FINAL

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ANCHOR QEA

Memorandum

To: Wells, Rocky Reach, and Rock Island HCP Hatchery Committees and Priest Rapids Coordinating Committee Hatchery Subcommittee

Document Date: October 20, 2022

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

cc: Larissa Rohrbach, Anchor QEA, LLC

Re: Final Minutes of the September 21, 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, September 21, 2022, from 10:00 a.m. to 1:45 p.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

Long-Term

Joint HCP-HCs and PRCC HSC

- Mike Tonseth will distribute the analysis showing feasibility of the Methow spring Chinook Salmon Outplanting Plan based on historical run size data (Item I-A). (*Note: This item is ongoing; expected completion date to be determined.*)
- Kirk Truscott will work with the 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 mid to late 2022*)
- 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.*)

- 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 Public Utility District's (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.*)
- Members of the HCP-HCs and PRCC HSC will send additional questions about the Yakama Nation's (YN's) proposal to continue spring Chinook salmon at the Goat Wall site to Keely Murdoch no later than September 30, 2022 (Item II-A).
- Mike Tonseth will work with Douglas PUD and Grant PUD to prepare a draft comprehensive version of the 2022 Broodstock Collection Protocols for approval in the October 19, 2022, meeting (Item II-C).

Rock Island/Rocky Reach HCP-HCs

- Catherine Willard will convene the Hatchery Evaluation Technical Team (HETT) to discuss comparisons between approaches for estimating Wenatchee steelhead escapement (Item III-A).

Wells HCP-HC

- Mike Tonseth will research the source of rearing density and flow index targets for HCP plan species (Item V-A).
- Kirk Truscott will revise the CTCR evaluation of summer Chinook salmon rearing space at Wells Fish Hatchery to reflect the change in the source of eyed eggs (Item V-A).

Decision Summary

- The PRCC HSC approved the *Grant County PUD Hatchery Monitoring and Evaluation Implementation Plan for Spring and Summer Chinook in the Wenatchee Basin and Summer Chinook in the Methow Basin 2023* in today's meeting.
- The PRCC HSC approved the *Grant County Public Utility District Implementation Plan for 2022-2023 Priest Rapids Hatchery Monitoring and Evaluation* in today's meeting.

Agreements

- None.

Review Items

- The YN's responses to Committee questions about their *Proposal on the Continuation of the Upper Methow Spring Chinook Acclimation Project* was distributed on Tuesday, September 20.

Finalized Documents

- The final *Grant County PUD Hatchery Monitoring and Evaluation Implementation Plan for Spring and Summer Chinook in the Wenatchee Basin and Summer Chinook in the Methow Basin 2023* was distributed on September 22, 2022.
- The final *Grant County Public Utility District Implementation Plan for 2022-2023 Priest Rapids Hatchery Monitoring and Evaluation* was distributed on September 22, 2022.

I. Welcome

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

Tracy Hillman welcomed the HCP-HCs and PRCC HSC and reviewed the agenda and asked for any additions or changes to the agenda. Keely Murdoch added a discussion to the agenda on Douglas PUD's decision to rear juvenile summer Chinook salmon at Wells Fish Hatchery for the CTCR to support the Upper Columbia reintroduction program.

The HCP-HCs and PRCC HSC reviewed and made minor revisions to the August 17 meeting minutes. All in attendance approved the minutes and Matt Cooper approved on behalf of the U.S. Fish and Wildlife Service (USFWS) by email following the meeting.

Action items from the HCP-HCs and PRCC HSC meeting on August 17, 2022, were reviewed. *(Note: Italicized text below corresponds to action items from the previous meeting.*)

Joint HCP-HCs and PRCC HSC

Long-Term

- *Mike Tonseth will distribute the analysis showing feasibility of the Methow spring Chinook Salmon Outplanting Plan based on historical run size data (Item I-A). (Note: This item is ongoing; expected completion date to be determined.)*
- *Kirk Truscott will work with 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 mid- to late 2022)*
  Murdoch said she and Tonseth have arranged a meeting, including Katy Shelby and Mike Hughes from WDFW, to discuss how to bring pre-spawn mortality results of the Relative Reproductive Success study into program sizing updates.
- *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, expected at the end of 2022 (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).*
  Pearsons said this item is ongoing.
- *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 III-A).*
  Tracy Hillman said he has not received any additional revisions. This item will be moved to the long-term action items to be addressed at a later date.
- *Members of the HCP-HCs and PRCC HSC will summarize their questions about the YN's proposal to continue spring Chinook salmon at the Goat Wall site and send them to Keely Murdoch no later than September 2 (Item III-B).*
  This item will be discussed in today's meeting.
- *Mike Tonseth will work with Douglas PUD and Grant PUD to prepare a draft comprehensive version of the 2022 Broodstock Collection Protocols for approval in the September 21, 2022, meeting (Item III-C).*
  This item will be discussed in today's meeting. Tonseth said a version will be prepared for approval in the October meeting.

Wells HCP-HC

- *Members of the Wells HCP-HC will review the CTCR evaluation of summer Chinook salmon rearing space at Wells Fish Hatchery and return comments to Kirk Truscott by August 31, 2022 (Item II-A).*
  This item will be discussed in today's meeting. Truscott said no feedback was received. This item is complete.

Rock Island/Rocky Reach HCP-HCs

- *Members of the Rock Island/Rocky Reach (RI/RI) HCP-HC will review Chelan PUD's response to WDFW's comments on the proposed Wenatchee Steelhead Escapement Modeling approach and respond to Catherine Willard with comments prior to the next meeting (Item IV-A).*
  This item will be discussed in today's meeting. Willard said she has met with representatives to obtain their feedback. This item is complete.

II. Joint HCP-HC and PRCC HSC

A. 2023 Goat Wall Acclimation SOA

Since the last meeting, the YN staff (Danielle Grundy and Rick Alford) prepared written responses to questions posed by Todd Pearsons, Kirk Truscott, and Bill Gale last month. The YN responses were distributed yesterday, September 20 (Attachment B). Truscott said he has not had time to review the responses. Pearsons said he has not reviewed them in detail but shared his initial reactions.

Pearsons said the focus of the YN responses was still limited to the 2019 through 2021 data. For instance, the Upper Methow gauge data show when the stream starts drying and disconnects in that 3-year period, but it's unclear if those years are representative of the past or indicative of what can happen in the future. Keely Murdoch said Grundy indicated that those earlier data may not exist, and a longer retrospective analysis might not be possible. Pearsons suggested the past 3 years of gauge data could be compared to gauge data prior to 2019 to gain a better perspective on whether the 3 years of data are representative of conditions in that area.

Murdoch read through the YN responses to clarify what information had been shared. Murdoch said responses were provided based on the data that were obtained, for instance, in response to the first question. Extrapolating back to years prior to 2019 was difficult to extrapolate based on the 3 years of desiccation data and based just on the hydrograph. The timing of desiccation matters; just because the river goes dry does not mean that redds become desiccated.

Pearsons said in his questions, he was attempting to clarify a request to put the results that are available into some context across multiple years of flow. Murdoch said the hydrograph data are available but did not think redd desiccation information would be available relative to the timing of stream drying. Pearsons suggested at least adding the additional years of stream flows to the same plot as the past 3 years. There appear to be at least two factors that influence redd desiccation: the timing of the stream drying and the number of spawners in the reach.

Murdoch asked if Pearsons agreed with Grundy's conclusions that the impact of desiccation on Goat Wall–acclimated fish escapement is minimal and not yearly, and Goat Wall acclimation doesn't seem to exacerbate or overly increase spawning in the desiccated areas. Pearsons said he wonders if that conclusion is substantiated. He agreed that the impact of desiccation is not yearly but is unsure if it

can be considered unsubstantial. Murdoch said a decision to acclimate at Goat Wall could be reversed in the future if it's determined that there is too much desiccation due to climate change. Drying of the reaches is not always a bad thing. If drying occurs early enough, it could prevent the fish from spawning in that reach. Pearsons said yes, he understood that, and asked if others shared his concerns.

Tracy Hillman asked if adding additional years of stream flow data to the Upper Methow Gauge graph would help Pearsons in his interpretation. Pearsons said it may, and it may also open more questions if the hydrograph tends to fall below the yellow line in all years (the yellow line shows when the river starts to become disconnected). Hillman said it could help answer the question of whether the past 3 years are typical. Pearsons agreed. Rod O'Connor said based on a quick look at the U.S. Geological Survey gauge data, there is a huge amount of variability in stream flows in that area. (*Note: Grundy followed up by email on September 26, 2022, with a plot of the hydrograph at the Upper Methow gauge with additional years of data dating back to 2007 [Attachment C]*).

Truscott agreed that it would be nice to know if the past 3 years are typical of stream flows in that reach. He said he does not know if that will help forecast what flows will be under climate change. He said 2022 may be a higher-flow year with high snowpack in the Northern Cascades, but we are still under climate change. Tom Kahler said models predict earlier spring runoff and lower flows earlier in the year and those could be a proximate factor for spawner site selection. Kahler said the next figure in Grundy's response was interesting because it shows spawning by river kilometer (RKM) relative to wild fish. It appears the hatchery-origin fish are behaving similarly to the natural-origin fish. It will be useful to see additional years of data, to see a collective combined population and how they perform and distribute around the basin. Kahler said a concern of his has been that the program is working toward getting the natural- and hatchery-origin fish spawning in the same place at the same time, and yet we really don't know whether that's a good thing for the population.

Murdoch said she can talk to Grundy about including additional individual years of stream flow data to show the variability. Hillman suggested showing all past years as one color to differentiate them from the past 3 study years and Pearsons suggested that an alternative approach is to add another graph showing the previous years.

Pearsons said he wanted to understand the response to his third question, which was related to the use of the Early Winters acclimation site as a potential alternative if it was determined that Goat Wall presented too high of a risk. Grundy's response seemed to indicate that using the Early Winters site would not prevent fish from moving into reaches that would desiccate. Murdoch said Grundy's conclusion was that spawning in reaches that desiccate could possibly be reduced by releasing those fish from Early Winters, but we just don't have the data. The site is only a few miles downstream from the Goat Wall site, and at this time it's just a guess. Pearsons said that is the challenge: making

decisions without the data, and we may need to make the decision based on a supported guess at which site would present a lower risk.

Pearsons asked how many years of data are expected. Murdoch said 3 more years of data will be accumulated. Another return year will be complete with 2022, 2023 will complete the originally scoped 5-year dataset, and 2024 will complete the cohort for the additional sixth year that was recently approved by the Committees.

Mike Tonseth said that unfortunately, we don't have any data regarding the additional question about the viability of adults that could come back from groups acclimated at Early Winters but asked if there is any information that could be used for comparisons between Early Winters–acclimated fish and Goat Wall–acclimated fish. Tonseth said he is interested in the direction of trends. That is, if dewatering happens earlier and rewatering happens later, then that might change management decisions for the programs. He asked if there is value in transitioning to Early Winters acclimation to obtain a comparative 5-year dataset. Murdoch said that has not been discussed within YN. The YN staff like the Goat Wall site because it has worked well for 5 years, and it gets fish back to those reaches. The Committees have discussed expansion to Early Winters if feasible. Right now, the YN are releasing coho salmon from Early Winters, which does have space for both species, but a comparison between a 5-year study at one site and 5-year study at the other site has not been discussed internally.

Tonseth asked whether there was a commensurate reduction in spawners in the reaches above the dewatered area in years where early dewatering was observed compared to years when there was no dewatering (looking at natural-origin and hatchery-origin fish combined). Murdoch said she does not know. Charlie Snow (WDFW) may have that information, but perhaps in years of larger returns there could be more fish returning to the area upstream of the dewatered area. Tonseth agreed it would have to be looked at in proportion to the total run size. Tonseth said from a broader perspective, we don't know what climate change will do to fish behavior, or whether that zone dries up earlier or more frequently, but if there is still substantial spawning habitat above that area then perhaps adult translocation becomes a more viable alternative. Murdoch said that is a good point. It could be a good location for adult translocation in early desiccation years, and disconnection of the channel would also prevent fish from going back to the hatchery. Tonseth said there could still be a need to prevent them from backing down into areas that become desiccated, perhaps with barrier nets. Murdoch said a fall freshet could cause fish to move into a dry area to spawn, then their redds become desiccated when the hydrograph declines again.

Murdoch said the program is still collecting data. There are the first 3 years of data collection from 6 years of releases. Like many things decided in this committee, it can be adapted in the future depending on the monitoring results.

Kahler complemented Grundy on the quality and thoroughness of the responses. Kahler said it also highlighted that the RKM used to define spawner survey reaches in the WDFW/Douglas PUD Methow Complex Monitoring and Evaluation annual report need to be corrected.

Gale said he has made a cursory review of YN's responses and has not had a chance to discuss them with others at USFWS who had questions on the issue.

Hillman noted that most members have not had the chance to review the responses and asked whether Murdoch could defer a decision on this matter to the October meeting. Murdoch agreed but said the October is the latest date for a decision so that the field staff can be prepared for Passive Integrated Transponder (PIT) tagging.

Additional follow-up comments should be submitted to Murdoch by September 30 for a decision to be made in October

B. 10-Year Comprehensive Reports

Todd Pearsons said good progress has been made by the PUD authors to make revisions in response to reviewer comments and formatting of chapters is nearly complete. The fall Chinook salmon report is very close to being finalized, and everything will be tied up into one package when all the individual chapters are completed, hopefully before the end of the year.

Kirk Truscott asked whether there will be a period for a final review. Tracy Hillman said no, the comment periods are closed. The Committees will use the PUDs' final reports to prepare a report with the Committees' recommendations for adaptively managing the program. Truscott said for the last comprehensive review, there was a presentation to the Committees summarizing the results of the review and noted that was helpful as a scientist and especially as a manager. Truscott recommended that authors consider presentations that will help set the stage for the Committees to make their recommendations.

Hillman suggested the executive summaries be shared with the Committees before the presentations. The presentation and recommendations could be prepared early next year.

C. 2022/2023 Broodstock Collection Protocols

Mike Tonseth said he will complete his components of the 2022 Broodstock Collection Protocols (BCPs) within the week and send it to Tom Kahler and Todd Pearsons for their additions, which should be minor. The document can be distributed by October 10 for approval during the October 19 meeting.

September is typically the kick-off for discussing major topics for the development of the next BCPs. Tonseth said that he is not anticipating any major changes that would likely need to be made for 2023. Tracy Hillman asked if there have been any special study proposals that are typically included,

for instance, disease prevention or Wenatchee steelhead live spawning. Tonseth said there is nothing new at this time, and the steelhead live spawning is not a level of detail that is typically outlined in the BCPs.

Farman said this process of approval of the 2022 BCPs in the Committees is acceptable to the National Marine Fisheries Service.

III. RI/RR HCP-HC

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

Catherine Willard described the substantive proposed changes to Chelan PUD's 2023 Monitoring and Evaluation Implementation Plan. Under Table 1, which summarizes study design elements, a footnote was added about spring Chinook salmon redd survey data in Icicle Creek after conversations with USFWS. It indicates that no party has an obligation to continue those redd surveys. Grant PUD also has their language inserted into their implementation plan. It reads as follows:

> "USFWS and Chelan PUD will work together in an effort to continue the annual monitoring and reporting of historical Icicle Creek Spring Chinook salmon redd and/or population survey data with the understanding that neither party currently has an obligation or requirement to perform these surveys. Thereby the parties reserve the right to discontinue or modify prior survey efforts as funding or staffing availability dictates."

Kirk Truscott asked what that means. Willard said historically, surveys were done by WDFW, then by Chelan PUD, and from 2015 through 2020, by USFWS. Chelan PUD was able to complete them in 2021 but not in 2022, due to staffing. Chelan PUD does not believe they have an obligation to carry out the surveys, because it does not answer a monitoring and evaluation (M&E) objective in their M&E Implementation Plan. Truscott asked what would be done if both parties avoid doing the surveys.

Keely Murdoch asked why Chelan PUD doesn't feel it is their obligation to do these surveys—even prior to the HCP-HCs, Chelan PUD performed these surveys or funded these surveys. At what point was this changed and why? Willard said that upon further evaluation of their hatchery M&E Implementation Plan, they determined they don't use those data to answer questions relative to Chelan PUD hatchery programs. Chelan PUD's M&E Implementation Plan was created to evaluate their hatchery programs. The USFWS program is not a Chelan PUD hatchery program. Chelan PUD does mitigate for USFWS fish, but Chelan PUD doesn't think they have an obligation to carry out those surveys.

