, fish would not be able to be released directly from the facility to the side channel.

Keely Murdoch and Bill Gale said it would be interesting to see what is upstream that may be driving the change in channel form. Mike Tonseth said flows have been lower in recent years, and there has been less bedload transport. Kirk Truscott suggested that it's not surprising to see mid-channel bars developing since 2009 based on recent wildfires and lower freshet flows that limit bedload transport. Several people questioned why the main flow is along the inside bend of the river rather than the outside bend near the intake. Hillman said the riprap protecting the road on river right upstream from the acclimation site is deflecting the energy of the river to river left resulting in erosion along river left, which is clearly seen in the images, and deposition of substrate on river right at the location of the acclimation site. An engineered log jam or deflector could be placed along river left to help redirect flow toward the acclimation site. Deanne Pavlik-Kunkel said, based on feedback from a hydrologist/geomorphologist, the road is the main reason the river is migrating to river left.

Deanne Pavlik-Kunkel said Grant PUD's priority is now drilling and testing a new well to supply groundwater to the acclimation site. This should be completed by approximately the end of February. The project has been broken up into phases to deal with challenges with contracting. The first phase is the drilling. One of the problems has been the timeline to obtain the necessary screens, which is approximately one year, so the water supply would not be fully tied-in before the brood year 2022 juvenile acclimation period.

O'Connor asked if members were suggesting that work should be done in the river to redirect the main flow of the river. Pavlik-Kunkel said that Grant PUD has an understanding of what's going on with the channel; however, from a risk perspective, Grant PUD is not interested in putting some kind of structure that would move the river. There is an enormous amount of risk associated with encouraging movement of the river. The focus has been on ensuring the backup groundwater well is

completed, but Grant PUD is not eliminating the need to do something with the outflow to create an option for releasing fish during low flow events. Gale asked, from Grant PUD's perspective, how putting in an engineered log jam to deflect flows would be different than putting in structures as part of restoration projects for habitat mitigation? Pavlik-Kunkel said she cannot speak to Habitat Subcommittee project risk assessment decisions. In this case, the risk would be taken on solely by Grant PUD and Grant PUD is not prepared to take on that risk. O'Connor said in internal discussions, it was mentioned that obtaining the permits to actually do the work might take a long time, on the order of a decade. Gale and Murdoch disagreed based on obtaining permits on a shorter timescale for habitat projects. Gale suggested it might be a better approach to look for a solution that would be better for the fish, better for the habitat, better for the landowner across the river, and better for the hatchery. Hillman suggested that the Habitat Subcommittee could consider the problem, but they would only fund the project if it improved habitat for fish. Pavlik-Kunkel said there has actually been more bank erosion since the aerial photos were taken.

Truscott asked what the impact of rearing fish on groundwater for such extended periods of time has been on precocity? Rod O'Connor said those data are presented in the annual reports and those precocity levels have not been concerning to date.

A request was made to share the emergency release plan for the Carlton AF with the PRCC HSC. Tonseth said that plan should be reviewed by the PRCC HSC. His concern is that pumping and trucking fish may not be a good choice for fish that are already stressed; for instance, if there is a fish health problem. Fish that are already stressed could suffer high mortalities just to pump and truck them a few hundred yards. Rod O'Connor agreed to provide Grant PUD's emergency release plan for review by the PRCC HSC.

B. Grant PUD's Priest Rapids Hatchery M&E Report Review Process

Grant PUD's draft *Priest Rapids Hatchery Monitoring and Evaluation Annual Report for 2021 – 2022* was distributed on Monday, October 31, for a 30-day review period. Comments and edits should be sent to Rod O'Connor by Wednesday, November 30, 2022.

C. Priest Rapids Fall Chinook Salmon Broodstock

Todd Pearsons said early in this year's return, fall Chinook Salmon size was small and fecundities were low. The program would like to collect an additional 160 to 200 females. When there are deviations from the biological factors in the BCPs, in-season adjustments can be made. Based on fecundities and pre-spawn mortalities in the holding ponds, the hatchery staff would like to make this in-season adjustment to broodstock collection to meet the target number of juveniles. Truscott asked which fish would be targeted for additional collection. Tonseth said they would collect adipose fin-present (ad-present) fish from the Priest Rapids Hatchery volunteer trap. Tonseth asked what the natural-origin returns (NOR) collection rate was in the Angler Broodstock Collection (ABC) fishery, and the success of this year's ABC fishery. Pearsons said that's where the small fish size was first

observed. Approximately 669 fish were collected in the ABC fishery, but 1,200 were originally targeted. Collection at the volunteer trap will backfill the ABC fishery shortfall. Prioritizing the collection of ad-present, coded wire tag-absent fish, will increase the probability of obtaining NOR fish.

