

Memorandum

To: Wells, Rocky Reach, and Rock Island HCP Hatchery Committees, and Priest Rapids Coordinating Committee Hatchery Subcommittee Date: April 20, 2022

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

cc: Larissa Rohrbach and Sarah Montgomery, Anchor QEA, LLC

Re: Final Minutes of the March 3, 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 by conference call and web-share on Thursday, March 3, 2022, from 3:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A to these meeting minutes.

I. Welcome

A. Agenda, Announcements

Tracy Hillman welcomed the HCP-HCs and PRCC HSC and read the list of attendees (Attachment A). The meeting was held via conference call and web-share because of travel and group meeting restrictions resulting from the coronavirus disease 2019 pandemic.

All HCP-HCs and PRCC HSC representatives approved the agenda. Action items and meeting minutes from the previous HCP-HCs meeting will be discussed at the HCP-HCs regularly scheduled meeting next week on March 16, 2021. This meeting focused on hatchery production recalculation only.

II. Joint HCP-HCs and PRCC HSC

A. Hatchery Production Recalculation: Sensitivity Analysis

Tracy Hillman reviewed the purpose of today's meeting, which is to continue discussing No Net Impact (NNI) recalculation data sources and the approach that will be used in the sensitivity analysis. The public utility districts (PUDs) have distributed the following information to support today's discussion:

- Table 1 of the Sensitivity Analysis in the 2013 recalculation notebook (*Recalculation of Mid-Columbia River Public Utility District Hatchery Production, 2014–2023, Chelan PUD Supporting Documents*)
- Proposed allocation of natural-origin adult equivalents among hatchery sites for Chelan PUD's and Grant PUD's programs, distributed on March 1, 2022 (Attachments B and C, respectively).

Hatchery Production Allocation

Catherine Willard presented Chelan PUD's updated proposed allocations of adult equivalents for mitigating for Rock Island and Rocky Reach projects operations (Attachment B). For Rock Island and Rocky Reach mitigation for summer Chinook Salmon, Chelan PUD proposed that both the Entiat and Methow subbasins' adult equivalents should be allocated to Dryden Pond in the Wenatchee Subbasin based on the following three points:

1. Allocation to Dryden Pond would maintain similar production levels that have been done in the past.
2. Allocation to Dryden Pond would support recovery in the Wenatchee River where summer Chinook Salmon are generally under-escaped versus Chelan Falls which is not under-escaped.
3. Chelan Falls Acclimation Site is nearer to capacity, with a set production of 400,000 juveniles for mitigation for inundation.

Todd Pearsons described the relevant allocation of hatchery production for Grant PUD's programs, referencing the spreadsheet that was originally distributed on January 13, 2022 (Attachment B). Pearsons explained that the spring and summer Chinook Salmon allocation is spread across three subbasins (Methow, Okanogan, and Wenatchee). Grant PUD does not want to reallocate the production currently done at Chief Joseph Hatchery (CJH) for the Okanogan Subbasin. All steelhead production will occur in the Okanogan Subbasin. Summer Chinook Salmon will be spread between Dryden Pond, Carlton Acclimation Facility (Carlton), and CJH due, in part, to the Total Maximum Daily Load (TMDL) that limits numbers at Dryden Pond. Fall Chinook Salmon are all reared at Priest Rapids Hatchery.

Bill Gale asked whether the summer Chinook Salmon reared at CJH would go into the segregated or integrated program? Kirk Truscott confirmed that CJH has two summer Chinook Salmon programs (integrated and segregated); this type of production would be credited to and subsumed by the integrated program production and becomes part of the calculation in the cost-share among the three PUDs. If there was a poor return and the segregated program could not meet the full program targets, the PUDs would still have their NNI mitigation satisfied. The program would include the number of fish identified in this calculation, but this mitigation component may make up a larger proportion of the overall program in years of poor returns or low productivity.

Truscott said he was concerned about allocating only 50% of the summer Chinook Salmon adult equivalents to Dryden Pond and the rest to CJH (Table 1, row 20), wanting to ensure the capacity of Dryden Pond is fully utilized (given the TMDL limitations) before fish are jettisoned to CJH. Pearsons said that is acceptable, but there is some uncertainty around the proposed numbers in this table. Truscott agreed this is the difficulty of looking ahead because it's uncertain exactly how many fish would be produced.