Bill Gale said he will not speak to whether Chelan PUD has an obligation or not, but speaking to the history, USFWS had an interest in assisting in acquiring that data but did not want that documented

as our obligation to do those surveys. The fishery parties and the PUDs do need to talk about the new boulder field barrier correction that is allowing spring Chinook salmon to redistribute themselves farther upstream. Historically, redd surveys were only done up to the hatchery. With the barrier correction, there is a much more substantial area that needs to be surveyed. Willard and Gale wanted to add this language to put some boundaries around obligations to survey Icicle Creek.

Truscott said, as a committee member, including a clause that states either member might not be responsible for doing surveys in Icicle Creek raises the question of how that affects the ability to answer M&E objectives. For instance, how can you address objectives about straying without surveying all the tributaries?

Willard said Chelan PUD and USFWS talked about that, and at a minimum, Chelan PUD would evaluate carcasses during peak carcass presence. Willard said that activity could be added as a contingency if redd surveys cannot be done. Truscott said that would need to be evaluated. He questioned how one would estimate escapement based on carcass surveys. Tonseth agreed it would be helpful to note in the M&E Implementation Plan what the potential scenarios are for when redd surveys could be done versus carcass surveys. One of them does inform stray rates of the hatchery programs. Although there are few strays, we don't know if straying is zero if we don't' look for them. Gale said he agrees that stray data are important. Icicle Creek has a very interesting Endangered Species Act designation. Fish in Icicle Creek are presumed to be unlisted unless otherwise known. Because of this status, trying to decide how to do M&E is more complicated. Willard said there hasn't been a Chiwawa River or Nason Creek stray because those programs were reduced in 2014. Straying was higher before 2014.

Willard showed the next change to the M&E Implementation Plan in Section 4.1 (page 15) regarding generating steelhead spawner escapement. Since presenting information on this topic in the last two meetings, Willard has met with individual RI/RR HC members to discuss it further. In 2023, Chelan PUD decided to continue using the patch occupancy model (the Dam Adult Branch Occupancy Model) that is currently used to generate spawning estimates in the tributaries. The methodology used since 2014 for generating spawning estimates in the tributaries, where 80% of the spawning occurs, is not changing. Chelan PUD is proposing to not carry out spawning surveys in the mainstem Wenatchee River. The issues due to spring environmental conditions, which were demonstrated in past meeting's presentations, make it impossible to collect unbiased data. Willard said she wanted to reiterate that the fact that bias exists in the spawning survey data is entirely due to environmental conditions, not due to any lack of effort by WDFW's surveyors to collect those data.

Willard said Chelan PUD does support updating the estimate of overwinter mortality used in the models, which rely on values generated through the University of Idaho and WDFW study done in 2015 and 2016 (Fuchs et al. 2021). Based on Chelan PUD's conversations with the HC representatives, there was not a lot of comfort with using a static overwintering mortality estimate. Chelan PUD has

agreed to convene the HETT to develop a study plan to evaluate overwinter mortality in the mainstem Wenatchee River. Willard said no date has been set for when an overwinter mortality study plan could be approved for the Committees, and she would like to understand committee members' comfort level for getting that study plan prepared without holding up approval of the M&E Implementation Plan.

Willard asked Tonseth what WDFW's perspective is, because Tonseth has had the opportunity to talk to Andrew Murdoch and Kevin See. Tonseth said WDFW fundamentally disagrees with discontinuing spawning ground surveys and does not agree that using two data points from the radiotelemetry study to estimate overwinter mortality will be any less biased than continuing to use the spawning ground surveys. It is understood that Chelan PUD has been pretty firm that spawner surveys introduce more bias; however, WDFW stands firm that it introduces less bias and concedes that these are just estimates and there will always be bias. WDFW believes that if they were to abandon the spawning ground surveys the Committees would not be using the best information available.

Tracy Hillman asked whether the mark-recapture approach came about because of the inability to do the spawning surveys in 2020 during the COVID pandemic. Willard and Tonseth said Chelan PUD made the decision in 2020, in coordination with WDFW, that staffing the smolt trapping was a higher priority because there would be no other way to generate smolt production estimates. That was a staffing decision, not a methodological decision.

Murdoch said in the past this type of issue was historically handled by the HETT and suggested the entire methodology should be considered by the HETT. Willard said that there is not a requirement to involve the HETT when changes are proposed to a methodology for the M&E program. Chelan PUD is not proposing replacing the model used for tributary estimates. Rather, they are proposing using the patch occupancy model to estimate escapement in the mainstem and correcting the mainstem estimate with the overwinter mortality estimates generated by the radiotelemetry study.

Truscott said he has a broader recommendation for the HETT. The HETT should make a recommendation on which approach is best: mark-recapture or spawner surveys. Truscott suggested that the HETT review the current methodology and the proposed methodology. Willard said Chelan PUD provided a comparison between the current methodology and the proposed methodology for estimating mainstem Wenatchee spawner escapement. Truscott said there will always be bias, but the amount of bias may differ between the two approaches. Willard agreed. Willard reminded the Committees that a sensitivity analysis was also conducted that showed how minimally overwinter mortality affects the spawner escapement estimates. Varying the overwinter mortality in the model from 5% to 40% makes only a 6-fish difference in the overall spawner escapement estimate.

Willard said steelhead spawner surveys have been discontinued in other tributaries, like the Entiat River, for the same reasons. In the Methow River, WDFW does steelhead spawner surveys in index and non-index reaches, with peak spawning surveys conducted in non-index reaches. Willard

said she understands that people don't want to see a change in the methods, but Chelan PUD is not proposing a total change to the method. They are only proposing a change in the method used to estimate mainstem spawner escapement.

In the interest of time, Hillman asked if committee members could approve the Chelan PUD's M&E Implementation Plan without approving the steelhead spawning escapement section. Tonseth said he thought M&E Implementation Plans had to be approved before parties could move forward with contracting. Willard said it won't affect Chelan PUD's contracts, which are renewed at the end of the year. Willard said there is a meeting scheduled between her, Andrew Murdoch, Kevin See, and Mike Tonseth (WDFW). After that, the HETT can be convened. Willard will continue to work with committee members prior to seeking approval for the M&E Implementation Plan.

Willard said the final change in the plan is the addition of the steelhead release plan as an appendix. Tonseth said it will need to be updated again next year.

IV. PRCC HSC

A. DECISION: Grant PUD's Wenatchee and Methow Basin M&E Implementation Plan

The *Grant County PUD Hatchery Monitoring and Evaluation Implementation Plan for Spring and Summer Chinook in the Wenatchee Basin and Summer Chinook in the Methow Basin 2023* was distributed July 18, 2022, for a 30-day review.

Todd Pearsons noted that no comments were received. Pearsons said a similar footnote about how redd surveys would be completed in Icicle Creek was included in Grant PUD's plan. Bill Gale said he does not have a problem with the language as edited but is concerned about approving language that could later be changed in Chelan PUD's M&E Implementation Plan. Gale said his greater concern is that Grant PUD's implementation plan and Chelan PUD's implementation plan for the Wenatchee Basin are totally intertwined. Tonseth said that is true for spring Chinook salmon. The outstanding issue for Chelan PUD is with steelhead only.

Keely Murdoch said she doesn't fully understand how spring Chinook salmon carcass surveys alone will be consistent with the M&E Implementation Plan if you cannot expand the carcass surveys based on redd surveys to get an estimate of how many fish are straying. Tracy Hillman said a spawning escapement estimate is needed to estimate stray rates. Kirk Truscott said a spawning estimate would be needed as the basis for the escapement estimate. Hillman said PIT-tagged fish could be used with the same assumptions used to estimate steelhead escapements in tributaries. Truscott noted that based on edits to the M&E Implementation Plan, estimates could be different.

Mike Tonseth asked if the last known detections are used to generate a stray estimate into Icicle Creek, would there be enough PIT-tagged fish coming back to provide a large enough sample size to produce reliable estimates? Willard asked if WDFW is PIT-tagging spring Chinook salmon at

the Priest Rapids Dam Off Ladder Adult Fish Trap (OLAFT), and Tonseth responded they are. Gale said because there are relatively small numbers of strays moving into Icicle Creek, relying on PIT-tag detections may not work. Willard said carcass survey data would be collected, but the PIT-tag estimate would be expanded to the total escapement, then the spawner escapement would be applied to the carcass data. She added that there is a high likelihood that redd surveys would still be carried out. Tonseth said that would show how many fish move into Icicle Creek. It would be no different than how coded wire tag (CWT) recoveries are done now. Gale asked if Tonseth was suggesting using PIT tags to generate total escapement of all groups into Icicle Creek. Tonseth said no, stray tags (e.g., Chiwawa River PIT tags) would be expanded to the estimated total escapement. The number of stray tags would be bounced off the estimate of CWT recoveries from Icicle Creek. PIT-tag detections would not be used to generate a total escapement for natural-origin spawners or total Leavenworth National Fish Hatchery fish. Gale said there may not be enough PIT-tag detections to generate an estimate. For instance, the carcass recovery rate in Icicle Creek is likely to be 20%, which is not far off of the PIT-tag rate of 30% at the OLAFT. Hillman said that if the tagging rate is known and the detection rate of the Icicle Creek array is known, then the number of Chiwawa fish that enter into Icicle Creek could be estimated. One would know whether the escapement estimate is biased if the number of carcasses retrieved from strays exceeds the escapement estimate. Catherine Willard asked if PIT tags could be used to achieve a stray rate for spring Chinook salmon, similar to what is done to generate stray rates for steelhead. Gale said the reason for using PIT tags to estimate straying for steelhead is the difficulty of redd surveys and because carcasses cannot be retrieved. Hillman said for Chinook salmon, a carcass detection rate is needed to help expand that carcass number. To calculate a carcass detection rate, we need an escapement estimate. Truscott asked if the PIT array provides directionality. That is, just because a Chiwawa fish is detected on the array does not mean it is a stray. Willard confirmed it does have two antenna arrays to detect whether fish move into the Icicle Creek and pass back out. Truscott noted there is also a detection site at Tumwater. It is a matter of curating the PIT-tag detection data for the last known detection.

Tonseth said an assumption could be made that one stray CWT should not be expanded. This could result in an overestimate of the number of Chiwawa fish moving into Icicle Creek. That problem occurred when expanding the number of Methow River strays in the Okanogan River.

Gale said it should be written in the M&E Implementation Plans that if redd surveys are not going to be conducted, there should be a trigger for this issue to be returned to the Committees for consideration of how straying could be evaluated because today's discussion may not be adequate to think through all the details. Hillman noted that the Committees would need to be notified well in advance to ensure that the Committees have time to consider an alternative approach. Tonseth said he would prefer to include language describing a general approach for how the parties would address the issue. Pearsons agreed the Implementation Plan should have some level of certainty that a plan could be implemented and agreed with Tonseth to include that level of language.

The footnote related to Icicle Creek carcass surveys was revised in the meeting to include language about an alternative approach to estimating strays based on carcass surveys and PIT tag–based escapement estimates. This is to be approved in both the Grant PUD and Chelan PUD implementation plans. The following sentence was added to the footnote to address how straying would be considered:

> "In the unlikely case that redd surveys are not conducted, carcass surveys will be conducted in Icicle Creek and used in conjunction with PIT-tag-based estimates of escapement of Chiwawa Hatchery spring Chinook in Icicle Creek."

Truscott and Murdoch noted they would prefer if there was more certainty around carrying out the redd surveys in Icicle Creek.

Truscott noted that the table showing survey reaches shows the reach from the mouth of Icicle Creek to the hatchery, but now we know fish are moving upstream of the hatchery and upstream from the boulder field. Scott Hopkins said historically, surveys have been done from the boulder field downstream. Gale said fish are now being observed upstream of the boulder field, even in the Icicle Peshastin Irrigation Diversion canal. It is a good point that the reaches above the boulder field should be considered. The table was revised to show surveys are done from the boulder field to the mouth of the Icicle Creek.

All members of the PRCC HSC approved Grant PUD's Wenatchee and Methow Basin M&E Implementation Plan.

B. DECISION: Grant PUD's Priest Rapids Hatchery M&E Implementation Plan

The *Grant County Public Utility District Implementation Plan for 2022-2023 Priest Rapids Hatchery Monitoring and Evaluation* was distributed on Tuesday August 16, 2022, for a 30-day review with comments to be provided to Todd Pearsons by Thursday September 15, 2022.

Keely Murdoch asked if the edit to Task 6, indicating the carcass surveys downstream of Prosser Dam, is a proposed change to the surveys or just a notation to make the language consistent with how this has been done. Mike Tonseth and Pearsons confirmed this reflects how carcass surveys have always been done.

All members of the PRCC HSC approved Grant PUD's Priest Rapids Hatchery M&E Implementation Plan.

V. Wells HCP-HC

A. Rearing at Wells Fish Hatchery to Support Reintroductions

Keely Murdoch said since the last meeting, she has had discussions with Tom Kahler regarding Douglas PUD's decision to rear juvenile summer Chinook salmon at Wells Fish Hatchery for the CTCR to support the Upper Columbia reintroduction program. She is disappointed with how this issue of rearing an additional 160,000 juveniles has been handled within the Wells HCP-HC. The YN's interpretation of the HCP is that committee concurrence would be needed for Douglas PUD to enter into any agreement to rear any fish intended for any other program. The YN's concern is that any rearing should be evaluated and approved by the HCP-HCs, under the HCPs, Section 8.4.1 Hatchery Agreements. After reviewing the technical details since the last meeting, the YN believes that this action will affect HCP production. The CTCR memorandum (Attachment of B of the August 17 meeting minutes) reviews the capacity at Wells Fish Hatchery as an isolated component of the rearing; however, there are some Methow coho salmon and steelhead that are transferred from Wells Fish Hatchery that would have overlapping rearing times. The memorandum shows density indices but not flow indices, so it's not clear what flows will be needed for the rearing. A schematic would be helpful to show what would be reared and where, with flows indices of the different components of the hatchery.

Murdoch said she understood it was Douglas PUD's opinion that the need for HCP-HC approval only applies to agreements for HCP program hatchery rearing obligations. Murdoch said she views HCP Section 8.4.1 Hatchery Agreements as language for rearing obligations for just rearing fish. When the District enters into agreements with other entities for rearing fish, the committees need to approve whether that rearing capacity exists.

Andrew Gingerich (Douglas PUD) noted that it is Douglas PUD's (the District's) opinion that HCP Section 8.2.2, referencing "Responsibilities" in the Agreement, which precedes section 8.4.1 referenced by Murdoch, is intended to explain what is within and what is outside the HC's purview. The purview of the HC is related to the mitigation programs for which the District has a responsibility for funding. In this case, the request came to the District, as often happens, and the question for the District is whether the request would jeopardize our commitment to the District's, mitigation programs. The HCP obligates the PUDs to come to the HC to make sure HC members share the same viewpoint that it would not jeopardize the mitigation. If the YN has other concerns about the sufficiency of the space, there was a deadline to provide that technical feedback; this appears to be a new set of questions and there may be a need to respond to these. The interpretation of 8.4.1 that there is a need for HC approval of the additional rearing is out of context with HCP Section 8.2.2. The entire purpose of the HCPs is about the PUD's ability to meet No Net Impact (NNI) in part through hatchery production as mitigation. After addressing the District's ability to meet NNI mitigation obligations, most uses of the facility have not gone before the HC for approval. If there are technical

concerns about Douglas PUD being able to meet mitigation program obligations, the District would do the due diligence to demonstrate otherwise.

Murdoch disagreed that HCP Section 8.2.2 changes anything about the context around what is said in 8.4.1. The HC must approve that a new rearing agreement will not impact a PUD's ability to meet NNI mitigation production. Murdoch acknowledged that the YN's technical concerns were not shared by the agreed-to timeline.

Murdoch noted that in 2019, a vote was taken for WDFW's orca production because WDFW asked for a vote. The question is who decides what level of additional production would trigger a need for agreement in the HC. Murdoch said she believes it comes to the HC to decide what rises to the level of being the purview of the HC and not the purview of the two parties that stand to benefit from the agreement. For instance, in 2006, the YN requested short-term spring acclimation space in the Wells Fish Hatchery dirt ponds for coho salmon from Cascade Fish Hatchery. Information was presented to the HC, but there was no vote. However, that was a short-term acclimation in the dirt pond. Clearly WDFW thought that the size of the additional orca prey production would require HC approval. In the past, there have been many situations where there are questions about whether a facility rearing issue rises to the level of an HC vote. Murdoch said it is her opinion that it is up to the HC to decide what requires a consensus vote.