Eric Lauver (Grant PUD) heard anglers say that it was an unproductive year throughout the entire sport fishery, perhaps due to lower water levels and slightly warmer temperatures. The same level of effort (number of boats and lines in the water) was implemented as last year. O'Connor said the first day of spawner surveys occurred at the same time as the tournament; it seemed that fish were not holding in their typical places and so fishing guides were not as successful at locating the fish.

Tonseth agreed that when broodstock shortfalls occur, there is a need to communicate that back to the Committees and that today's discussion is sufficient notification. Pearsons said hatchery staff expect to meet juvenile release targets with the additional collection.

D. PRCC Policy Group

The PRCC Policy Committee will meet on December 9, 2022. Presentations will be given by Grant PUD's technical committee representatives of the PRCC, PRCC Habitat Subcommittee, PRCC Hatchery Subcommittee, the Priest Rapids Fish Forum and the Fall Chinook Work Group. The initial meeting will focus on introductions among Policy Committee members and to facilitate understanding of progress within the various Committees. Gale asked why the Committee facilitators are not giving the presentations to the Policy Committee. Rod O'Connor said the intent is not to represent the Committees, but to present the perspectives of Grant PUD. Murdoch agreed that it would be important to hear from the neutral parties on how the Committees are progressing.

E. Summer Chinook Salmon Release to the Methow River

The emergency release of brood year 2021 Methow summer Chinook Salmon was initiated on Monday, October 24, 2022, as discussed during the October meetings. Trucks were loaded with low densities of fish from Eastbank Hatchery and were released into the Methow River at the Town of Carlton. The release went well and there was low mortality.

IV. Wells HCP-HC

A. Douglas PUD's 2023 Wells Implementation Plan

Douglas PUD's draft *Implementation of Comprehensive Monitoring and Evaluation of Wells Hatchery Complex Programs in 2023* was distributed on Tuesday, October 25. No substantive changes were made compared to previous years. Comments and edits are due to Tom Kahler by Wednesday, November 23, 2022.

V. RI/RR HCP-HC

A. Chelan PUD's 2023 M&E Implementation Plan

Chelan PUD's draft M&E implementation plan is on hold. The final version depends on results of the HETT meeting at 2pm. The HETT meeting will focus on Wenatchee steelhead spawning escapement modeling.

VI. Administration

A. Next Meetings

The next regular HCP-HCs and PRCC HSC meetings will be held virtually on Wednesday, December 21, 2022; Wednesday, January 18; and Wednesday, February 15, 2023. The HCP-HC and PRCC HSC agreed they would meet virtually from December through February.

VII. Attachments

Attachment A: List of Attendees

Attachment B: Carlton Acclimation Facility Water Intake and Release Updates

**Attachment A
List of Attendees**

Name	Organization
Larissa Rohrbach	Anchor QEA, LLC
Tracy Hillman	BioAnalysts, Inc.
Scott Hopkins*°	Chelan PUD
Catherine Willard*	Chelan PUD
Kirk Truscott*‡	Confederated Tribes of the Colville Reservation
Tom Kahler*	Douglas PUD
Andrew Gingerich	Douglas PUD
Rod O'Connor‡	Grant PUD
Eric Lauver°	Grant PUD
Deanne Pavlik-Kunkel°	Grant PUD
Todd Pearsons‡	Grant PUD
Tim Taylor°	Grant PUD
Brett Farman*‡°	National Marine Fisheries Service
Mike Tonseth*‡	Washington Department of Fish and Wildlife
Trent DeBoer°	Yakama Nation
Keely Murdoch*‡	Yakama Nation
Bill Gale*‡°	U.S. Fish and Wildlife Service

Notes:

