From:	Andrew Gingerich
To:	mfischer@lowimpacthydro.org
Cc:	Gary Ivory; Shane Bickford; Mariah Mayfield; John Rohrback; Tom Kahler; Cait O"Reilly
Subject:	RE: DCPUD Letter Response to Comments Regarding Wells LIHI Certification Application
Date:	Thursday, March 27, 2025 8:35:15 PM
Attachments:	2025_02_25 Final HCP-CC-PRCC 2024 SY Wrkshp Recap_JointSession3.pdf 2025_02_25 Final HCP-CC-PRCC 2024 SY Wrkshp Recap_JointSession3.pdf 2025_01_27 Anchor QEA - HCP-PRCC subyearling workshop matrix_working_LMK edits 2_19_25.xlsx 2025_03_18 Anchor QEA - Subyearling Chinook Survival Study Logic Path_v2-edits.docx Pages from Final DCPUD 2025 budget final and approved by resolution 24-126.pdf 2024_02_27 Douglas - Entiat_WenRiverOvershoots_Feb2023_WellsHCP-CCmeeting.pdf 2024_02_27 Douglas - Entiat_WenRiverOvershoots_Feb2023_WellsHCP-CCmeeting.pdf

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Hi Maryalice. Sorry these responses are a bit lengthy, as you know these topics are nuanced and highly technical. The details are important. Feel free to reach out if you have additional questions.

1. **SH Overshoot Telemetry Study and Timeline**: We have not had specific steelhead (SH) overshoot radio telemetry or active tag study design talks with the members of the HCP CC yet. At several CC meetings the study topic has come up, but none of those discussions led toward agreement upon the need for a study. Most recently, we have been focused on genetic sampling combined with PIT tagging to examine what fish are interacting with Wells as the first step (more on this in the third paragraph). This was discussed again at the CC meeting last Tuesday March 25th, and all agree that the genetic sampling will provide much needed resolution to the PIT-tag data. Also discussed at Tuesday's meeting was what would constitute success in the evaluation of a spill program. The CC members debated this topic, but it was clear that major differences of opinion remain on even this most essential element of any operational change or study of that operation.

We're also working towards accommodating a study; Within the Hatchery Committee and last fall we tried moving our SH Monitoring and Evaluation from Priest Rapids Dam (PRD) to Wells Dam with hopes of paving the way for an active tag study (we want to study fish that are interacting with Wells, not fish tagged downstream of Wells since there is no promise that fish tagged 100+ miles below Wells will interact with our dam). To that point, in 2024, 1304 SH were PIT tagged at PRD. Of those 1203 of subsequent detections at a dam or instream PIT tag antenna occurred. Only 53.6% of those have been detected at Wells (I haven't included these data files to show this work, but I'd be happy to share those at your request). Despite our request, the Hatchery Committee asked us to stay at PRD (I have not attached these meeting minutes but can easily at your request) and therefore we paused introducing the active tag study and are focusing on better understanding which fish are interacting with Wells when captured at Priest Rapids.

As part of our Steelhead Monitoring and Evaluation, in collaboration with Grant PUD and Chelan PUD, we sampled 1304 SH at Priest Rapids Dam in 2024 (noted above). Sampled fish were given a PIT tag and a genetic sample was taken from them. These genetic samples were shipped to CRITFC (commenting agency) for genotyping, such that the individual fish may be assigned to either a specific hatchery program or a genetically-identifiable natural-origin stock reporting group. CRITFC has indicated that in the summer of 2025 they will return the genetic (GSI/PBT) results to us. The GSI/PBT or genetic samples are important because they should be able to assign each fish to the Snake River/Yakima or to a reporting group that includes Plan Species found in the Wenatchee, Entiat, Methow and Okanogan Rivers. With genetic assignment in hand and with a PIT tag in each of those fish we can say with more certainty who is interacting with Wells Dam. It is important to Douglas PUD to know, i) how many and what proportion of Snake River steelhead are interacting with Wells, and ii) how many of the fish interacting with Wells are of Snake River Origin. This is important information that will better inform an active tag study and the necessity of it. Regardless of whether we ultimately conduct a study with only fish interacting with Wells (preferred option) or with fish collected at PRD, this information collected in 2024 will provide the data necessary to perform a pre-study power analysis to determine the number of tagged fish required to meet statistical objectives.

The active tag (telemetry) study plan is not drafted yet, but we have discussed it at length internally,

anticipating the need to develop a study plan. This hasn't been simply an abstract discussion, we put $100,000 in our 2025 approved budget at Douglas PUD so that we can accommodate a study should the HCP CC agree that a study is necessary and so long as we can reach unanimous approval of a study plan once introduced to committee. I have attached the pertinent pages of the approved budget package and the resolution from our General Manager and Board of Commissioners approving the budget (first page). We have cleared the first hurdle for this study in that the funding has been authorized.