Tom Kahler said a difference with the orca production was that it is raised in common with the brood for NNI mitigation and for release with the subyearling Chinook salmon component of the NNI production. The Upper Columbia reintroduction program fish will never be raised in common with HCP production. Murdoch said they will still be held in common during incubation. Kahler said they will not be held in common during any adult holding or rearing periods. Bill Gale said, as a result of conversations after the last meeting, it was determined that it makes the most sense for the PUD to use eyed eggs transferred to Wells Fish Hatchery from Entiat National Fish Hatchery. No adults will be transferred.

Mike Tonseth said he agrees that there has been inconsistency in how rearing requests are brought to the HCs for a vote but disagrees that there is always a need for all production requests to be brought to the HCs. For instance, WDFW has contracted with Douglas PUD for rainbow trout, which is an off-license, non-plan species production that in no way should be brought to the HCs.

Brett Farman said he agrees with Tonseth that there are things that fall outside the purview of the HCs even though they occur at the same facilities. Farman said he does think there is an obligation if there is no overlap or a change with the NNI production.

Gale said he agrees with Murdoch in part. If a party is concerned that an outside agreement to rear fish at the PUD's facility could affect their ability to rear their mitigation obligation, it should be discussed in the HCs; however, that conversation should be restricted to technical considerations.

Whether or not two parties come to an agreement to rear non-plan species, that is not his business as an HC member. Gale said he does not see any technical reasons why the production could not move forward at this time, and he does support it. In the future, there should be a more formalized process for this issue. If there is no controversy, the HC can move forward without a formal vote; when we note there is concurrence, its noting that it was an easy decision and didn't require a vote. Tracy Hillman noted that the end of Section 8.2.2 addresses decision making. The HCP states that HC decisions shall be based upon likelihood of biological success, time required to implement, and cost-effectiveness of solutions.

Truscott said there have been several emails between parties including the YN, Douglas PUD, and CTCR. The CTCR have done their due diligence providing information to the HC and asked for comments by August 31. The response from the YN was that they would not be able to approve based on policy and not based on technical merit. We have provided ample evidence that Douglas PUD will be able to meet their HCP-HC mitigation obligation. The CTCR has a vested interest in Douglas PUD being able to meet their hatchery compensation requirement as well.

Hillman asked if there is still time to address the technical questions that Murdoch has raised. Gale said spawning at the Entiat National Fish Hatchery occurs in approximately 1 to 2 weeks. Hillman asked the parties to try to come to resolution on the technical issues during the meeting.

Murdoch explained that the CTCR analysis looked at summer Chinook salmon as an isolated component of the facility, but also stated that all seven incubation rooms will be used. There is potential overlap when some coho salmon eggs will be transferred to Wells Fish Hatchery while summer Chinook salmon eggs are still being incubated. Gingerich said he believes that the eggs received from Entiat National Fish Hatchery will be isolated and incubated in their own room. Truscott confirmed that things changed substantially when there was a change to obtaining eyed eggs from the Entiat National Fish Hatchery. The eyed eggs will be incubated separately and reared in a fashion where they will be advanced from the Wells summer Chinook salmon program and ponded earlier to take advantage of open vessels; juveniles would not be reared in combination with Wells stocks. The bio-programming from Douglas PUD was integral in determining what would be necessary to maintain that separation. Gingerich said that accepting this program for Upper Columbia reintroduction does not require any change to the coho salmon program and not kick the coho salmon into different rearing vessels or release timing.

Murdoch said the proposal would be strengthened with a schematic of the facility showing what is being reared, when, and with what flows. In the past, we have been able to look at schematics of facilities, and that was not provided in that case. The proposal shows density indices but does not show flow index targets. Murdoch said it's not clear what total facility flow needs are from the analyses. Kahler said he could talk to the fish culturists and obtain that information. Kahler said it doesn't matter much in the ponds because there is so much flow it's not an issue. Truscott said the

key point is that these fish will be reared separately from HCP programs at Wells Fish Hatchery. No water would be removed from HCP programs, so there would be no change in rearing densities or flow indices for the HCP production.

Tonseth said he believes there are specific flow indices and density indices in the comprehensive M&E Plan. To look at available capacity, we should compare the rearing criteria to metrics derived for the available facility. Kahler said he has tried but cannot find the indices in the M&E Plans. It mentions the indices but does not define them. The indices are reported in the M&E Reports as if they are given in the M&E Implementation Plan, but the only place we can find them is in the Hatchery and Genetic Monitoring Plans. Tonseth said, at a minimum, the co-managers' fish health manual that guides the fish culturists would provide minimum values for individual plan species. We have to keep in mind that these criteria would have been identified as specific life stages.

Gingerich said Douglas PUD can provide facility schematics that will be sent to Truscott for addition to the memorandum. Truscott agreed to revise the memorandum to reflect the change in the source of the eyed eggs (from Entiat National Fish Hatchery), which will be transferred in late January through early February to Wells Fish Hatchery. The fish will be kept separate from the other programs for the rest of the rearing cycle until they are moved off station. Juveniles will be held in the dirt ponds using second-pass water.

No other technical concerns were raised by other members of the Committees.

Tonseth said, as a matter process, there is a need to remind the HC members that as described in HCP Section 8.4.1, it's the PUD's responsibility to notify the HCs of these types of requests. It should be the PUD's responsibility to bring this type of technical information to the committees to make sure such proposals would not affect their own HCP hatchery production.

Gingerich clarified that an important correction is that Truscott brought this to the HCs on behalf of the Upper Columbia United Tribes (UCUTs), of which the CTCR is a member, to support their Phase 2 Implementation Plan for reintroduction. He noted that the proposal brought forward by the UCUTs was prepared in close consultation with Douglas PUD. Gingerich noted that we can bring these requests forward as proposals from the Douglas PUD in the future. Truscott said it is important to note that he also brought the information provided thus far to the Committees based on his belief that the program would not create an impact on the HCP programs.

(*Note: an updated version of the CTCR's memorandum to the Wells HC was distributed by email on October 3, 2022 [Attachment D].*)

VI. Administrative Items

A. PRCC HSC Representation

A letter was sent by Tom Dresser (Grant PUD) on September 12, 2022, to notify the PRCC HSC that Rod O'Connor would take over the role as primary representative and Todd Pearsons would become the alternate.

B. Next Meetings

The next regular HCP-HCs and PRCC HSC meetings will be held on Wednesday, October 19, 2022; Wednesday, November 16, 2022; and Wednesday, December 22. The October meeting will be held in person at Douglas PUD's auditorium with a WebEx virtual attendance option. The HCP-HC and PRCC HSC agreed they would consider meeting virtually in the winter because of travel challenges (from November through February).

VII. List of Attachments

Attachment A List of Attendees
Attachment B YN Responses to HCP-HC and PRCC HSC Questions on the Spring Chinook salmon Acclimation at Goat Wall
Attachment C Graph of Upper Methow Gauge (YN)
Attachment D Updated Memorandum to the Wells HCP-HC from CTCR regarding Juvenile Summer Chinook Reintroduction Production at Wells Fish Hatchery

Attachment A
List of Attendees

Name	Organization
Larissa Rohrbach	Anchor QEA, LLC
Tracy Hillman	BioAnalysts, Inc.
Scott Hopkins*º	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
Deanne Pavlik-Kunkelº	Grant PUD
Todd Pearsons‡º	Grant PUD
Tim Taylorº	Grant PUD
Brett Farman*‡º	National Marine Fisheries Service
Mike Tonseth*‡º	Washington Department of Fish and Wildlife
Keely Murdoch*‡º	Yakama Nation
Bill Gale*‡º	U.S. Fish and Wildlife Service

Notes:
* Denotes HCP-HCs member or alternate
‡ Denotes PRCC HSC member or alternate
º Joined by Webex

Attachment B
YN Responses to HCP-HC and PRCC HSC Questions on the Spring Chinook Salmon Acclimation at Goat Wall

Response to Questions Regarding Goat Wall Continuation

Please, see below for responses to questions from Todd Pearsons, Kirk Truscott, and Bill Gales.

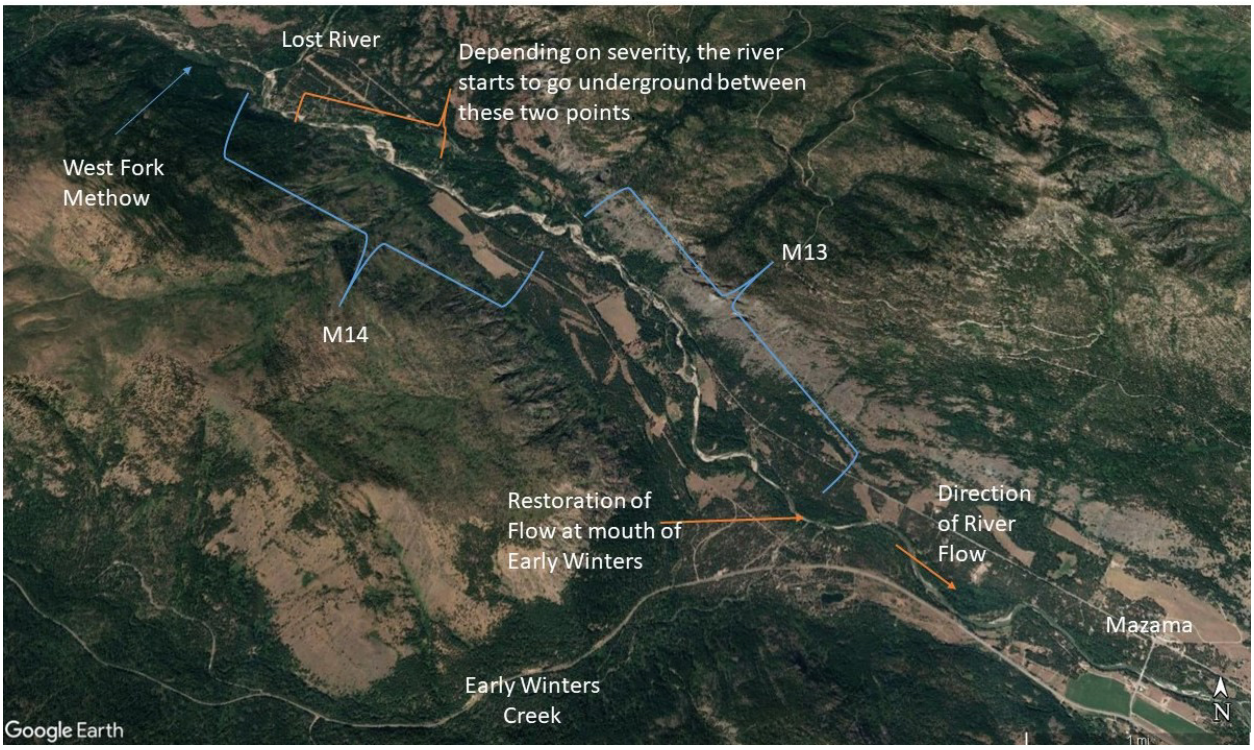
Questions From: Todd Pearsons, GCPUD

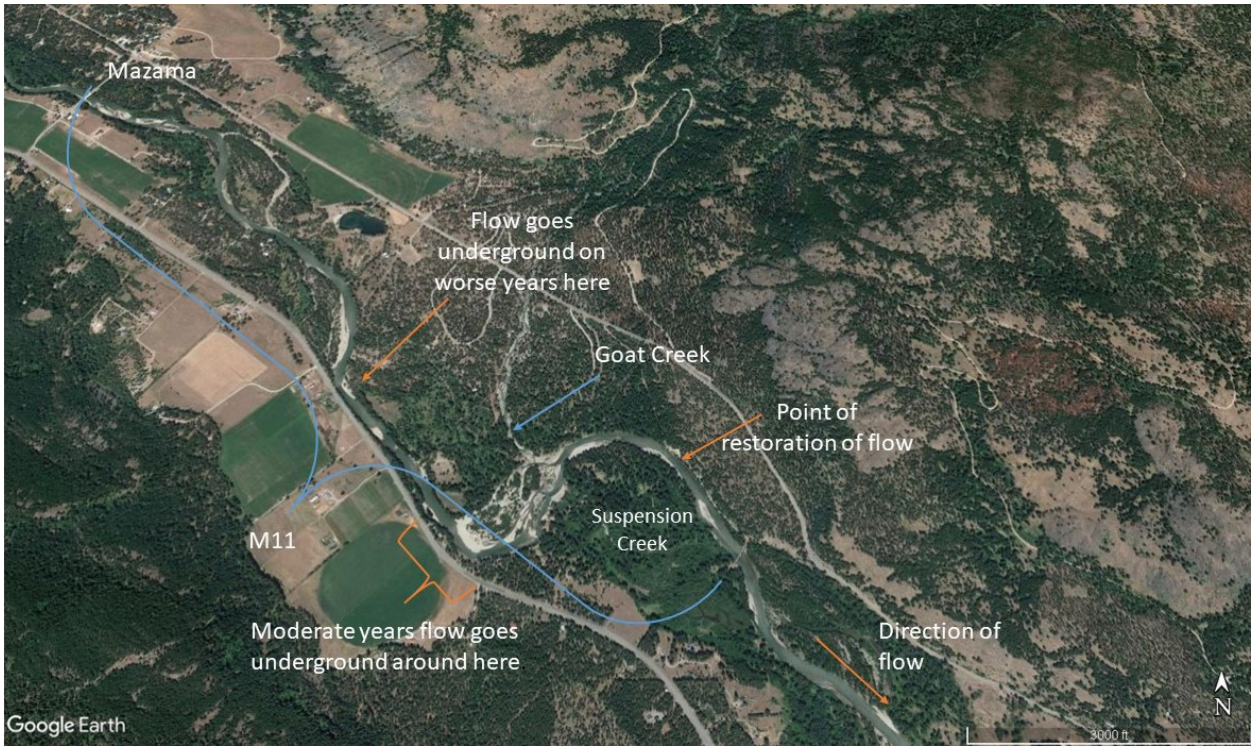
The heart of GPUDs questions about the YN Goat Wall Acclimation Proposal is about whether juvenile acclimation at Goat Wall increases the risk of redd desiccation in the future. Depending upon answers to the questions below, GPUD may be more comfortable providing fish for acclimation at Early Winters Pond rather than Goat Wall Pond.

1) ***What % of redds created by adults that were acclimated as juveniles at Goat Wall Acclimation Facility would be predicted to produce no progeny based upon redds going dry prior to juvenile emergence from redds? Please provide annual estimates.***

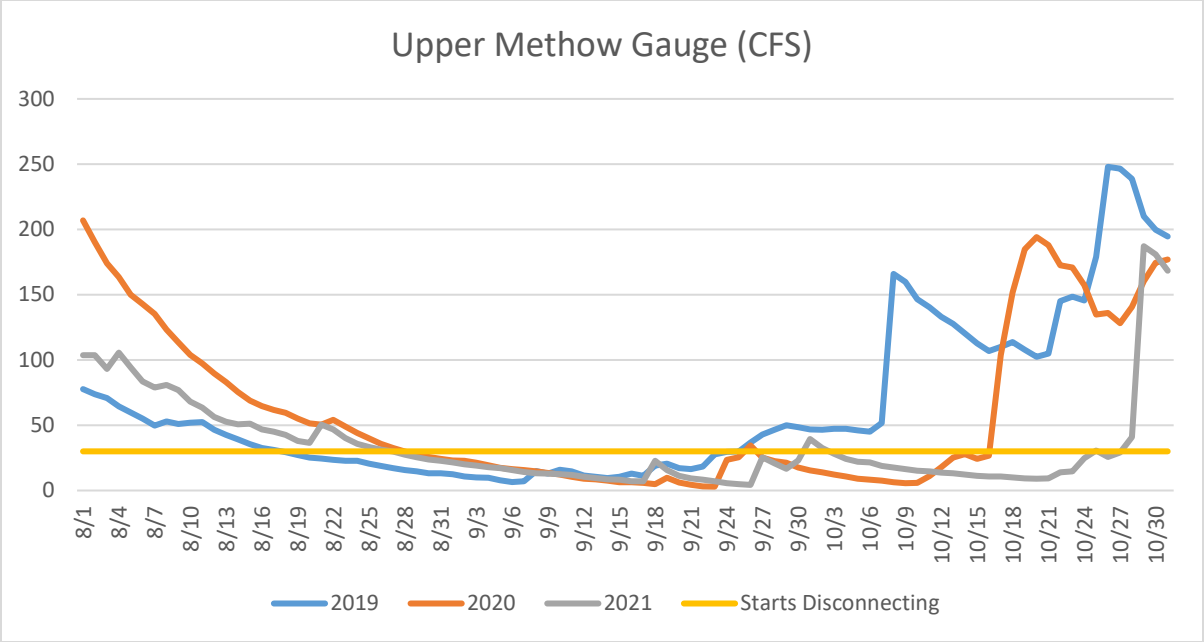
An estimate could be made by looking at the historical relationship between stream discharge and the time of stream reach drying after spawning. Data should be available for the past few decades, but some assumptions may be required to produce estimates.