* Denotes HCP-HCs member or alternate

‡ Denotes PRCC HSC member or alternate

° Joined by Webex

Attachment B
Carlton Acclimation Facility Water Intake and Release Updates

Carlton Acclimation Facility

Water intake and fish release updates to the PRCC HSC

November 16, 2022

July, 1995



September, 2009



July 15, 2013 1,190 cfs



July 14, 2017 1,230 cfs



April 2, 2019 690 cfs



April 30, 2019 2,200 cfs



April 30, 2019 2,200 cfs



Summer 2021 unknown cfs – no fish on station



December 2018 ~260 cfs



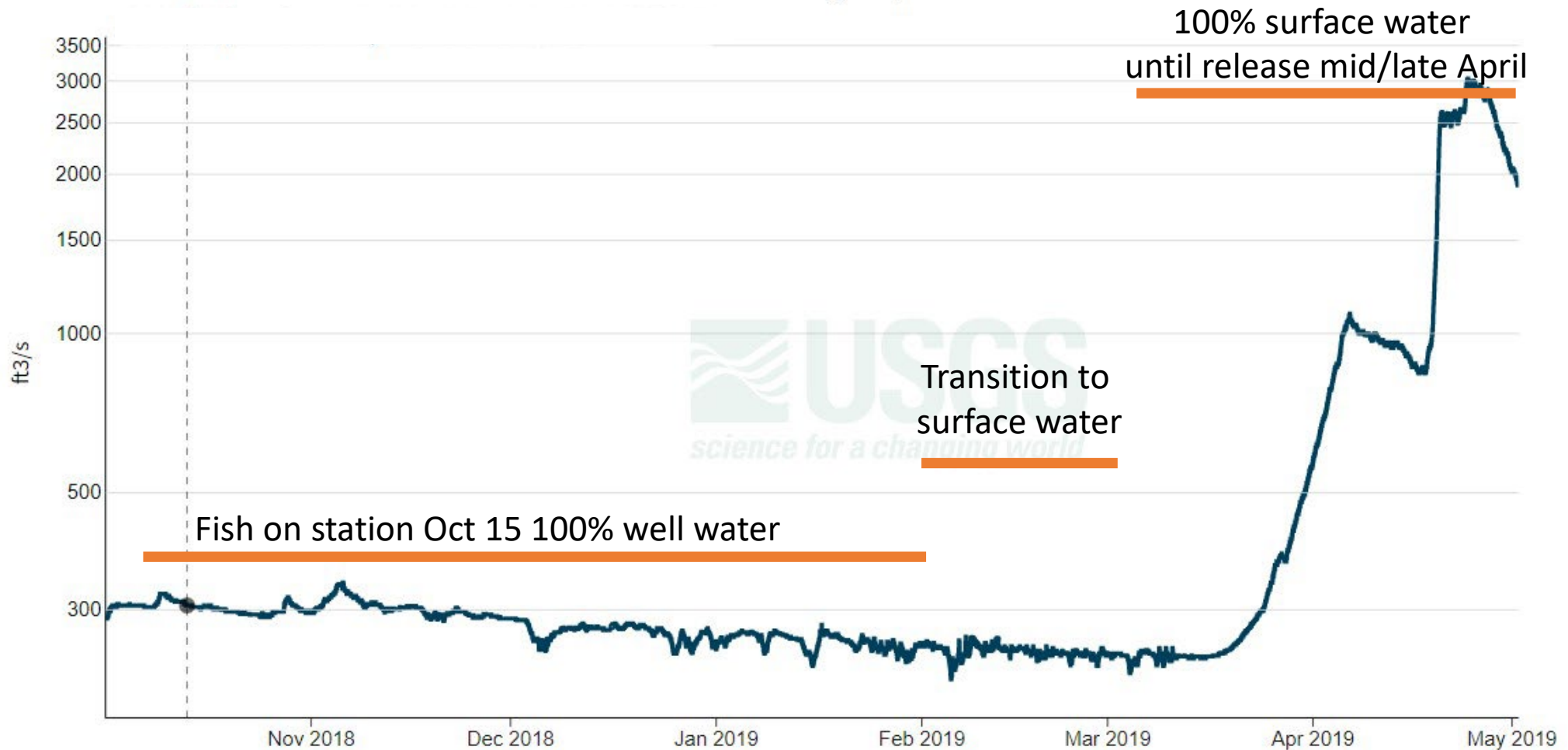
1. Flow migration
2. Shallow riffle
3. Intake
4. Fish-release channel