Specific to the study plan, you can imagine that agreeing to "what a fish's behavior means" and how those behaviors should be interpreted are important pieces to any animal telemetry study. We anticipate needing several months to come to agreement on this within the HCP CC. Realistically, we expect a telemetry study to occur no earlier than 2026, but only after the HCP CC agrees that it would be valuable and approves a study plan. Further, it will be worthwhile to wait for the genetic results to come back from the 2024 sampling, which should inform a telemetry study as noted above. If the funds aren't used this year we will make a recommendation to carry them forward in 2026, which will be at the GM and Board's discretion. However, it would be nearly without precedent not having these funds carry into the next year if not spent in the current year.

We included the SH study update recommendation for LIHI certification since we believe the certification is 10-13 years long and expect a study to be completed early in that certification period. We anticipate providing these updates annually to LIHI and at LIHI's conditioning discretion. On this topic or others, please call/email if you have any questions or want further detail about the approach or schedule.

2. **Subyearling Records Requested:** I have included all the recent subyearling Chinook meeting minutes and the supporting material being vetted in committee (including the matrix or path referenced). See files with "…SY Wrkshp Recap…" in the titles. Instead of providing more details here, feel free to call or ask additional questions. One note: the requested Matrix has been shelved and instead we are working from a "logic path" per the Yakama Nation rep request. This logic-path approach has generated much fruitful discussion, and the CC seems to be gaining momentum toward some tangible next steps in our efforts to study subyearling Chinook. I have attached both of these documents but please note the "…Logic Path…"is a working document.

3. **Lamprey and Rotary Screw Traps - RSTs**: There are currently several RSTs (rotary screw traps) in the Methow and Okanogan River basins, the two tributary rivers upstream of Wells Dam where lamprey spawn. However, nearly all of the juvenile Pacific Lamprey collected above Wells come from the RST at Carlton, WA in the lower Methow River. Please keep in mind that the RSTs are funded and staffed inconsistently: Douglas PUD (Twisp and Carlton RSTs), CTCR/Bonneville/Douglas PUD/Grant PUD (Okanogan River RST), and Bonneville/USFWS (Chewuch). The RSTs are operated for salmon and steelhead M&E programs above Wells Dam. They are not specially operated for juvenile lamprey collection, but they offer an opportunity to annually index production from these areas above Wells. There are challenges with this index when comparing year-over-year because the RSTs can't operate in high flows, when presumably, the bulk of lamprey are leaving the tributaries. Despite this limit, they are a source for "roughly" indexing juvenile lamprey annually and getting our hands on these juveniles. There is no schedule to add more traps but there is some discussion within the Aquatic SWG about how fish might the sourced in the future. Backpack electro-fishing has been

shown as an effective means to collect lamprey but whether or not those fish will migrate after tagging is less clear. The Yakama Nation has suggested using a hatchery surrogate. But data from pilot studies have shown hatchery fish don't always perform as wild fish would. We are committed to using juvenile lamprey captured above Wells for future investigations. Parties to the Aquatic Settlement Agreement made this an explicit priority, " *During the term of the new license, if tag technology and methodologies are developed and field tested* ***and a sufficient source of macrophthalmia in or upstream of the Project are identified*** *to ensure that a field study will yield statistically rigorous and unbiased results, Douglas, in consultation with the Aquatic SWG, shall implement a one-year juvenile Pacific lamprey downstream passage and survival study* (Pacific Lamprey Management Plan 4.2.4 in the Aquatic Settlement Agreement)."

I would say this, RST operations over the next 10-13 years are not guaranteed given the funding and operator inconsistency described earlier, but we expect that if M&E programs no longer require RSTs other sources of lamprey collection above Wells could be developed at the Aquatic SWG's discretion (e.g. backpack electro-fishing in index sites). Any changes to the use of these RST, should they occur, could be communicated to LIHI along with catch rates as part of a certification condition.

Here's a little more detail on catch rates for your consideration. To date, the Methow River Screw Trap is the only RST that has trapped relatively large numbers of juvenile lamprey (Table 1). In 2010, over 1000 juvenile lamprey were trapped at the Methow River Screw Trap but that was followed by more than a decade of very few fish (Table 2). In 2024, 943 juvenile lamprey were trapped and we are hoping that it may be due in part to the years of adult translocation work that we have completed and that has occurred above the dam. One cavate for 2024 is it was also a low snowpack/tributary flow year and the trap likely fished more effectively absent a big freshet in the Methow Basin.

The maximum number of lamprey that the Chewuch River (a tributary to the Methow located near Winthrop) RST has trapped is 30 juveniles (Table 1). As no juvenile lamprey have been caught at the other traps, we have focused much of our determination of study fish availability on the Methow River Trap (hence our focus here as you pointed out). Despite low catch rates in other traps besides the Methow River Trap at Carlton, WA, we are committed to tracking the catches at other traps too toward identifying possible sources of juvenile lamprey.

Table 1: Summary Juvenile Lamprey at Screw Traps above Wells Dam.