Keely Murdoch said she also has concerns about Grant PUD's proposal. She said the Biological Assessment and Management Plan (BAMP) calculation directs us to use the smolt-to-adult return rate (SAR) from the release hatchery to calculate natural-origin return mitigation. In the last recalculation effort, it appears that spawner distribution was primarily used when existing hatchery allocations were not available, as described in the 2013 recalculation notebook (*Recalculation of Mid-Columbia River Public Utility District Hatchery Production, 2014–2023, Chelan PUD Supporting Documents*). When developing the recalculation implementation plan, there were multiple versions with much back and forth between the PUDs and the Joint Fisheries Parties. The resulting modified joint version had unanimous agreement, which resulted in the current hatchery allocations that have been implemented for the past 10 years. Now there is a need to use the best information available to calculate the BAMP formula at this time, which, Murdoch said, are the current hatchery allocations. Murdoch said she does not view the calculation of the BAMP as the time to change those hatchery allocations. The Joint Fisheries Parties met to discuss these proposed allocations, and it became apparent that when a member of the Committee proposes to raise more fish in one facility or another, those are the types of discussions that are worked out in the development of the implementation plan. The Committees cannot evaluate the capacity of a given site until the whole production number for Grant PUD and Chelan PUD is available (for instance, to calculate exactly how much production can go to Dryden Pond). Changing the hatchery allocation at this step in the recalculation process is difficult to do until the full picture of hatchery mitigation program sizes for all three PUDs is available and then discussions can be had about how to make best use of existing hatchery spaces for that mitigation. There's a reason why 10 years ago the comprehensive implementation plan was created to include the mitigation for all 3 PUDs so we could allocate the production to the appropriate locations based on capacity and where fish should be released. Changing the current hatchery allocation at this stage of recalculation feels like skipping steps in the process without all the necessary information that Committee members were opposed to during the data set verification stage. Murdoch said she feels the smoothest path forward would be to use the existing hatchery allocations because that is where there is unanimous approval, then work through the final production levels for each program at the implementation plan step of the recalculation process, recognizing that it is not perfect and somewhat circular.

Pearsons asked what specifically in Grant PUD's proposed hatchery designation creates a challenge for approval. Murdoch said she takes issue with 50% of the summer Chinook Salmon allocated to Dryden Pond (Table 1, row 20) and allocating only 9.8% of the summer Chinook Salmon production to Carlton Acclimation Facility (Table 1, row 16) because the Methow Subbasin is also under-seeded and it's important to maintain similar production levels at Carlton. In the last recalculation, it appears that the production that didn't fit at Dryden Pond went to Carlton Pond, and Grant PUDs production at Carlton Pond was actually a little bit bigger than their production level at Dryden Pond. In this case it looks like the fish that don't fit at Dryden Pond are being sent to CJH and Murdoch said she is not

sure the Yakama Nation (YN) would be willing to approve, especially at this stage of the recalculation process when the final production numbers at each facility are not yet available.

Pearsons asked if approval is a challenge for the summer Chinook Salmon only. Murdoch said yes, excluding the Okanogan Subbasin summer Chinook Salmon (in row 17), which she agreed makes sense to allocate to CJH. Murdoch said she may have some issue with spring Chinook Salmon because it appears to be some minor differences compared to the current allocations, though she agreed they appear similar. The steelhead allocations would be acceptable as they appear to be exactly the same as the current allocations.

Pearsons said that 83 and 173 (Entiat Subbasin and Chelan Falls summer Chinook Salmon in Table 1, rows 18 and 19) are fairly small numbers. Regarding summer Chinook Salmon mitigation for the Methow Subbasin, Grant PUD is suggesting allocation of those fish to Carlton in the Methow Subbasin. Conceptually, Grant PUD doesn't have a problem with mitigating in the Wenatchee Subbasin to the extent that we can. Grant PUD's preference is for the remainder of those fish to be allocated to CJH.