In the upper Methow River there are two sections with spawning gravel that go dry; the lower half of M14 to the bottom of M13, and around the confluence of Goat Creek which is in M11 (this is near the Upper Methow Gauge). M14 does have some good spawning gravel in the drying section and M13's more recent redds are in the upper section. I have two Google Earth images below that help explain where these reaches are in the basin. The first image is of M13/M14 below the Lost River and the second image is of the M11 reach.





Looking at the past decade at the Upper Methow gauge, fall freshets occur anywhere from mid-Oct to late Nov. From 2012 thru 2021, freshets occurred in September once, October five times, and in Nov twice. In 2018 there was no fall freshet and in 2013 it looks like the upper Methow did not dry out (I'm not sure about that one).



This is a graph showing the cubic feet per second (CFS) of the Upper Methow Gauge from August thru October of 2019, 2020, and 2021. From what I have observed in the field, disconnection starts around 30 CFS, the yellow line. Peak spawn in the Methow River is roughly the last week of August/first week of September.

A quick background on my (Danielle) relevant knowledge. I worked for WDFW in the Methow Valley from 2017 thru 2021. I participated in spring Chinook spawning surveys in those years. More importantly, I headed up the salvaging effort in the upper Methow and upper Twisp from 2019-2021. I have hands-on knowledge on when disconnection occurs, the extent of drying, and isolated pool formation.

You can see that 2019 dried up a week earlier than 2020 and 2021, but had an early freshet in September. Year 2020 and 2021, seem to be more representative with a fall freshet occurring in October. Even before those freshets, there were rain events in September that kept the dessication from becoming worse in late September/early October.

Spawning ground surveys in the Methow occur from the first week in August to the end of September. In 2019, no Goat Wall fish were encountered in M13 and M14. All escapement in those reaches is due to NOR fish (8) and unknowns (4). There was an early freshet that year in September, so all desiccated redds would have been known and documented. There were no redds in M11 that went dry.

In 2020, there were no redds located in the drying sections of M13/M14 nor around Goat Creek. I suspect some of this may have to do with the low return numbers. The freshet occurred in mid-October after spawning ground surveys would have concluded, but since no redds were created in the drying areas the desiccated redds for this year would still stand at zero.

In 2021, there were 10 redds out of 16 in M14 and M13 that went dry. Escapement was estimated at 50 for those two reaches (about three fish/redd). This breaks down to 10 goat wall fish, 23 Chewuch released fish, 13 NORs, and 4 unknowns. With simple math, six out of 10 Goat Wall fish likely did not

contribute to the next generation (including 2 females or 2 redds). In addition, there was one redd documented as going dry in M11 which has an associated NOR female carcasses.

In 2021, the freshet was in late October leaving the possibility that more redds might have dried up in M11 (M14/M13 did not have any more vulnerable redds). However, looking at the graph the low point was in late September so desiccation should not have been worse in October. These potential vulnerable M11 redds would be attributed to NOR fish only.

Conclusion: Looking at the data for these past few years, the impact of desiccation on Goat Wall escapement is minimal and not yearly. Goat Wall fish don't seem to exacerbate or overly increase spawning in the desiccated areas. Desiccation did effect the Goat Wall adults in 2021. With an escapement of 75 GW fish in that year and an average of 2.7 fish/redd in the Methow River, about 28 redds were made by Goat Wall fish females. That means 7.2 % of female Goat Wall redds were desiccated in 2021 with an overall yearly average (2019-2021) of 2.4%.

2) What are the annual % of redds that go dry for the Methow Hatchery releases vs. Goat Wall releases during the past few years of data availability?

In the past three years, none of the redds that have an associated female carcass were identified as Methow Hatchery Origin. Furthermore; in 2019, 2020, and 2021 estimated escapement to the reaches that are subject to desiccation is zero for Methow Hatchery on-site releases.

2021 was the only year that Goat Wall escapement intersected with drying redds. Escapement in 2021 was 75 fish for Goat Wall. As noted above, an estimated six Goat Wall fish (including two females) were estimated to not have contributed to the next generation which is 8% of their escapement. There was only one known Goat Wall female attributed to a desiccated redd.

Over the three years, the average annual percent of Goat Wall escapement (male and female) that did not contribute to the next generation is estimated at 2.6 %.

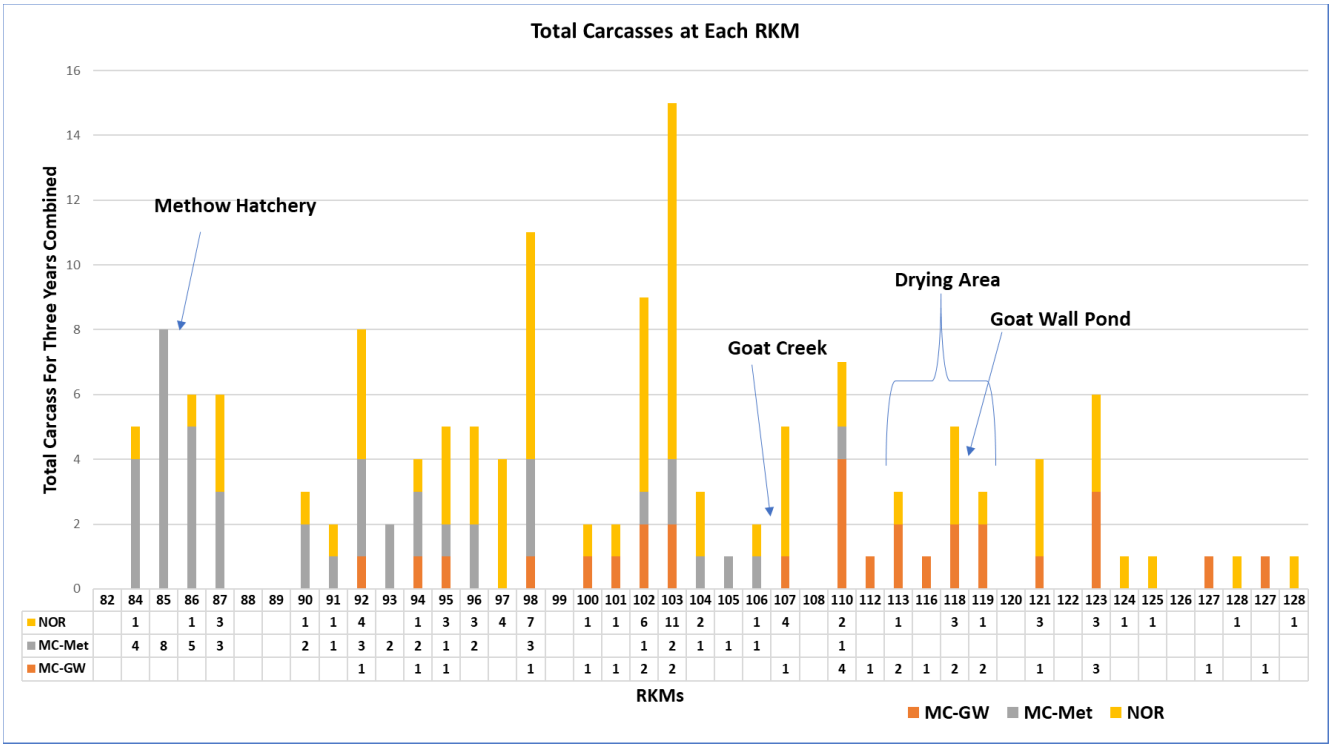
3) What are the predicted risks of redd dessication for adults that produced redds and were acclimated at Goat Wall vs. Early Winters as juveniles?

That's difficult to predict. Perhaps we could be better informed about this as we get additional return data, plus of course we haven't released springers from Early Winters yet. Goat Wall acclimated fish have escaped all the way up the Lost River, about 7.8 RKMs above the acclimation pond. Just because they could be acclimated lower in the basin does not mean they won't be drawn to the areas that become desiccated. Early Winters is a few RKMs downstream of Goat Wall pond and the confluence is right below the desiccation area.

We have seen a concentration of redds adjacent to the Goat Wall acclimation site. This is where some of the desiccated redds in 2021 were located and where we estimated that 8% of Goat Wall escapement did not contribute to the next generation. This could possibly be reduced with acclimation at Early Winters. However, there are also NORs spawning at the same spot so it's hard to draw definitive conclusions from that.

Questions From: Kirk Truscott, CCT

1) ***Slide #6 depicts the spring Chinook carcass recoveries in the Methow River (presumed spawning location) based on a geographic description of low, middle and upper Methow River. Is it possible to provide the same information, but include the rkm rather than the general low, middle and upper classifications? What I'm concerned with, is the proximity of recovered carcasses to the dewatered reached in the Methow RIver. It appears as if the Goat Wall fish do not spawn in the "lower" areas of spring Chinook habitat and occupy the middle and upper reaches, which at first thought seems like a good thing. However, if they are occupying habitat in the areas prone to dewatering during the spawning/incubation/early rearing periods then that could be detrimental. It appears as if the natural origin fish occupy predominantly the "middle" reaches (~67% of the carcass recoveries) and less so in the "upper" reaches (~ 30%). Conversely the Goat Wall carcass recoveries indicated the majority of the recoveries (~60%) were recovered in the "upper" reaches. Proportionally, the Goat Wall fish appear to be occupying the "upper" reaches in much higher proportion than the natural origin fish. Why might this be? longer-term habitat conditions limiting natural production in the "upper" reaches? I don't know, but if this were to be the case, an artificial propagation program that returns the majority (~60%) of the returning hatchery adults to a geographic area with limited productivity potential may be detrimental to overall spring Chinook production in the Methow River.***



RKM	82	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	110	112	113	116	118	119	120	121	122	123	124	125	126	127	128	127	128
NOR		1		1	3			1	1	4		1	3	3	4	7		1	1	6	11	2		1	4		2		1		3	1		3		3	1	1			1		1
MC-Met		4	8	5	3			2	1	3	2	2	1	2		3				1	2	1	1	1			1																	
MC-GW										1		1	1			1		1	1	2	2				1		4	1	2	1	2	2		1		3				1		1	

Here is a graph of carcasses (both male and female) for NOR, on-site releases (MC-Met), and Goat Wall acclimated fish (MC-GW) at each RKM for all years combined. I have included the location of Methow Hatchery and Goat Wall Pond. The two drying areas are referenced as well; around Goat Creek (which can be up to 2 RKM) and M13/M14 which is shown as the “Drying Area”. A couple things to note. This is just carcasses and not an expansion of escapement. This means that a single carcass can expand to more

than one fish depending on the year and reach. Also, I did not include Early Winters carcasses in this graph because then they would be included in the drying area. Early Winters would add two NOR carcs and one more Goat Wall carc.

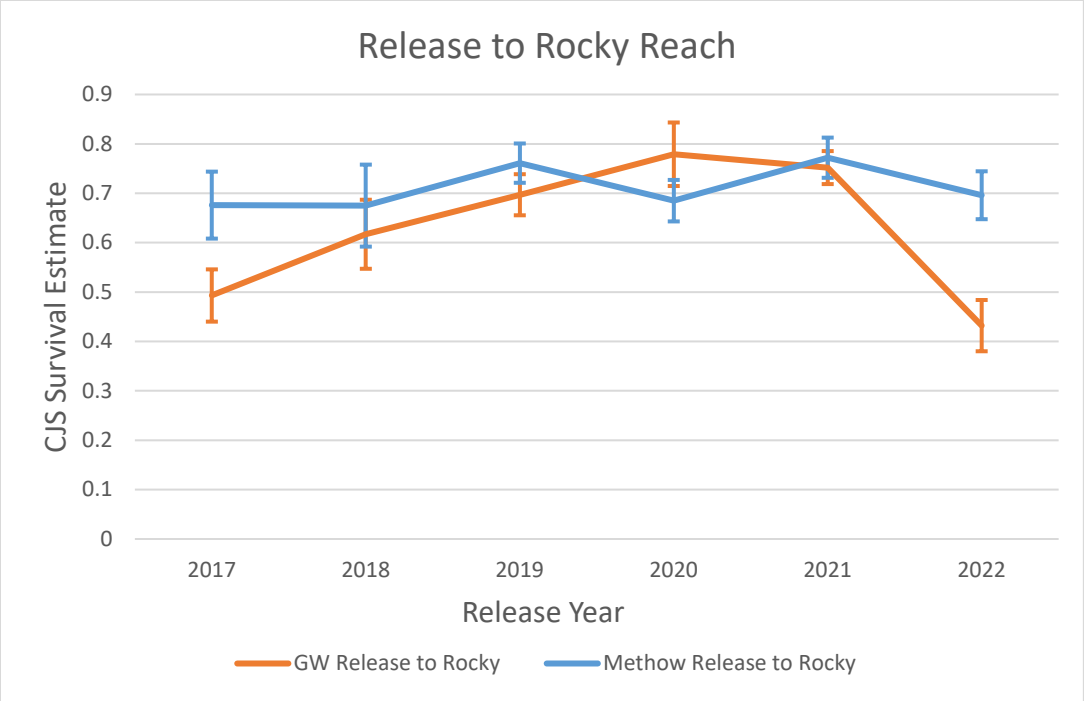
Goat Wall fish are found amongst NORs in the majority of the upper RKMs, within the drying areas, and above and below the drying areas. In fact, acclimation clearly extends spawning of conservation fish to the upper reaches of the Methow River helping to supplement those areas. It is important to remember that this expansion is balanced out by the Methow on-site releases. Goat Wall fish are the same stock/genetics/fish as Methow FH. So when you combine the escapement of both releases, we see that returns cover the basin as a whole and in a manner similar to NORs. This result likely gives this population a better chance to persevere by spreading out risk during these early life stages.

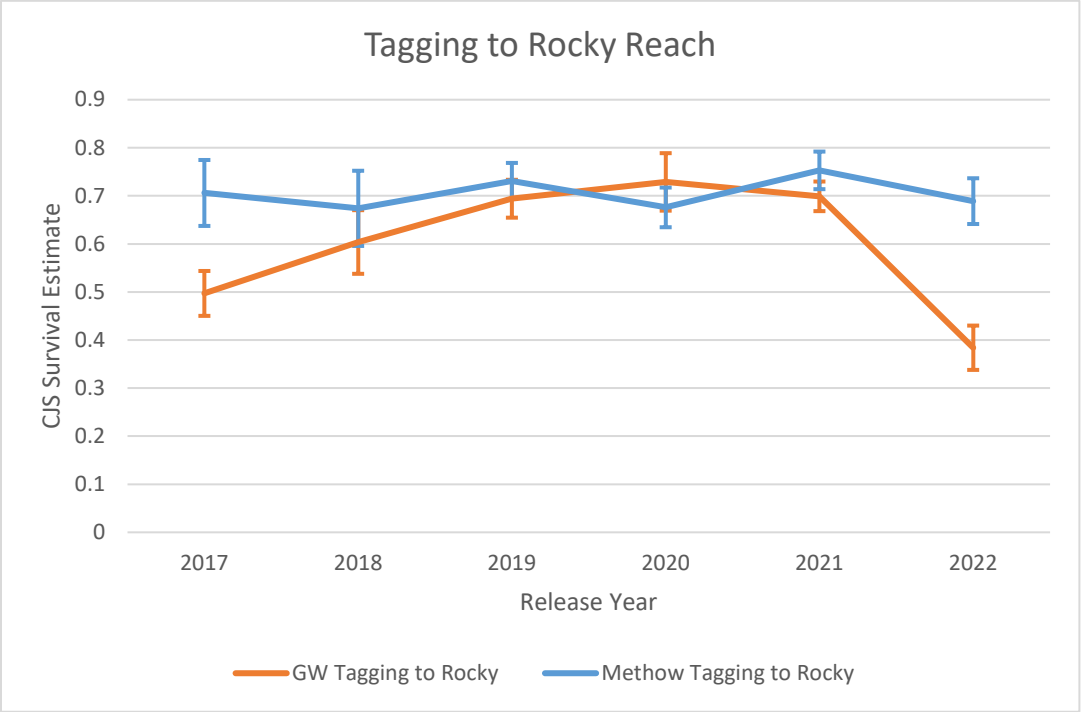
2) Slide #7 shows the same general trend as slide #6, but restricted to female carcass recoveries and includes rkm as the geographic description, which is appreciated. My question is "why are the N values so low?" For example, slide #6 indicates that ~ 330 natural carcasses were recovered; however, Slide #7 analysis includes only 40 female carcasses. This same trend appears for Goat Wall and Methow FH spring Chinook. It's hard to imagine that the sex ratio was that skewed towards males. Were all female carcass recoveries included in this analysis or a sub-sample?