Modifications to water source

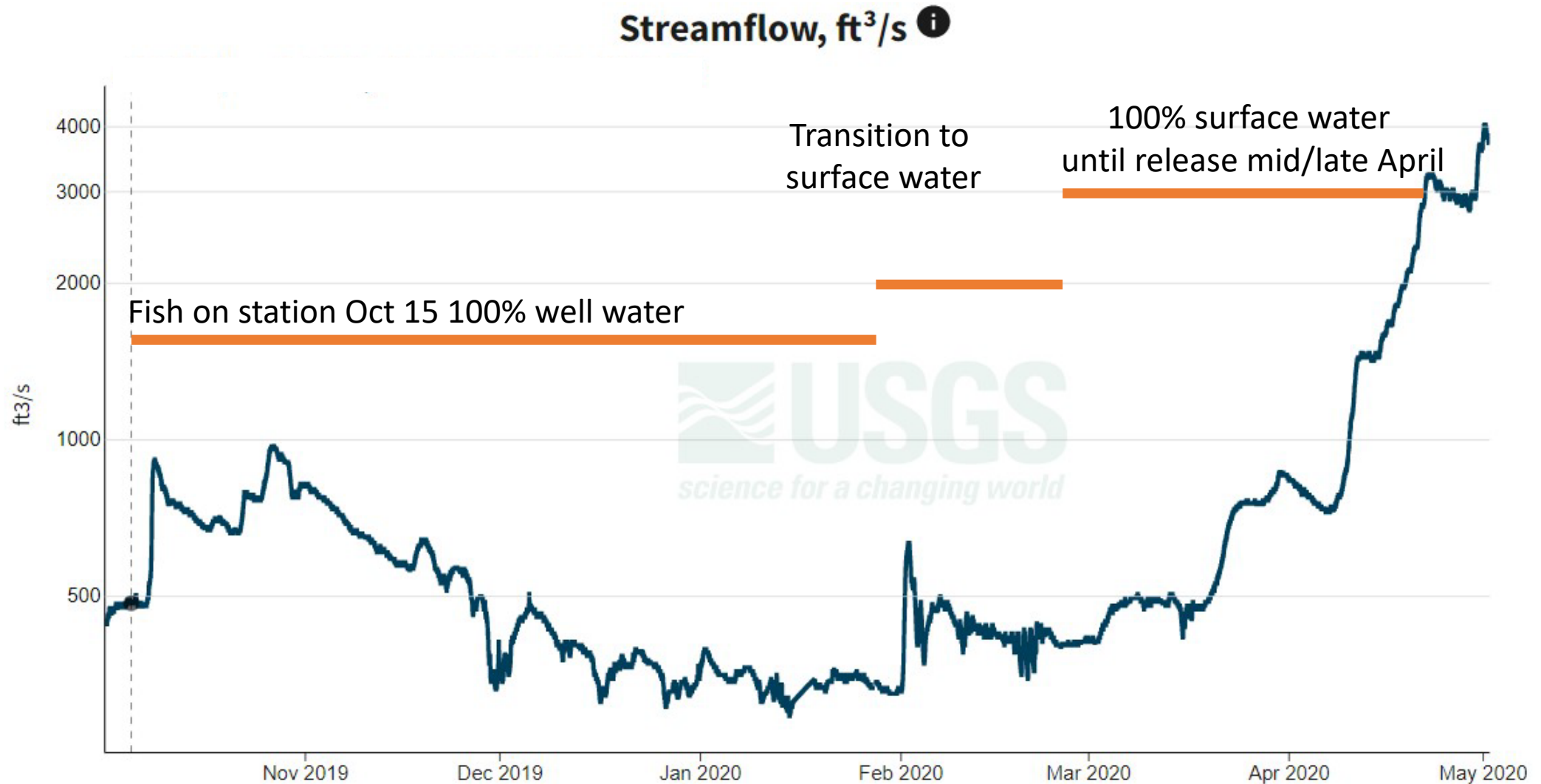
- Fish health recommendation 2019 (HSC approved)
 - October 15 – February 1: 100% well water (approx. 52 °F)
 - February 1 – March 1: Transition from well water to surface water (25% shift per week)
 - March 1 – Mid-April (Release): 100% surface water
- Minimize risk of elevated mortality from surface water (atypical bacterial gill disease & protozoan infestations)
- Allow opportunity for spring imprinting

Example hydrograph 2018-2019

Streamflow, ft³/s ⓘ



Example hydrograph 2019-2020



Production (backup) well project in progress

- Despite several attempts, until recently we have been unable to secure viable bidders due primarily to COVID-19 impacts and supply chain issues
- A contract to drill a new production well was finalized Nov 2022
- Development of a backup well is our current priority

Fish release plan

- Direct stream release during spring freshet (typically > 2,000 cfs)
 - Intentionally release at high flows for improved survival
 - Flows at release have been favorable every year (since 2014)
- Emergency Release Plan
 - Release via truck, if necessary, prior to spring release