Truscott said it would be appropriate to maximize available rearing space at Dryden Pond for Wenatchee Subbasin mitigation; we know the capacity of the pond, but the actual number of smolts to be allocated to the Wenatchee Subbasin hasn't been recalculated yet to know how many of those smolts would have to be reallocated to CJH. For the Entiat Subbasin and Chelan Falls mitigation numbers, CJH is as good as any place and perhaps better than most. Truscott said the important question is not how many smolts we are producing but how many adults are we going to get back from those smolts. Allocating production from the Entiat Subbasin and Chelan subbasins to a hatchery with a higher SAR will presumably return more adults. Murdoch disagreed, stating that would not actually return more adults because the number of juveniles released is based on the SAR to obtain the same number of adult returns. Truscott agreed that Murdoch was correct. Pearsons said although Murdoch is correct, allocating production to a hatchery with a higher SAR would not result in more adults; it means fewer adults would be used for broodstock (pulling fewer adults off the spawning ground into the hatchery) to generate that number of adult returns, so it's more efficient. Murdoch agreed that is a valid point.

Murdoch said, additionally, the Similkameen SARs has been applied to everything from CJH and it is unknown whether that's actually the SAR for fish that are not released at Similkameen. Those data are not available and that number is not likely to be the SAR for the subyearling component. CJH has also been falling below in-hatchery survival targets for many years. Murdoch said there is no guarantee that releasing fish from CJH would return the same number of adults as Similkameen. She said she is also not convinced that the Similkameen SAR actually represents the SAR for CJH. Truscott reminded the group that the dataset for CJH is limited compared to other programs. The first brood year was 2013, so complete returns would only be available through brood years 2015 or 2016.

Pearsons asked what information is missing for Murdoch to fully evaluate the proposed allocations. Murdoch said a missing piece is the final mitigation numbers that were agreed to after the sensitivity analysis in the last recalculation to know what the total production numbers for summer Chinook Salmon are now to be able to decide where to allocate that production in the future. Murdoch said the YN would like summer Chinook Salmon production at Dryden Pond and the allocation to Carlton to be maintained as whole as possible because those supplementation programs are important. Chelan PUD is not proposing to allocate summer Chinook Salmon to Carlton; this appears to be a significant reduction in Carlton's release numbers. Of the current allocation of summer Chinook Salmon for Grant PUD, 42% of production is at CJH, 30% is at Carlton, and 28% is at Dryden Pond. If the whole Okanogan Subbasin component (2,345 adult equivalents) were allocated to CJH, that represents 45.7% of Grant PUD's mitigation, which is already slightly higher proportion than what is being done now. Maintaining the ratios between Carlton and Dryden Pond would result in 28.5% and 25.8% of production at those locations, respectively. This proposal would allocate 70.4% of the production to CJH, 19.8% to Dryden Pond, and 9.8% to Carlton, which is a significant drop proportionately in Carlton and Dryden Pond and a huge increase of production at CJH, which the YN are not comfortable with.

Mike Tonseth said he agrees with the points made by Murdoch and Truscott on splitting the Wenatchee Subbasin production between Dryden Pond and CJH, acknowledging that it is an odd situation trying to anticipate what proportion would be allocated to each of these facilities based on what the production estimates might be, which is unknown until that production is calculated. Tonseth said he has concerns about Carlton but has fewer concerns about the Entiat Subbasin and Chelan Falls summer Chinook Salmon being allocated to CJH. Tonseth said he would like to see Dryden Pond identified as the appropriate site for Wenatchee Subbasin summer Chinook Salmon in this proposed allocation. Then there should be a conversation about where any excess fish would go if capacity is met at Dryden Pond under the TMDL. This should happen at the end of the sensitivity analysis to better understand all production. The discussion of how much production would go to Dryden Pond or CJH would occur at the implementation plan step of the recalculation process.

Gale said he echoed what Tonseth said and would consider this a draft allocation for the purposes of going forward with the calculations. Gale said he may also have concerns with spring Chinook Salmon allocations. Gale said he may be able to support allocating the Entiat Subbasin spring Chinook Salmon to the Nason Creek (in the Wenatchee Subbasin) after looking at the big picture of Douglas and Chelan PUD's production. The default that would likely always be agreeable for U.S. Fish and Wildlife Service would be in-place and in-kind mitigation, for instance, Methow Subbasin summer Chinook Salmon adult equivalents being replaced at Carlton. Some focus on the in-place and in-kind aspects of mitigation have been lost, especially with the Entiat Subbasin and Chelan Falls summer Chinook Salmon.

Willard said she had encountered the same difficulty making allocation decisions and understands the concerns shared by Committee members. The sensitivity analysis cannot go forward without knowing what SAR to use, but Willard agreed it would be considered a draft starting point as Murdoch and Gale have indicated. This was why Chelan PUD deferred to allocating Methow and Entiat subbasins summer Chinook Salmon to Dryden Pond, as was done for the last recalculation.