The graph on slide 6 is the expanded carcass count. I should have noted that on the graph. Slide 7 shows only the actual count of female carcasses. In general, it is easier to find females then males since they are typically found near their redds and males can be anywhere.

3) Slide #12- The notes for this slide as well as the presentation on juvenile survival, stated that "comparing the two groups over the years we did not find a significant difference". While this may be, in all but 1 year, Goat Wall fish survived at lower rates than Methow fish, and 2 of six years (33%), Goat Wall fish survived at considerably lower rates (~33%-45% lower) than Methow fish. This is concerning to me. Is there data that could be used, such as known PIT tags leaving Goat Wall and Methow FH rather than the number of PIT tags at tagging? Seems that given the likely differences in the ability to account for mortality/predation between Goat Wall and Methow FH facilities, this would normalize the data.

I graphed out the CJS estimates of *Release to Rocky* and *Tagging to Rocky below*. Release to Rocky Reach does not take into account mortality prior to release. The values for both methods are quite similar, suggesting mortality at the pond/hatchery does not seem to be the deciding factor for differences in survival. Overall, survival is very consistent at Methow Hatchery and can vary at Goat Wall.





I included the error bars from the estimates as well. Looking at the graphs, survival for both sites is similar for 2018 through 2021 - with error bars overlapping in those years. In contrast, the survival in 2017 and 2022 at Goat Wall pond is markedly lower. It is speculated that some of this difference is due to the flow regime. Release year 2017 and 2022 had the lowest flows at release time for this program, 413 and 364 CFS, respectively. In the rest of the years, releases occurred above 500 CFS. There could be a flow threshold in the upper Methow where survival could be enhanced if releases occurred above 500

CFS. In contrast, releases at Methow FH would not necessarily be as sensitive to flow variation because releases occur much lower in the basin and flow and turbidity is boosted fairly immediately by the Chewuch drainage. For example, flows in 2017 and 2022 in Winthrop on the same release dates were 1340 and 950 CFS, respectively. This station is below the confluence with the Chewuch

For the best survival comparisons between the groups, standard protocol has been to release on the same day and similar timeframe to the Methow FH. Going forward, and during years when spring run-off is delayed, it may be best to prioritize the prevailing flows rather than trying to mirror Methow FH releases.

Questions from: Bill Gale, USFWS

1) ***The proposal demonstrates that Goat Wall acclimated spring Chinook mirror the natural-origin population's spawning distribution thus increasing spawning in the upper and middle Methow River while also having low rates of hatchery removal. We are concerned that an expansion will likely decrease the ability of the Service to reach its pHOBc goals (>75%) for WNFH's Safety-net program. This year will be the first time since 2016 that WNFH will make its pHOBc goals. It seems we can only reach the pHOBc goals only in very good return years just based off Methow Hatchery returns alone. Will having a small increase in the number of fish in the upper reaches outweigh the impacts of having a more domesticated Safety-net stock at Winthrop NFH during low return years? In high return years, how do we effectively manage pHOS in the middle and upper reaches, when we cannot remove Goat Wall / Early Winters fish?***

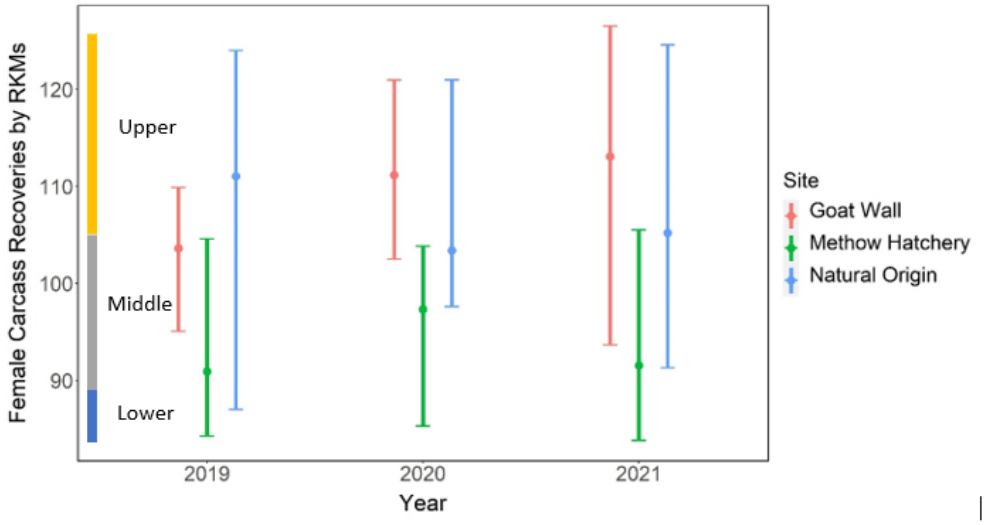
To be clear, right now we are focused on the *continuation* of the program at the current release numbers. This would not result in a change of pHOBc for Winthrop. For now, we would like to wait for 5 years of adult data to be completed to better inform on the expansion potential. At that point, expansion would be another decision for the committee to make based on results from a complete data set. We included the possibility of expansion in previous discussions so that the HC would know what direction we ultimately would like to take the program.

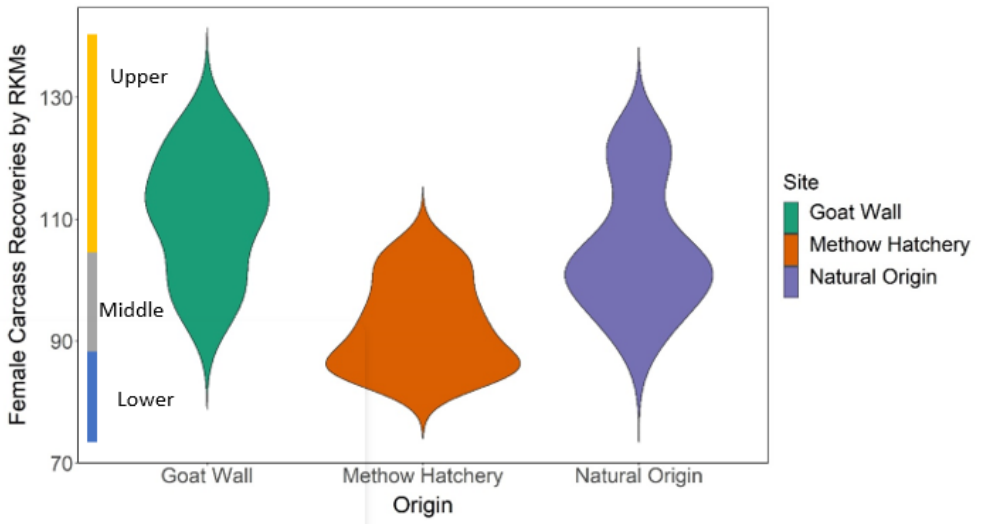
One of the main goals of the program is to determine what release size is necessary to increase distribution to enhance the supplementation effort while staying within bounds of pHOS/PNI goals. We need additional data to better inform us on these points. Considering this is looking like a high escapement year, we might have better data even after this year. Also, my understanding is that pHOS is managed at a basin wide level, not at the reach scale..?

Further, HCP mitigation is intended to achieve NNI, and results of the relative reproductive success study in the Wenatchee basin indicate that a measurable reduction in reproductive success of hatchery spring Chinook is directly attributable to where we release the fish and the habitat the adults return to spawn in, and not a genetic effect. When spawning in like habitats, hatchery spring Chinook have the same reproductive success as natural origin spring Chinook. Because Methow FH replaces natural origin fish that are lost to project mortality, it is our obligation to release fish in a manner that will encourage appropriate numbers of hatchery fish to spawn in the same habitats as natural origin fish, ensuring the fish intended to supplement the natural population are as reproductively successful as possible.

2) ***Figures 2 and 3 would benefit from marking where the lower, middle, and upper reaches of the Methow are by river kilometer. I think myself and other hatchery committee folks don't know the rkms of Suspension Creek, Wolf Creek, etc. Even if rkms is noted early when breaking out the reaches, I think this will provide more clarity to the audience.***

That's a great idea! I put the regions on those graphs below.





3) ***Has there been consideration to moving the Goat Wall 25k to the Early Winters Acclimation Pond instead? Adult fish can get trapped at the Goat Wall site and there isn't a lot of spawning gravel at the site of release. Early Winters Creek, unlike most of Cold Creek, has water year round and better spawning grounds. Outmigration detection might***

be easier to do at a controlled site such as Early Winters. No boats, ladders, fewer battery swapping issues, etc. I do realize that the Goat Wall site is higher in the basin than Early Winters. I know its a rather difficult site to create and maintain each year.

Yes, changing the release location to EW has been brought up. However, we think it's important to acquire the full 5 years of adult data before modifying the program at this stage.
Additionally, Early Winters does have areas of good quality habitat (we even have GW released fish up there in some years), but not near as much as the reaches proximal to GW even when considering the areas that can go dry.

For clarification: You mention Cold Creek. It's true that area goes dry but that's not necessarily a target tributary for them to come back to since there aren't any spawning areas within the creek itself. Not sure if that's what you meant.

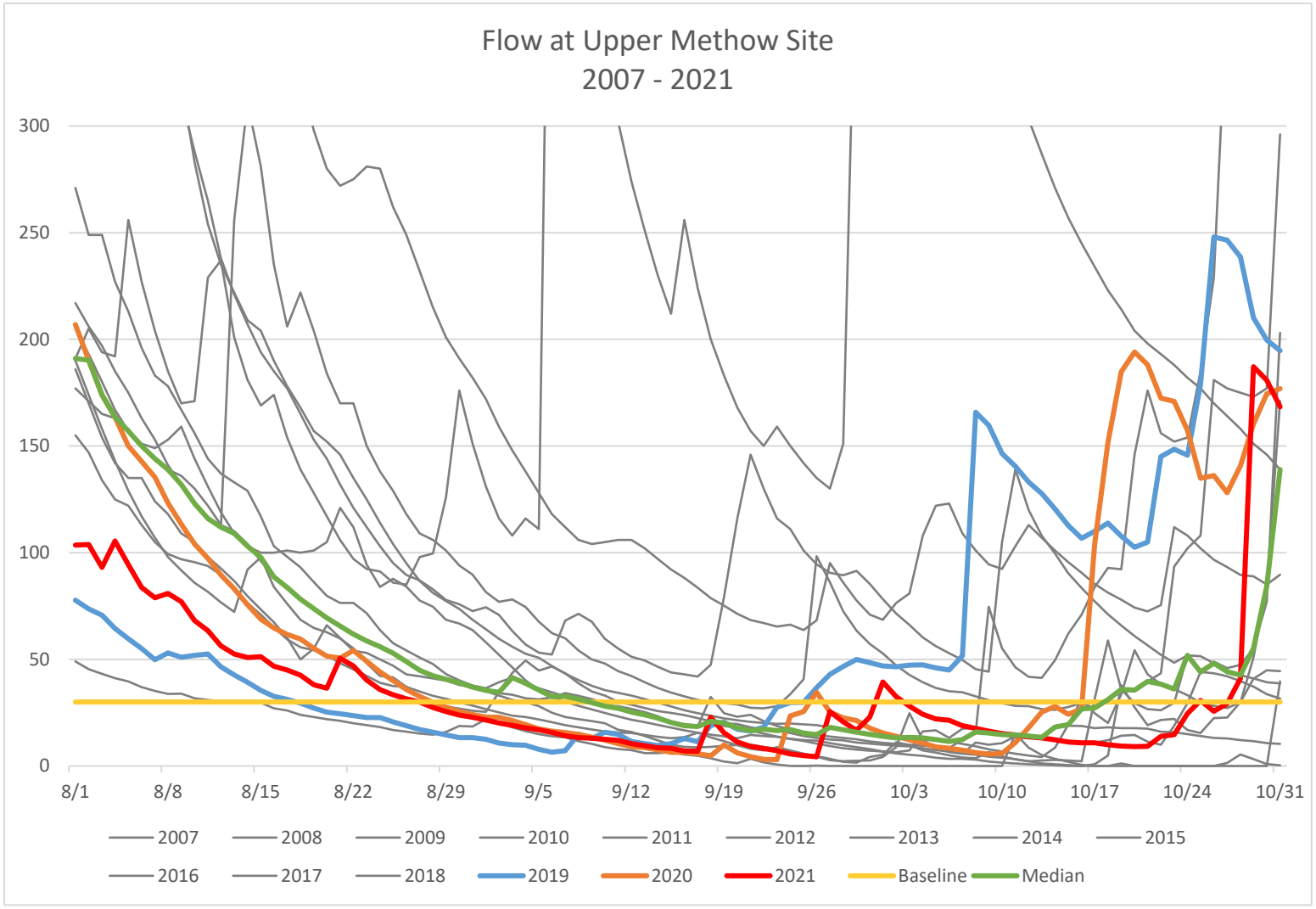
Yes, outmigration monitoring is considerably easier at Early Winters acclimation pond. Goat wall pond can be a hard site to set-up and manage, but we're adapting and learning ways to improve every year.

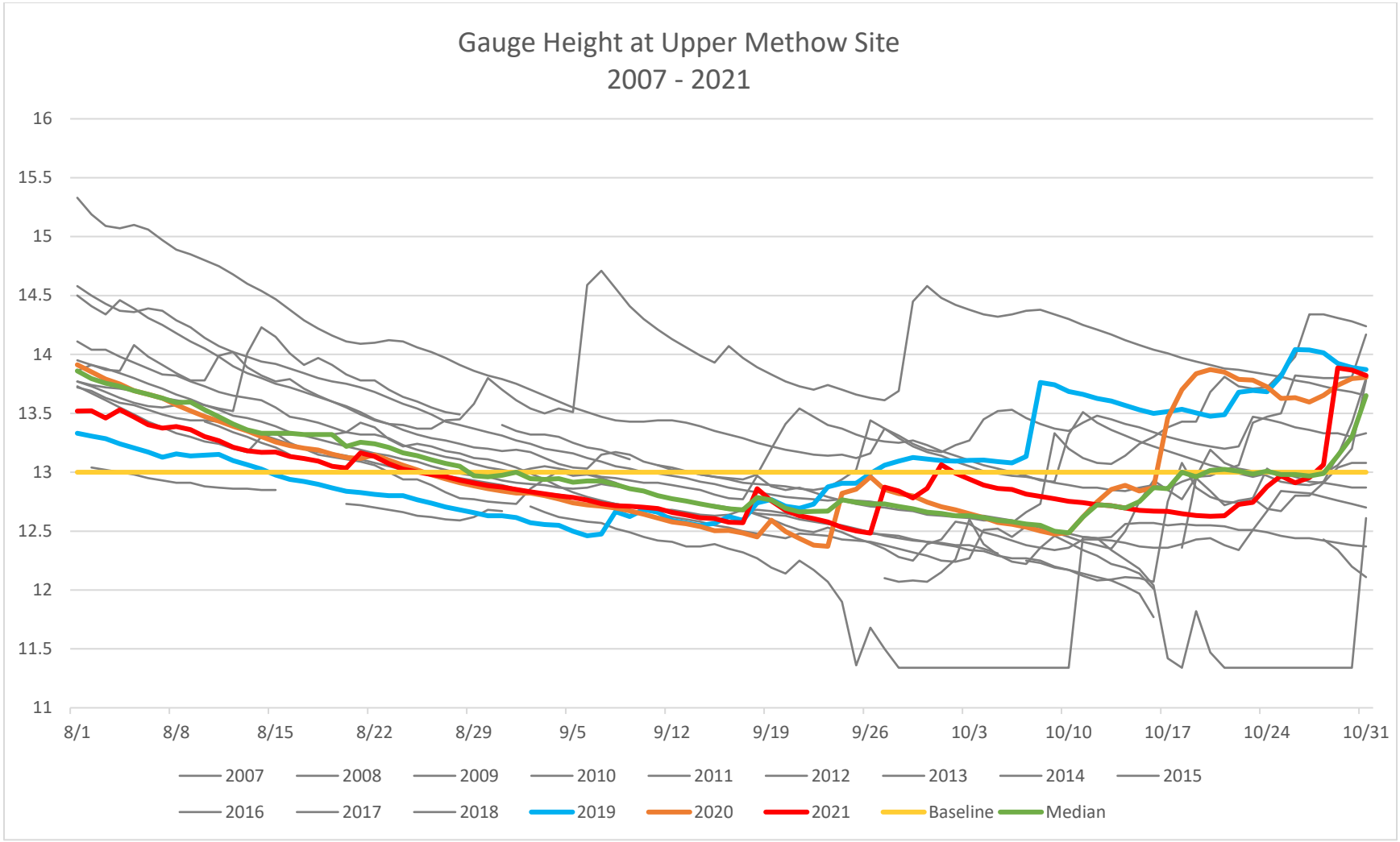
Attachment C
Graphs of the Upper Methow Gauge (YN)

Graph of Upper Methow Gauge

I graphed out both the flow and gauge height of the Upper Methow gauge from 2007 thru 2021. I added the gauge height since that is likely more appropriate with longer data sets. The gauge value is about 13 when disconnection begins in the upper Methow.