Pearsons agreed this could be considered a draft to allow the sensitivity analysis to go forward, and the allocations could be revisited if needed. Pearsons summarized the different ways and rationale for the allocation approaches: 1) use the current allocation; 2) allocate production to represent in-place, in-kind mitigation; or 3) use a mix to try to predict what could occur in the future. There is a need to agree on one approach to move forward.

Tracy Hillman asked if the calculations could be done with all three approaches in the sensitivity analysis because some members may ask to see those differences anyway. Pearsons agreed that could work. Willard said she has already done the calculations for the Methow and Entiat subbasins adult equivalents allocated to Dryden Pond and Chelan Falls, but she would have to think about whether it makes sense to provide the two allocations in the sensitivity analysis. Murdoch said using all three approaches would be confusing. The point of the sensitivity analysis was to provide sideboards to the ultimate end number and the transparent approach is to go forward with what was already agreed to during the last negotiation. Pearsons agreed it would be confusing and asked if other members could comment on whether anyone would oppose the use of the negotiated 2013 hatchery allocation proportions versus the in-place in-kind mitigation. Truscott said he is not altogether comfortable with what Murdoch has proposed and is more comfortable with the in-kind in-place concept, recognizing that the Entiat Subbasin adult equivalents may have to be allocated to the Methow Subbasin for this phase of the recalculation. Truscott suggested only identifying Dryden Pond for the Wenatchee Subbasin summer Chinook Salmon allocation to calculate a number, then the final decision would be informed with the known capacity based on the TMDL. Tonseth said he tends to agree with Truscott: to simply use the closest adjacent hatchery to allocate fish. Entiat Subbasin fish could be allocated to Chelan Falls or Dryden Pond, recognizing that may not be the final agreement based on capacity. Tonseth said that by agreeing now to allocations that are most likely to reflect the reality of a final implementation plan, the Committees can avoid moving large blocks of fish around and repeating the mathematical calculations again when the implementation plan is finalized.

Murdoch said under the premise that everything from the Okanogan Subbasin would be going to CJH, and the ratios between Dryden Pond and Carlton are kept the same as the current allocations, the issue of where the excess Dryden Pond fish would go is resolved, with adjustments to be made later in the negotiations. Willard said it doesn't have to be a choice of one approach or another. For Chelan PUD's spring Chinook Salmon, all Rock Island adult equivalents are allocated to Chiwawa River (in the Wenatchee Subbasin), which is not based on spawner distribution like the

summer Chinook Salmon are. Murdoch said the way this is presented here is a lot more complicated than what was done last time, but the proportional numbers turned out pretty close to the same if Rock Island and Rocky Reach mitigation are combined. Willard agreed that in the last recalculation, how fish were allocated to CJH was not made clear because the cost-sharing agreement was not in place. Murdoch asked why Chelan PUD allocated less to Chelan Falls and more to Dryden Pond, which is not necessarily consistent with what was done in the last recalculation, though it is not a large difference. Willard said it was based on a rough prediction of where the production would be allocated, but for this exercise they could be allocated to Chelan Falls. Murdoch said she has supported using the status quo to try to be consistent, but otherwise does not have a problem with the numbers proposed by Chelan PUD because there are no major differences between the proposed numbers and current allocations. Willard said there was a need to decide for Rocky Reach mitigation whether the Entiat Subbasin adult equivalents would be allocated to Chelan Falls or Dryden Pond. Rock Island mitigation for Chelan Falls adult equivalents were not allocated to Chelan Falls in the previous implementation plan negotiations because it was a new facility.

Hillman asked if all agreed for Chelan PUD to go forward with the allocations shown as a starting point only. Murdoch said she would like to take time to verify that the combined allocation for Rock Island and Rocky Reach adult equivalents are similar to what was done in the last recalculation, and she would respond tomorrow by email with her decision.

Hillman asked the group what draft allocations they would like to see for the Grant PUD programs. Murdoch suggested going forward with keeping the CJH component whole and applying the same proportions of the remainder allocated to Dryden Pond and Carlton as is currently done, which results in just 2% shifted from CJH to Dryden Pond or Carlton. All agreed with this approach as the starting point, understanding that this is not the default allocation and disposition of the juvenile rearing and agreeing the allocations are likely to change during negotiation of the implementation plans. Gale said the U.S. Fish and Wildlife Service may push for allocation toward in-place and in-kind in future implementation plan negotiation steps.

For the remainder of the summer Chinook Salmon, Murdoch suggested starting with keeping all Okanogan Subbasin fish at CJH (45.7%), which is a minor change from the current proportion (42%) and maintaining the proportions of 30% to Carlton and 28% to Dryden Pond. The main difference from the current proposal is that more fish would be allocated to Dryden Pond, and fish from Chelan Falls and Entiat Subbasin would be allocated to Carlton. Pearsons said this differs from the actual mitigation for Methow Subbasin summer Chinook Salmon, which is closer to 10%. Murdoch said the same point could be made for CJH, and the supplementation programs are intended to supplement populations where it is needed, recognizing that Truscott has a different opinion. Pearsons understood those points and agreed this could be used as a starting point in order to move forward in the next step in recalculation for Grant PUD's programs. The other Committee members agreed with this approach.

Murdoch noted the allocation of the Wells project mitigation has not been discussed and there is a need to record that these were discussed and supported. Although it is simpler, there is a need to ensure all agree with the allocations for use in recalculation. For the current NNI production based on the last recalculation statement of agreement (not including mitigation for inundation), 100% of Wells summer Chinook Salmon mitigation is being met at CJH. For spring Chinook Salmon, 53% was allocated to CJH and 47% to Methow Subbasin. For steelhead, 100% is allocated to the Twisp River program. Greg Mackey said the spring Chinook Salmon allocated to CJH are paid for as mitigation for fish released in the Okanogan Subbasin and for natural-origin fish that don't actually exist yet; the NNI for natural-origin fish is currently only in the Methow Subbasin. The previous recalculation statement of agreement for Douglas PUD reflects 33,000 spring Chinook Salmon produced by CJH for the hatchery component of NNI because there was no natural component. For summer Chinook Salmon, NNI is currently being met at CJH. There is a provision related to the CJH statement of agreement with Douglas PUD that if the recalculated number of summer Chinook Salmon NNI is higher than the number that are paid for in the agreement with CJH, that excess number would be allocated to the Methow Basin, though it would be a small number (estimated to be a few thousand fish at this time). Mackey confirmed that as a starting point, these allocations are representative of what is currently being done and could be used to go forward with the sensitivity analysis.

Murdoch asked about Wenatchee Subbasin Sockeye Salmon mitigation that is currently a swap for steelhead. Willard said there are no hatchery fish, so the SAR for the natural production from the smolt trap monitoring and evaluation work was applied to the natural-origin return. It was not included in the spreadsheet because no hatchery SAR would be applied to them, nor is there a need to decide which hatchery they would be allocated to.

Hillman asked the PUDs to prepare the sensitivity analysis calculations by next week in time for the regular meeting on March 16, 2022.

III. Administrative Items

B. Next Meetings

The next HCP-HCs and PRCC HSC meetings will be held on Wednesdays, March 16; April 20; and May 18, 2022, by conference call and web-share until further notice.

IV. List of Attachments

Attachment A List of Attendees

Attachment B Hatchery Allocation Proportions for Chelan PUD's Natural-Origin Spawner Mitigation

Attachment C Hatchery Allocation Proportions for Grant PUD's Natural-Origin Spawner Mitigation

Attachment D Email from Keely Murdoch to Tracy Hillman, March 4, 2022, regarding review of adult equivalent allocations

Attachment A
List of Attendees

| Name | Organization |
|----------------------|---|
| Larissa Rohrbach | Anchor QEA, LLC |
| Tracy Hillman | BioAnalysts, Inc. |
| Scott Hopkins* | Chelan PUD |
| Catherine Willard* | Chelan PUD |
| Kirk Truscott*‡ | Confederated Tribes of the Colville Reservation |
| Tom Kahler* | Douglas PUD |
| Greg Mackey* | Douglas PUD |
| Rod O'Connor‡ | Grant PUD |
| Todd Pearsons‡ | Grant PUD |
| Deanne Pavlik-Kunkel | Grant PUD |
| Emi Melton*‡ | National Marine Fisheries Service |
| Katy Shelby | Washington Department of Fish and Wildlife |
| Mike Tonseth*‡ | Washington Department of Fish and Wildlife |
| Keely Murdoch*‡ | Yakama Nation |
| Bill Gale*‡ | U.S. Fish and Wildlife Service |
| Johnny Buck¥ | Wanapum Tribe |