I left 2007 thru 2018 as gray lines while defining 2019-2021 with different colors. The yellow line depicts about when the river begins to disconnect and travels underground. I also added the median values as a green line. The medians were generated from all the years that are graphed (2007-2021). The median suggests that the timing of drying is generally the end of August/early September and fall freshets are generally occurring by the end of October. Year 2020 and 2021 seem to track fairly well with the median.


Flow at Upper Methow Site
2007 - 2021
300
250
200
150
100
50
0
8/1
8/8
8/15
8/22
8/29
9/5
9/12
9/19
9/26
10/3
10/10
10/17
10/24
10/31
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Baseline
Median


Gauge Height at Upper Methow Site
2007 - 2021
16
15.5
15
14.5
14
13.5
13
12.5
12
11.5
11
8/1
8/8
8/15
8/22
8/29
9/5
9/12
9/19
9/26
10/3
10/10
10/17
10/24
10/31
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Baseline
Median

Attachment D
Updated Memorandum to the Wells HCP-HC from the CTCR Regarding Juvenile Summer Chinook Reintroduction Production at Wells Fish Hatchery

The Confederated Tribes of the Colville Reservation
Fish and Wildlife Department
PO Box 150
Nespelem, WA. 99155

October 3, 2022

******* MEMORANDUM Updated*******

TO: Wells Habitat Conservation Plan, Hatchery Committee

FROM: Kirk Truscott, Confederated Tribes of the Colville Reservation

SUBJECT: Juvenile Summer Chinook Reintroduction Production at Wells FH

Appendix A. Incubation production and outdoor rearing plan at Wells Fish Hatchery
Appendix B. Letters of support from UCUT member tribes and Northwest Power and Conservation Council Members

During the August 17, 2022 HCP HC Meeting, The Confederated Tribes of the Colville Reservation (CTCR) proposed summer Chinook broodstock collection/holding of 80 adults obtained via CTCR surplus allocation, the incubation of 180,000 eggs and rearing of approximately 160,000 Brood Year (BY) 2022 juvenile summer Chinook through the fall-parr development stage at Wells Fish Hatchery (WFH). Following review of the HC and discussing ESA Bull Trout coverage with the USFWS during the August Hatchery Committee meeting, this proposal was revised to take and hold adults at Entiat National Fish Hatchery and transfer eyed eggs to the Wells Fish Hatchery. All other aspects of this proposal remain unchanged. Additional information is provided to share with the HC the incubation, early indoor rearing, and outdoor grow out in Appendix A following requests from the HC membership during the September 2022 HC meeting.

This production is to support Upper Columbia United Tribes' blocked area reintroduction Phase II initial juvenile studies above Grand Coulee Dam (P2IP). Member Tribes and Northwest Power and Conservation Council members submitted letters supporting this effort (Appendix B). The 160,000 juveniles will be transferred from WFH to the blocked area in late-October or early-November the year prior to release for final rearing and release.

Consistent with other recently added orca production at WFH, DCPUD and CTCR have developed adult brood holding, incubation, and rearing strategies that minimize resources (water and space) at WFH, such that the proposed production is consistent with existing available summer Chinook broodstock holding, incubation, and rearing space resources at WFH (Table 1). This rearing strategy is consistent with prioritizing DCPUD's HCP mitigation production and will not impact mitigation requirements nor the rearing conditions that those programs currently experience (e.g. flow & density indices).

Following technical review from the HC, no technical concerns were brought before the committee by the August 31, 2022 review end date. Additional information provided here and a revision to this memo followed HC review and comment occurring during the September 21, 2022 HC. CTCR believes that the technical review period provided and the supplemental information contained herein is sufficient evidence that the P2IP program can move forward at Wells Fish Hatchery without jeopardizing HCP mitigation programs.

Table 1. Capacity and current use of summer Chinook infrastructure at Wells Fish Hatchery and relative impacts of rearing 160,000 additional fall parr for the UCUT reintroduction program. Note that while broodstock capacity exists at Wells Fish Hatchery as shown below, eyed eggs from Entiat National Fish Hatchery will be transferred to Wells Fish Hatchery in December of 2022 to take advantage of an ongoing ESA consultation process. This change was made during the August HC meeting.

	Total SUC Capacity	Wells 1+	Wells 0+	Orca 0+ 1M	Met 1+ 35k	Reintro 160k	Total (Wells + 1M Orca + Met 35k)	Total (Wells + 1M Orca + Met 35k + Reintro 160k)	% of Capacity (Wells + 1M Orca + Met 35k)	% of Capacity (Wells + 1M Orca + 35k Met + Reintro 160K)
Broodstock Capacity/Requirements	2,100[1]	192	290	550	20	80	1,052	1,132	50	54
New Incubation (eggs)	3,528,000[2]	432,000	652,500	1,237,500	45,000	180,000	2,367,000	2,547,000	67	72
Old Incubation (eggs)	2,457,000	0	0	0	0	0	0	0	0	0

	Available Flow/DI	Wells 1+	Wells 0+	Orca 0+ 1M	Met 1+ 35k	Reintro. 160k	Total (Wells + 1M Orca + Met 35k)	Total (Wells + 1M Orca + Met 35k + Reintro 160k)	% of Capacity (Wells + 1M Orca + Met 35k)	% of Capacity (Wells + 1M Orca + 35k Met + Reintro 160K)
Broodstock (gpm)	2,250[3]			1,500			1,500	1,500	67	67
Incubation Trays – New	784	96	145	275	10	40	526	566	67	72
Incubation Trays – Old	546	0	0	0	0	0	0	0	0	0
Inc. Flow – New (gpm)	392	49	74	140	7	21	270	291	69	74
Inc. Flow – Old (gpm)	275	0	0	0	0	0	0	0	0	0

Outside Rearing (Density)[4]	0.060	0.03	0.03[5]	0.07	<0.01[6]	[4]	[4]	[4]	[4]

[1] Broodstock capacity assumes use of all 6 adult ponds.

[2] This is the combined capacity of all 7 incubation rooms in the new building; however, existing Chinook programs use only two rooms. No conflict with Coho or steelhead incubation due to timing. Does not include the option to add 315,000 egg bonus incubation stacks in 4 rooms.

[3] Assumes biological program flow of 500 gpm for ponds 1-3 and 250 gpm for ponds 4-6 and fully loaded ponds with 2,100 adults in all 6 ponds.

[4] Outside rearing ponds are managed to a maximum density index of 0.07 per HSRG recommending a DI of no greater than 0.12 for Chinook. Density index (DI) values for dirt ponds are <0.03 and therefore do not limit dirt pond rearing poundage. Instead flow index (FI) is used as the limiting factor. The addition of the P2IP production will not change the DI or FI for any other program.

[5] Orca production is reared in common with Wells HCP inundation subyearlings.

[6] The reintroduction program yearlings will be reared in a separate pond (3B) on primarily 2nd-pass water.

Appendix A. Outdoor Rearing Plan at Wells Fish Hatchery

Supplemental Incubation:

Wells Fish Hatchery has seven incubation rooms in the new building. In the new building, existing Chinook production uses only two incubation rooms. Steelhead use three incubation rooms, but not until most Chinook are out of incubation. Coho use a small portion of one room. Because of the staggered incubation timing of the various programs, all seven incubation rooms are never used concurrently, nor would they be when accommodating the P2IP program. Further, there would be no modification to Coho, Chinook, or steelhead incubation (timing or TU's) to incubate the P2IP blocked area program. Finally, there is capacity for another 2.4 million or more eggs in the old hatchery building that has not been used since Hatchery Modernization was complete (2016). This extra capacity will not be necessary when incubating the P2IP production.

Early rearing (production):

The hatch-out timing coupled with chilled water/temperature unit profiles experienced during incubation allows all mitigation programs to cycle into indoor early rearing adjacent to incubation without jeopardizing early rearing capacity. Hatchery staff sort, grade, and move groups as fish grow prior to transfer outside (see diagrams below). The P2IP fish will be held in separate vessels from other programs during early rearing in April & May. Coho are out of early rearing before yearling summers and the proposed P2IP fish would be arriving. P2IP fish move outside before steelhead come out of incubation in June (see Bureau Ponds 1 in June- diagrams below). In the month of April the P2IP fish will have the entire early rearing floor to themselves, leaving many unoccupied vessels.

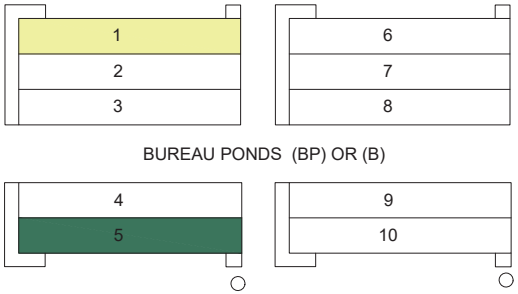
During the entire rearing cycle the 160K P2IP group will be held separately, never mixed with another Chinook program.

WELLS HATCHERY OUTDOOR
REARING UNIT ALLOCATION

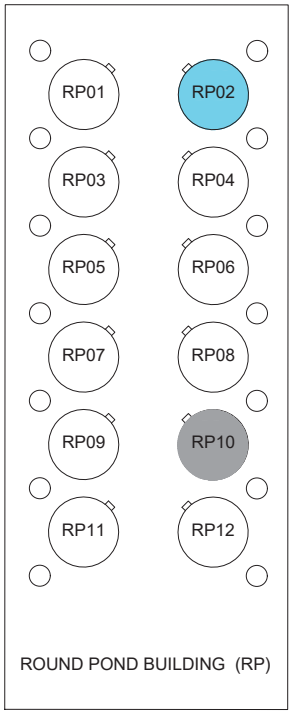
160K REINTRODUCTION
Version 09.21.2022

JUNE

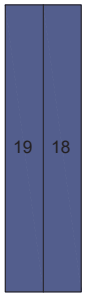
- WELLS HCP 1's CHK - 320k
- WELLS HCP 0's CHK - 484k
- WELLS HCP Wild Methow 1's CHK - 35k
- WELLS HCP Twisp Cons. STHD - 20k
- WELLS HCP Methow Cons. STHD - 20k
- WELLS HCP MSN - 77k + CSN 200k
- WELLS HCP Coho - 28k
- GRANT Omak + Okanogan STHD - 110k
- WDFW Orca/PST 0's CHK - 1M
- WDFW OLSA Trout
- CCT/UCUT Reintroduction 1's CHK - 160k



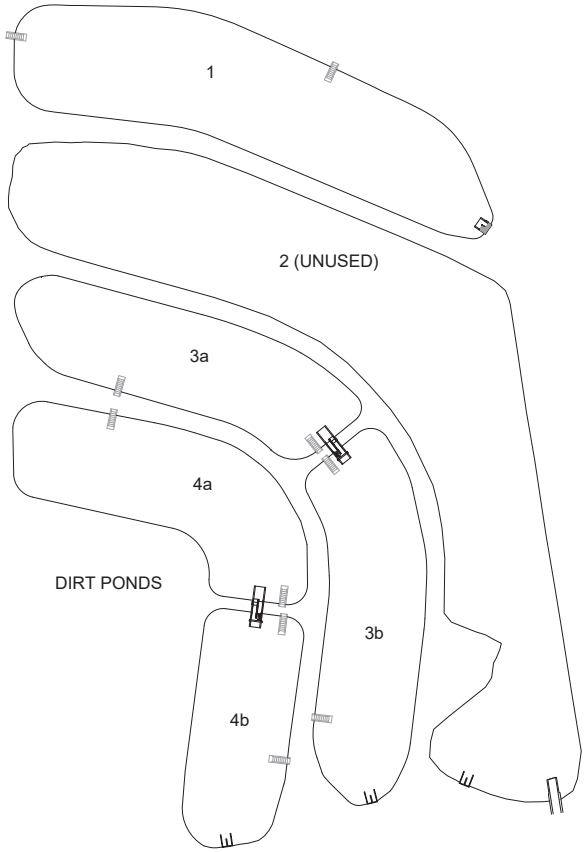
BUREAU PONDS (BP) OR (B)

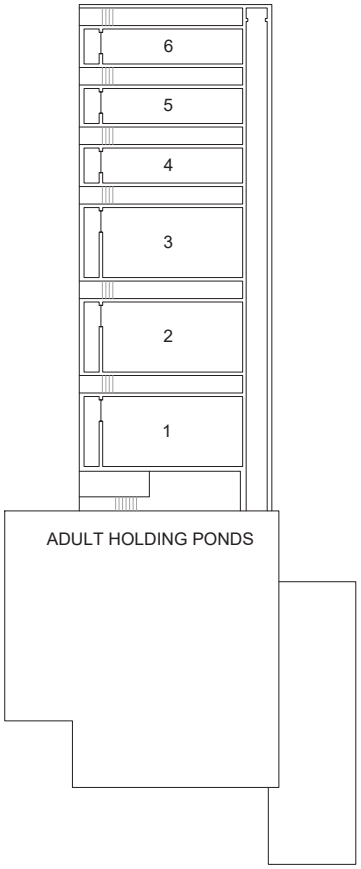


ROUND POND BUILDING (RP)



ABOVE GRADE (AG)





WELLS HATCHERY OUTDOOR
REARING UNIT ALLOCATION

160K REINTRODUCTION
Version 09.21.2022

JULY

- WELLS HCP 1's CHK - 320k
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- WELLS HCP Twisp Cons. STHD - 20k
- WELLS HCP Methow Cons. STHD - 20k
- WELLS HCP MSN - 77k + CSN - 200k
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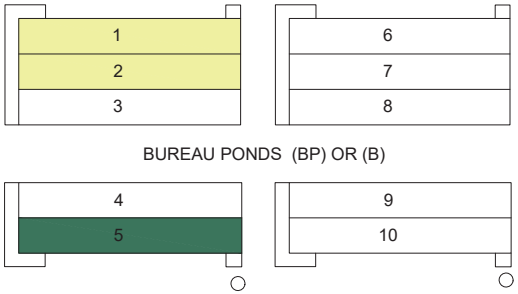
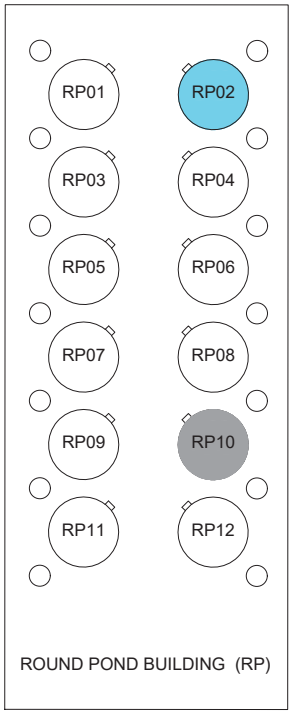
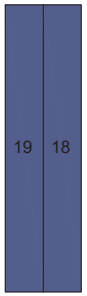
- WDFW Orca/PST 0's CHK - 1M
- WDFW OLSA Trout
- CCT/UCUT Reintroduction 1's CHK - 160k



BUREAU PONDS (BP) OR (B)



ROUND POND BUILDING (RP)



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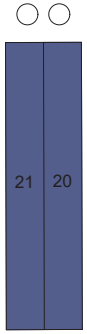