Notes:

* Denotes HCP-HCs member or alternate

‡ Denotes PRCC HSC member or alternate

¥ Consulting party

Attachment B
Hatchery Allocation Proportions for Chelan PUD's Natural-Origin Spawner Mitigation

NOS Proportions

| STOCK | TRIBUTARY | Percent Distribution | |
|-------|-----------|----------------------|----------|
| | | Above RI | Above RR |
| SPCH | Methow | 28% | 60% |
| SPCH | Okanogan | 1% | 2% |
| SPCH | Entiat | 17% | 37% |
| SPCH | Wenatchee | 54% | NA |
| STL | Methow | 40% | 56% |
| STL | Okanogan | 13% | 18% |
| STL | Entiat | 19% | 26% |
| STL | Wenatchee | 28% | NA |
| SUCH | Methow | 10% | 16% |
| SUCH | Okanogan | 46% | 76% |
| SUCH | Entiat | 2% | 3% |
| SUCH | Chelan | 3% | 6% |
| SUCH | Wenatchee | 40% | NA |

RI

| STOCK | TRIBUTARY | NOR | PROJECT SURVIVAL | Adult Equivalents NUMBER | Adult Equivalent TRIBUTARY ALLOCATION | PUD HATCHERY |
|--------------|------------------|------------|-------------------------|---------------------------------|--|---------------------|
| SPCH | Methow | 1,667 | 93.93% | 108 | 30 | Chiwawa |
| SPCH | Okanogan | | | | 1 | Chiwawa |
| SPCH | Entiat | | | | 18 | Chiwawa |
| SPCH | Wenatchee | | | | 59 | Chiwawa |
| STL | Methow | 2,632 | 96.75% | 88 | 35 | Chiwawa |
| STL | Okanogan | | | | 12 | Chiwawa |
| STL | Entiat | | | | 16 | Chiwawa |
| STL | Wenatchee | | | | 25 | Chiwawa |
| SUCH | Methow | 43,064 | 93.00% | 3241 | 318 | Dryden |
| SUCH | Okanogan | | | | 1,480 | CJH |
| SUCH | Entiat | | | | 52 | Dryden |
| SUCH | Chelan | | | | 109 | Chelan Falls |
| SUCH | Wenatchee | | | | 1,282 | Dryden |

RR

| NOR | PROJECT SURVIVAL | Adult Equivalent Number | Adult Equivalent TRIBUTARY ALLOCATION | PUD HATCHERY |
|------------|-------------------------|--------------------------------|--|---------------------|
| 901 | 93.00% | 68 | 41 | Methow |
| | | | 2 | Methow |
| | | | 25 | Methow |
| | | | NA | NA |
| 1,728 | 95.79% | 76 | 42 | Chiwawa |
| | | | 14 | Chiwawa |
| | | | 20 | Chiwawa |
| | | | NA | NA |
| 33,434 | 93.00% | 2517 | 409 | Dryden |
| | | | 1,901 | CJH |
| | | | 67 | Dryden |
| | | | 140 | Chelan Falls |
| | | | NA | NA |

Attachment C
Hatchery Allocation Proportions for Grant PUD's Natural-Origin Spawner Mitigation

GPUD

| NOS Proportions | | | | | |
|-----------------|-----------|--|-------------------------------------|--|--|
| STOCK | TRIBUTARY | Percent Distribution Above RI & PRD | Percent Distribution Above RR | Percent Distribution Above Wells | |
| SPCH | Methow | 28% | 62% | 100% | |
| SPCH | Okanogan | 0% | 0% | 0% | |
| SPCH | Entiat | 17% | 38% | 0% | |
| SPCH | Wenatchee | 55% | 0% | 0% | |
| STL | Methow | 40% | 56% | 75% | |
| STL | Okanogan | 13% | 18% | 25% | |
| STL | Entiat | 19% | 26% | 0% | |
| STL | Wenatchee | 28% | 0% | 0% | |
| SUCH | Methow | 10% | 16% | 18% | |
| SUCH | Okanogan | 46% | 76% | 82% | |
| SUCH | Entiat | 2% | 3% | 0% | |
| SUCH | Chelan | 3% | 6% | 0% | |
| SUCH | Wenatchee | 40% | 0% | 0% | |
| FAC | Columbia | 100% | | | |

PRP

| STOCK | TRIBUTARY | NOR | PROJECT SURVIVAL | Adult Equivalents NUMBER | Adult Equivalent TRIBUTARY ALLOCATION | PUD HATCHERY |
|--------------|------------------|------------|-------------------------|---|--|------------------------|
| SPCH | Methow | 1,781 | 86.59% | 276 | 77 | Methow |
| SPCH | Okanogan | | | | - | CJH |
| SPCH | Entiat | | | | 47 | Nason |
| SPCH | Wenatchee | | | | 152 | Nason |
| STL | Methow | 3,123 | 87.03% | 465 | 187 | Okanogan |
| STL | Okanogan | | | | 62 | Okanogan |
| STL | Entiat | | | | 87 | Okanogan |
| STL | Wenatchee | | | | 130 | Okanogan |
| SUCH | Methow | 32,882 | 86.49% | 5136 | 504 | Carlton |
| SUCH | Okanogan | | | | 2,345 | CJH |
| SUCH | Entiat | | | | 83 | CJH |
| SUCH | Chelan | | | | 173 | CJH |
| SUCH | Wenatchee | | | | 2,032 | Dryden (50%)/CJH (50%) |
| FAC | Columbia | 11,679 | 86.49% | 1824 | 1,824 | Priest Rapids |

Attachment D
Email from Keely Murdoch to Tracy Hillman, March 4, 2022,
regarding review of adult equivalent allocations

From: Larissa Rohrbach
Sent: Friday, March 4, 2022 9:35 AM
To: Betsy Bamberger; Brett Farman; Casey Baldwin; Catherine Willard; Chad Jackson; Deanne Pavlik-Kunkel; Emi Melton; Gale, William; 'Greg Mackey'; 'Hopkins, Scott'; Johnny Buck; Katy Shelby; Keely Murdoch (murk@yakamafish-nsn.gov); kirk.truscott@colvilletribes.com; Kristi Geris; Larissa Rohrbach; Matt Cooper; Mike Tonseth (tonsemat@dfw.wa.gov); Rod O'Connor; Sarah Montgomery; sbickford@dcpud.org; Snow, Charles (DFW); Todd Pearsons; 'Tom Kahler (tkahler@dcpud.org)'; Tom Scribner; Tracy Hillman
Subject: FW: BAMP Hatchery Allocations (CPUD)

Hello HCP-HC and PRCC HSC: Please see Keely's response below regarding approval of starting point for adult equivalent allocations for use in recalculation.

Have a nice weekend,
Larissa

Larissa

From: Keely Murdoch <murk@yakamafish-nsn.gov>
Sent: Friday, March 4, 2022 9:16 AM
To: Tracy Hillman <tracy.hillman@bioanalysts.net>
Cc: Larissa Rohrbach <lrohrbach@anchorqea.com>
Subject: BAMP Hatchery Allocations (CPUD)

CAUTION – EXTERNAL EMAIL: This email originated from outside of Anchor QEA. Please exercise caution with links and attachments.

Hi Tracy,

Thanks for the extra time to review Chelan's proposed hatchery allocation for BAMP calculations. I took some time to make the same comparisons Mike did and they turned out the same.

If we did things the same way as in our final recalc SOA (10 years ago) and sent all the RIS su chk (less Okanogan) to Dryden and all the RRH su chk (less Okanogan) to Chelan Falls it would look like this:

Dryden 30.6%
Chelan Falls: 10.7%
CJH: 58.7%

Under Chelan's Proposal it looks like this:

Dryden 37%
Chelan Falls: 4.3%
Okanogan 58.7%.

Honestly I am not opposed to Chelan's proposal. It basically amounts to an additional 6.4 to Dryden which is pretty trivial considering that these are not the final hatchery allocations we will land on during the implementation plan, and because there will still be the 400k inundation fish at Chelan Falls.

I think my only concern is how we would write this up for documentation purposes for the next recalc. Being consistent with how I approach things for each PUD/project is important to me. The lack of consistency here (even if the end result isn't significantly different) makes me a little uncomfortable.

That said if the rest of the committee is okay with the approach I am fine with it too.

Keely

--

Keely Murdoch
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