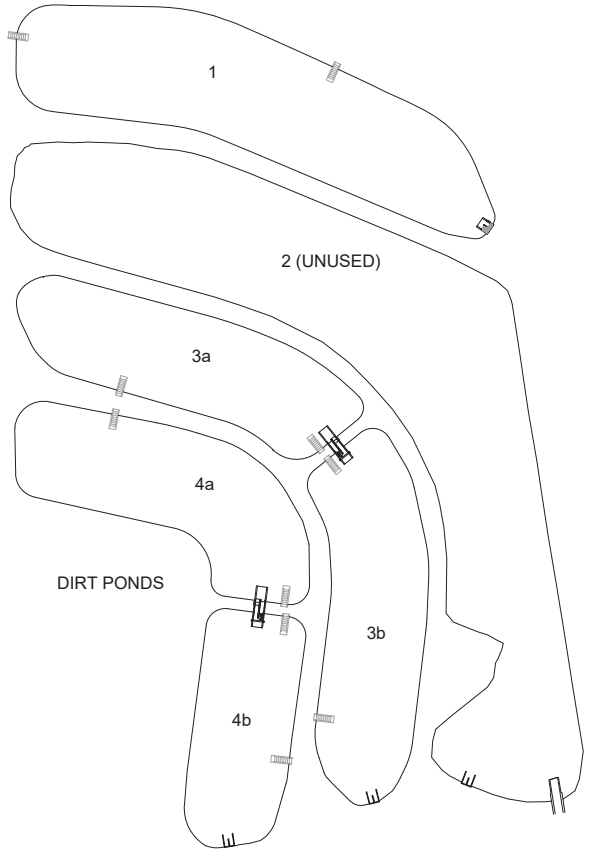

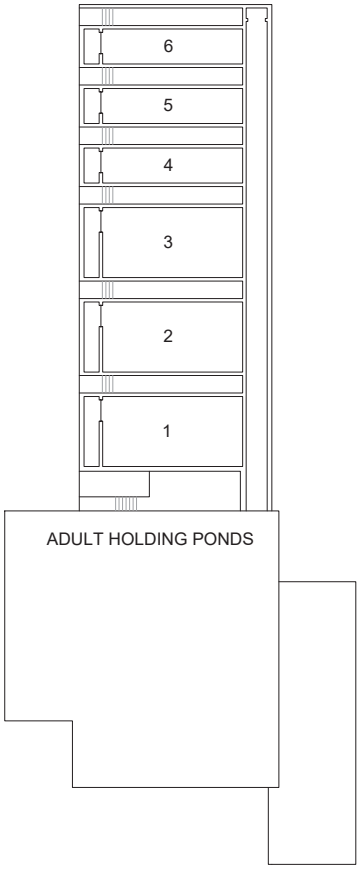

ADULT HOLDING PONDS

WELLS HATCHERY OUTDOOR REARING UNIT ALLOCATION

160K REINTRODUCTION
Version 09.21.2022

AUGUST

- WELLS HCP 1's CHK - 320k
- WELLS HCP 0's CHK - 484k
- WELLS HCP Wild Methow 1's CHK - 35k
- WELLS HCP Twisp Cons. STHD - 20k
- WELLS HCP Methow Cons. STHD - 20k
- WELLS HCP MSN - 77k + CSN - 200k
- WELLS HCP Coho - 28k
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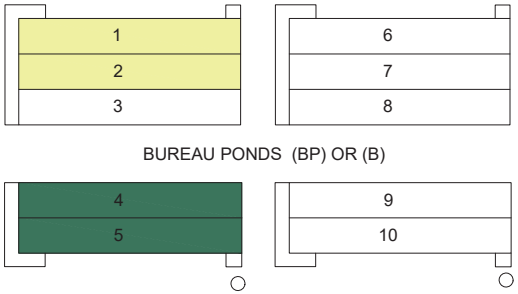
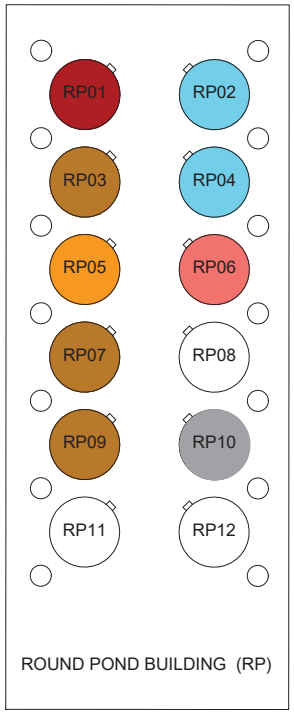
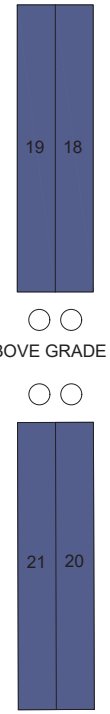
- WDFW Orca/PST 0's CHK - 1M
- WDFW OLSA Trout
- CCT/UCUT Reintroduction 1's CHK - 160k



BUREAU PONDS (BP) OR (B)



ROUND POND BUILDING (RP)



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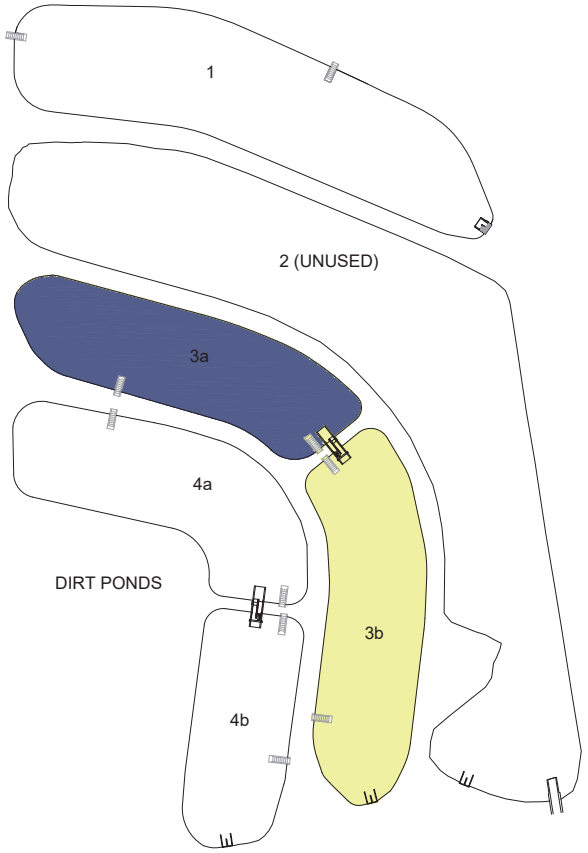
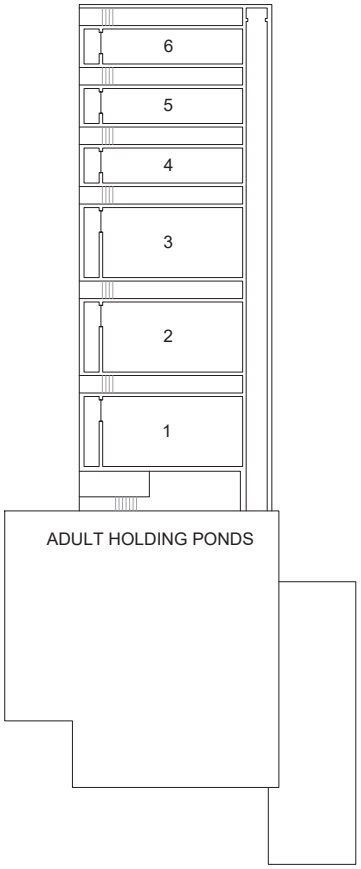


DIRT PONDS



ADULT HOLDING PONDS

WELLS HATCHERY OUTDOOR
REARING UNIT ALLOCATION

160K REINTRODUCTION
Version 09.21.2022

SEPTEMBER

- WELLS HCP 1's CHK - 320k
- WELLS HCP 0's CHK - 484k
- WELLS HCP Wild Methow 1's CHK - 35k
- WELLS HCP Twisp Cons. STHD - 20k
- WELLS HCP Methow Cons. STHD - 20k
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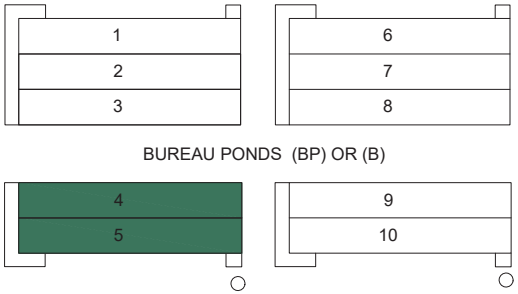
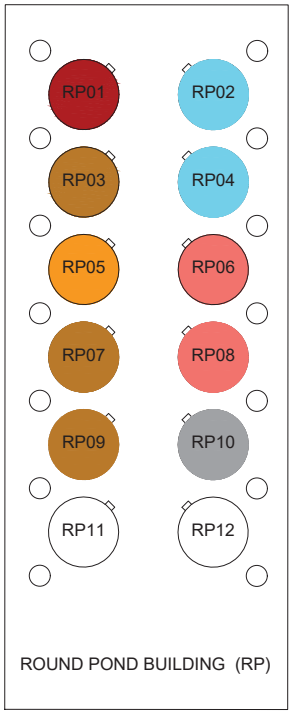
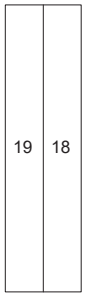
- WDFW OLSA Trout
- CCT/UCUT Reintroduction 1's CHK - 160k



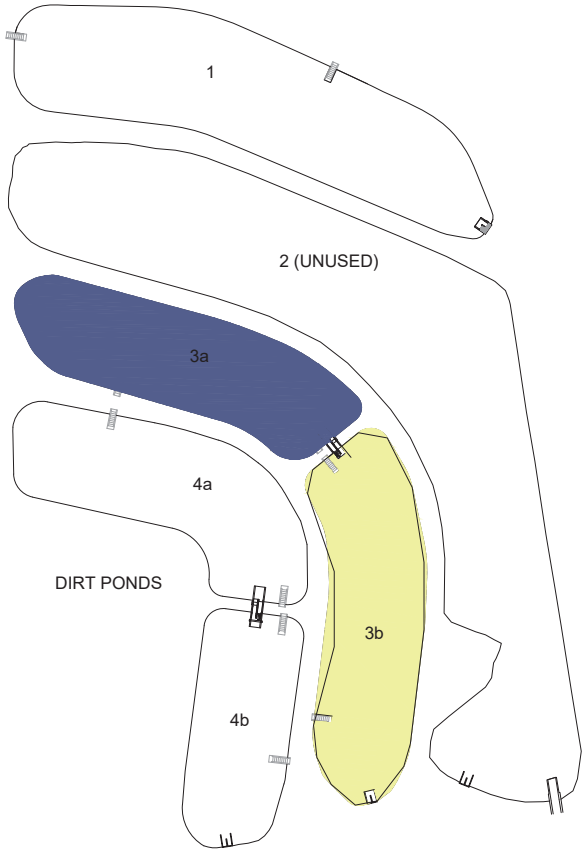
BUREAU PONDS (BP) OR (B)

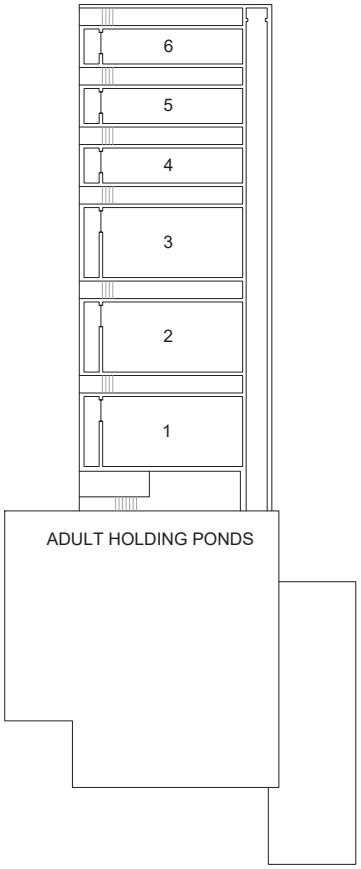


ROUND POND BUILDING (RP)



ABOVE GRADE (AG)





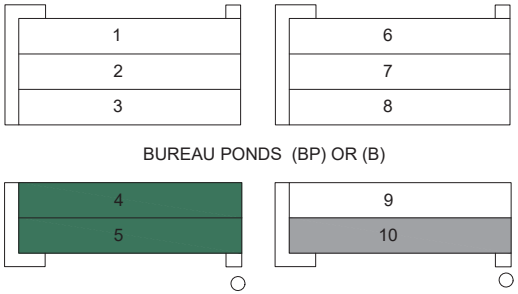
ADULT HOLDING PONDS

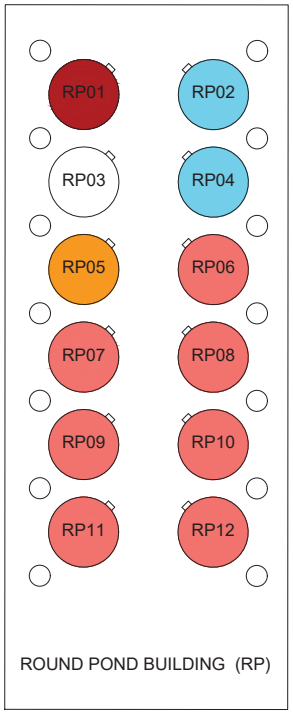
WELLS HATCHERY OUTDOOR
REARING UNIT ALLOCATION

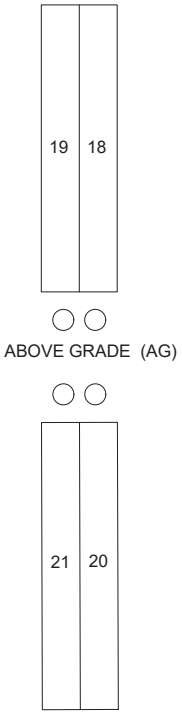
160K REINTRODUCTION
Version 09.21.2022

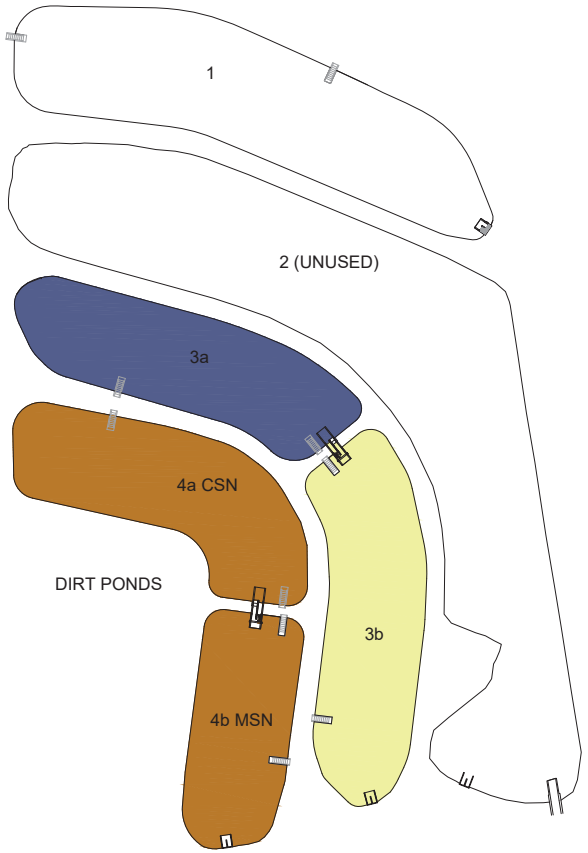
OCTOBER

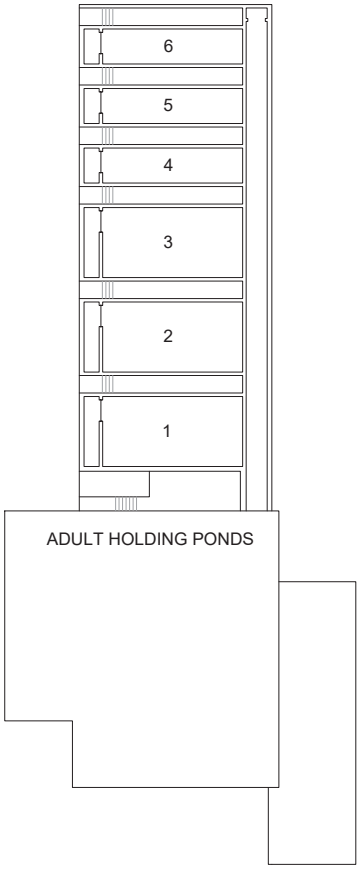
- WELLS HCP 1's CHK - 320k
- WELLS HCP 0's CHK - 484k
- WELLS HCP Wild Methow 1's CHK - 35k
- WELLS HCP Twisp Cons. STHD - 20k
- WELLS HCP Methow Cons. STHD - 20k
- WELLS HCP MSN - 77k + CSN - 200k
- WELLS HCP Coho - 28k
- GRANT Omak + Okanogan STHD - 110k
- WDFW Orca/PST 0's CHK - 1M
- WDFW OLSA Trout
- CCT/UCUT Reintroduction 1's CHK - 160k











WELLS HATCHERY OUTDOOR REARING UNIT ALLOCATION

160K REINTRODUCTION
Version 09.21.2022

NOVEMBER

- WELLS HCP 1's CHK - 320k
- WELLS HCP 0's CHK - 484k
- WELLS HCP Wild Methow 1's CHK - 35k
- WELLS HCP Twisp Cons. STHD - 20k
- WELLS HCP Methow Cons. STHD - 20k
- WELLS HCP MSN - 77k + CSN - 200k
- WELLS HCP Coho - 28k
- GRANT Omak + Okanogan STHD - 110k
- WDFW Orca/PST 0's CHK - 1M
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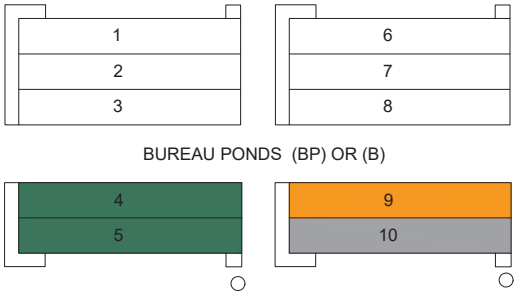
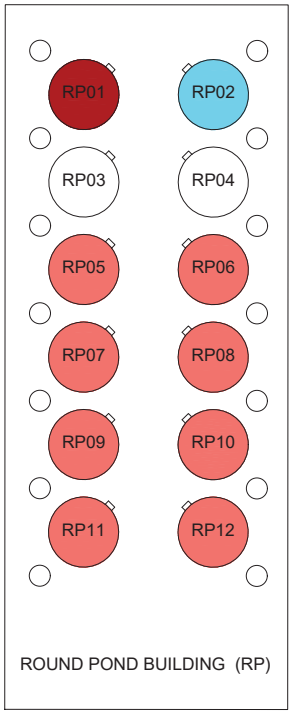
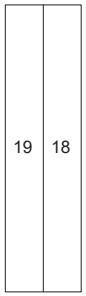


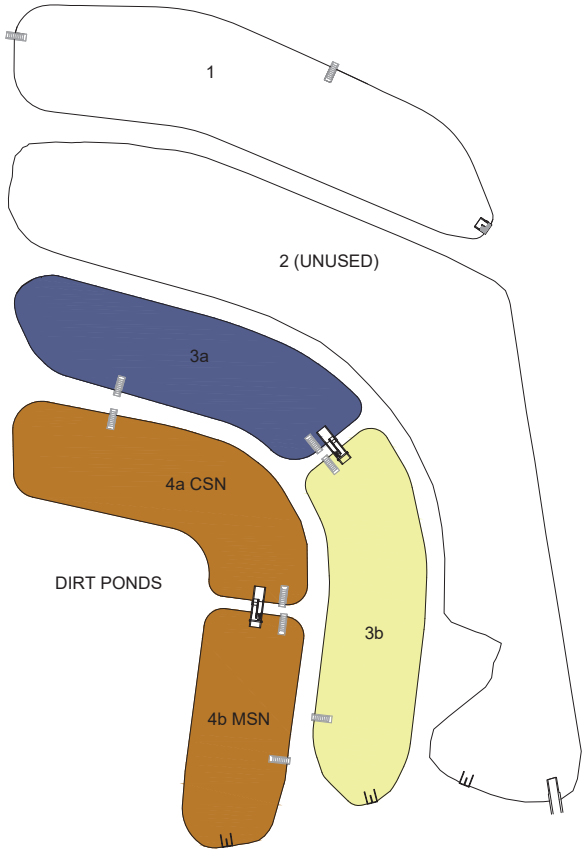
BUREAU PONDS (BP) OR (B)

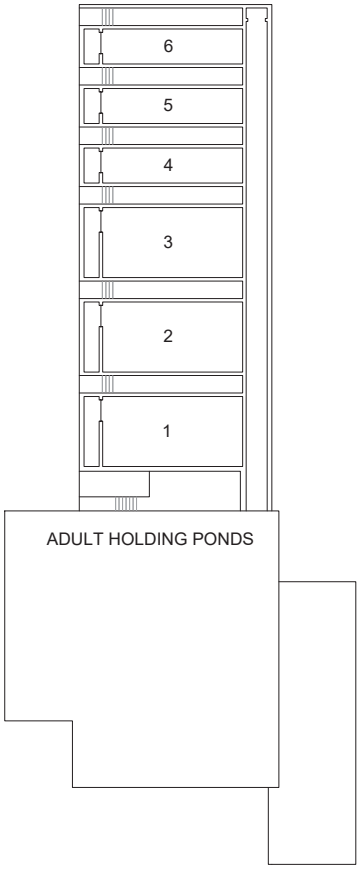


ROUND POND BUILDING (RP)



ABOVE GRADE (AG)





Appendix B.

Letters of Support from UCUT Member Tribes and Northwest Power and Conservation Council Members

Spokane Tribe of Indians
Department of Natural Resources

P.O. Box 480
Wellpinit, WA 99040
Phone: (509) 626-4400
Fax: (509) 258-9600

September 16, 2022

Douglas County Public Utility District Commissioners
Douglas County Public Utility District
1151 Valley Mall Parkway
East Wenatchee, WA 98802

RE: Ongoing Partnerships with Upper Columbia Tribes

Dear Douglas County Public Utility District Commissioners:

Over the past several years an unexpected partnership has grown between the Spokane Tribe, other member tribes of the Upper Columbia United Tribes ("UCUT"), and the Douglas County Public Utilities District ("PUD"). Particularly with the PUD's Wells Hatchery and staff. The Tribes have been pursuing the development of fish passage at Chief Joseph, Grand Coulee, and Spokane River dams in order to reintroduce anadromous fish to our waters and our people. Until recently, friends and allies in these efforts were few. The DPUD and Wells Hatchery staff have been an exception to this trend and have supported the Tribes' work for a number of years.

Since 2020 Wells Hatchery has made accommodations to collect and quarantine live surplus adult Chinook for transport to the Tribe's waters. These salmon have been used for cultural and educational releases; rekindling tribal traditions, informing staff research, and raised awareness of the opportunities our region poses for salmon and steelhead. Several weeks ago, this partnership culminated in a multi-tribal release of 146 summer Chinook to the Spokane River in the City of Spokane. These are the first anadromous fish to swim in that section of the Spokane River since 1909. This release was made part of the American Fisheries Society national conference and the fish drew hundreds of people to the river to witness it. The significance and sentiment of this act cannot be put into words, and Tribe is glad DPUD staff were there to see it.

The upper Columbia Tribes will continue these cultural and educational releases and are beginning the formal reintroduction research described in our Phase 2 Implementation Plan. DPUD's continued support will be critical to this next stage. Our staff are working diligently to ensure the studies are sound and that we have the resources to conduct them. This includes receiving 160,000 summer Chinook eggs from brood year 2022 and the PIT tags needed to monitor these fish. The Tribes are currently working on developing rearing facilities to raise future generations of salmon, but this takes time and there is an immediate need now. Wells Hatchery staff recognized this need. After internal consideration and analysis, Wells staff concluded the hatchery has the space and water to incubate and rear these summer Chinook on behalf of the Tribes until they can take possession of them in the fall of 2023. And this can be accomplished without interfering with DPUD's Habitat Conservation Plan obligations or other programs within their facility.

In the Tribe's opinion, the most efficient way to formalize the rearing of our 160,000 summer Chinook is to include it into the Facility Use Agreement between DPUD and our partners, the Confederated Tribes of the Colville Reservation. As CTCR has long-standing relationships with DPUD, the Spokane, and Coeur d'Alene Tribes, technical and administrative coordination is expected to be relatively seamless.

The Spokane Tribe and all upper Columbia Tribes know that fish passage and reintroduction is necessary for the tribes to heal. We also know that reintroduction will provide benefits to the ecosystem, salmon and steelhead populations, and the people of the Columbia River Basin, especially the upper Columbia. The Tribe thanks DPUD for its early recognition of the importance and benefits of these reintroduction efforts. First by facilitating our cultural and educational releases of adult Chinook. And now by supporting our Phase 2 research through rearing Chinook on our behalf until we have the means to do so ourselves.

Douglas County's support of the Tribes and our work has been exceptionally meaningful. It has taken more than 80 years to reconnect salmon with our people and our waters, and we could not have done it without the partnership of Douglas County PUD. Thank you.

If DPUD needs any assistance or has questions about the need for a Facility Use Agreement please do not hesitate to reach out. Conor Giorgi, the Tribe's Anadromous Program Manager is the point person for the Tribe, and he can be reached at (Conor.Giorgi@SpokaneTribe.com or 509-244-7031).

Sincerely,

Carol Evans

Carol Evans
Chairwoman, Spokane Tribal Business Council
Spokane Tribe of Indians

CC: Gary Ivory, DPUD General Manager
Shane Bickford, DPUD Assistant Manager

COEUR D'ALENE TRIBE
850 "A" STREET
P.O. BOX 408
PLUMMER, IDAHO 83851
(208) 686-1800 FAX (208) 686-1182

September 16, 2022

Douglas County Public Utility District Commissioners
Douglas County Public Utility District
1151 Valley Mall Parkway
East Wenatchee, WA 98802

RE: Partnership Support with the Coeur d'Alene Tribe and the Upper Columbia United Tribes

Dear Commissioners,

On behalf of the Coeur d'Alene Tribe ("Tribe") I write to express thanks for Douglas County PUD's ("DPUD") continued support for reintroduction efforts in the Upper Columbia. From the turn of the 20th century, the Tribe has been pursuing the reestablishment of anadromous fish back into our homelands. These fish were extirpated due to the construction and expansion of hydroelectric development throughout the upper Columbia River watershed, which has resulted in the systematic decline of our culture, along with a basin-wide decline in ecosystem health and function. The impacts from the loss of these salmon runs are felt not only in the upper Columbia River but have created a ripple effect throughout the entire Pacific Northwest and Pacific Ocean ecosystems, including an ongoing decline in health to all of the communities that reside within.

Over the last decade, efforts and support to reintroduce anadromy back into the upper Columbia basin have expanded. Local, regional and federal managers have recognized the benefits from these efforts would spread throughout the entire region, including to all Pacific Northwest tribes. Along with that, partnerships have been established between federal and state action agencies, tribes, county governments, and public utility districts. One such partnership in particular that is instrumental the reintroduction effort is the one between DPUD via Wells Hatchery and the tribes of the Upper Columbia United Tribes ("UCUT"), of which the Coeur d'Alene Tribe is a member.

Wells Hatchery and their staff have repeatedly identified excess space and water outside of their Habitat Conservation Plan ("HCP") hatchery obligations to hold surplus adult salmon before being transferred to the upper Columbia watershed for cultural releases. These releases have provided an immeasurable benefit to the Tribe, and we hope to continue to work with Wells Hatchery into the future to continue this effort. More recently, Wells Hatchery staff have identified space within their facility to support rearing of 160,000 juvenile summer chinook provided by the US Fish and Wildlife Service. The availability of these juvenile salmon is essential to the Tribe's effort. These fish will provide timely data necessary to support anadromous fish reintroduction back into the upper Columbia basin, and back to the Tribe's homeland. It is our understanding that rearing of these fish will also be done without impacting DPUD's operations and obligations under the HCP.

The Tribe believes the most effective and efficient way to proceed with the action is to do so under the existing Facility Use Agreement between DPUD and the Confederated Tribes of the Colville Reservation

("CTCR"). The Tribe will work with CTCR and the Spokane Tribe to provide compensation that will cover the cost entirely of rearing these fish under the aforementioned agreement. Moving forward on this agreement is critical to our reintroduction efforts.

On behalf of the Tribe, I would like to express my appreciation to DPUD and the staff at Wells Hatchery for providing this opportunity. Support from agencies like DPUD will continue to go a long way in moving this important endeavor forward. One of which will provide long-lasting benefits to the entire region and all communities that reside within.

For questions and clarifications, please do not hesitate to reach out to myself or to the Tribe's Anadromous Project Lead, Thomas Biladeau (thomas.biladeau@cdatribe-nsn.gov or 208-686-6307). We are happy to provide whatever resources we can to continue this collaborative effort.

Sincerely,

Gene "Heme" James
Secretary, Coeur d'Alene Tribal Council
Coeur d'Alene Tribe

CC: Gary Ivory, DPUD General Manager
Shane Bickford, DPUD Assistant Manager

Guy Norman
Council Chair
315 W Mill Plain Blvd,
Suite 202
Vancouver, WA 98660

Washington
Northwest Power and Conservation Council

KC Golden
Council Member
315 W Mill Plain Blvd,
Suite 202
Vancouver, WA 98660

September 16, 2022

Gary Ivory
Douglas PUD General Manager
1151 Valley Mall Parkway
East Wenatchee, WA 98802

Dear Gary,

The Northwest Power and Conservation Council's 2014/2020 Columbia River Basin Fish and Wildlife Program includes a measure to study the potential for reintroduction of anadromous fish above Chief Joseph and Grand Coulee dams in the reaches and tributaries of the United States. The Council is pursuing a science-based, phased approach to investigate, evaluate, and design an approach to determine how best to proceed with this effort.

The adaptive management required to implement and investigate a phased approach relies on the availability of fish for testing. The Washington members of the Northwest Power and Conservation Council understand that Douglas County Public Utility District is considering rearing fish to assist with studies required for a regional assessment of reintroduction. We further understand the Habitat Conservation Plan Hatchery Committee has evaluated the technical merits of providing these fish and there is no risk to the Habitat Conservation Plan program. We offer our support for your efforts to provide fish that are essential to testing the path forward.

Your efforts to benefit fish and wildlife are important. We look forward to working together as partners to create successful mitigation programs for the region. Any questions can be directed to Stacy Horton at shorton@nwcouncil.org.

Thank You,

Guy Norman

KC Golden

UCUT
UPPER COLUMBIA
UNITED TRIBES

25 W. Main, Suite 434
Spokane, WA 99201
t 509.838.1057
f 509.209.2421
ucut.org

September 21, 2022

Douglas County Public Utility District Commissioners
Douglas County Public Utility District
1151 Valley Mall Parkway
East Wenatchee, WA 98802

RE: Supporting the Upper Columbia United Tribes' Efforts to Reintroduce Salmon into the Blocked Habitats of the Upper Columbia

Dear Douglas County Public Utility District Commissioners:

I am writing on behalf of the Upper Columbia United Tribes (UCUT) to express support and appreciation of Douglas PUD rearing 160,000 summer Chinook for UCUT's efforts to reintroduce salmon into the blocked habitats of the upper Columbia. The UCUT organization and its member tribes have been pursuing the development of fish passage at Chief Joseph, Grand Coulee, and Spokane River dams to reintroduce anadromous fish to the tribes' waters and people. Douglas PUD and Wells Hatchery staff have been partners in this work for several years and we thank you for your ongoing support.

Each year since 2020, Douglas PUD has collected and held adult Chinook at Wells Hatchery so that the UCUT tribes may transport them alive for cultural and educational releases and to allow the fish to remain in quarantine while awaiting fish health screening results prior to release.

In addition to the tribes' cultural and educational releases, the UCUT organization and its member tribes are beginning the formal reintroduction research described in our Phase 2 Implementation Plan. To ensure the studies are sound and that we have the appropriate resources to conduct them, we will be receiving 160,000 summer Chinook eggs from brood year 2022. Staff at Wells Hatchery have indicated that they have the hatchery space and water to incubate and rear these summer Chinook on behalf of the tribes until they can take possession of them in the fall of 2023. The UCUT organization and its member tribes are excited that Douglas PUD has the space and water to rear these fish for reintroduction research without risking their obligations for the Habitat Conservation Plan.

This is a tremendous opportunity that is appreciated. This effort by Douglas PUD will help UCUT meet the timelines described in the Phase 2 Implementation Plan and use hard-earned resources we have accumulated to date.

If you have any questions, please feel free to reach out. My contact information is dr@ucut-nsn.org and my phone number is 509.954.7631.

Sincerely,

DR Michel
Executive Director, UCUT