Location Description	Subbasin	River	River KM	Agency	Juvenile Lamprey Annual Maximum	Juvenile Lamprey Annual Mean
Omak Screw Trap	Okanogan	Omak	0.4	Colville Tribe	0	0
Okanogan Screw Trap	Okanogan	Okanogan	40.6	Colville Tribe	0	0
Chewuch Screw Trap	Methow	Chewuch	0.5	WDFW	30	12
Upper Methow Screw Trap	Methow	Methow	84.9	WDFW	0	0
Methow Screw Trap	Methow	Methow	29.1	WDFW	1096	208
Twisp Screw Trap	Methow	Twisp	2.0	WDFW	0	0

Table 2: Annual counts of Juvenile Lamprey at the Methow River trap

Year	Juvenile Lamprey
2004	89
2005	84
2006	831
2007	37
2008	231
2009	201
2010	1096

2011	60
2012	14
2013	18
2014	97
2015	26
2016	216
2017	45
2018	14
2019	28
2020	30
2021	68
2022	189
2023	65
2024	943
Mean	208.7

- **Fall Surface Spill:** Regarding fall operations for adult steelhead (SH) downstream passage – we do not operate surface or spillway gates intentionally to provide downstream passage for overshooting steelhead that belong to natal streams below Wells Dam. Our summer bypass spill runs until July or August when data shows that 95% of the juvenile summer Chinook have passed Rocky Reach Dam. Of course, summer steelhead that migrate past Wells Dam before this bypass termination date can use this surface spill if they so choose. After this date, occasional surface spill events happen as a result of incoming flows that are in excess of turbine hydraulic capacity. This kind of spill is variable by both frequency and duration each year (e.g. spill in September-November), and it is not mandated by our HCP. We provided the HCP CC with a presentation this past year (2/27/2024) that showed there was no correlation between SH return rates to the Entiat or Wenatchee Rivers (following overshooting Wells Dam) in years where fall spill happened more frequently in those months (I have attached it – see slides 9 and 12 for examples). Let me know if you want more detail here, but the punchline is that fall spill efficacy towards returning fish to natal streams below Wells Dam is, in the very least, less clear than some believe.

Section 4.4.5 of the Wells HCP states that fallback rates shall be factored into adult passage development. Said differently, providing fallback spill for Snake River fish or those SH born below Wells has the potential to come at a cost for Steelhead born above Wells and returning to those tributaries as adults. When the HCP was being developed, HCP signatories didn't want to harm Plan Species, in this case SH, via excessive fallback. We don't want SH that have successfully passed Wells Dam and are trying to get back to their tributaries above Wells to have to pass Wells more than once… if possible. Moreover, WDFW (our Monitoring and Evaluation contractor) accounts for fallbacks and reascending fish in their above-Wells escapement calculations each year because fallback is a common enough occurrence to necessitate that accounting. Therefore, any proposal for adding fall spill at Wells Dam would be a paradigm shift and warrants careful analysis of any new operations rather than knee-jerk implementation without consideration of those concerns that motivated the current operations (protect Methow and Okanogan SH from fallback).

From our most recent comments you'll recall that we are not certain which fish are intending to return to the Snake River when they overshoot Wells (recall fishing harvest, overwinter mortality, and natural stray rate uncertainties). Therefore, assuming each fish that overshoots Wells Dam wants to or can return to its river of origin, absent Wells Dam, is a poor assumption.

Finally, we also know that downstream passage without spill commonly occurs and individuals return

to their natal streams in other drainages. For example, "*One wandering steelhead was tracked past each of the five mid-Columbia dams during its upstream migration to the Okanogan River where it remained from 16 November 1999 until 24 February 2000. Then, this same fish migrated downstream through all five mid-Columbia dams during the no spill period between 27 February and mid- March 2000, and then upstream past three Snake River dams to be recovered at the Lower Granite trap on 30 March 2000.*"[1] So the assumption that fish can't return to the Snake River without spill at Wells Dam or that they want to is one that is worth more research in the very least. Indeed, 22 percent of the Snake River steelhead that overshot Wells Dam between 2010 and 2022 fell back over Wells and returned to spawn in the Snake River. Questions that remain are 1) Is fall spill necessary, and if beneficial, to what extent? 2) Does fall spill come at a cost to SH originating above Wells and returning to tributaries above Wells and 3) what percent are moving back downstream without fall spill? The latter question is very important as a baseline or control in the event that we begin/test any spill program in the future. If that program isn't successful why would we continue to implement it? We can't make the comparison between with- and without fall spill programs without a robust baseline to compare it to.

Reference:[1] Karl K. English, Cezary Sliwinski, Bryan Nass,1 and John R. Stevenson. 2001.Assessment of Adult Steelhead Migration through the Mid-Columbia River using Radio-Telemetry Techniques, 1999-2000 (Not attached but happy to provide if requested)

Thanks for the thoughtful questions. If you want to discuss these further or have additional questions we look forward to responding.

Andrew Gingerich
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Douglas PUD Logo

From: mfischer@lowimpacthydro.org <mfischer@lowimpacthydro.org>
Sent: Thursday, March 27, 2025 10:23 AM
To: Andrew Gingerich <andrew.gingerich@dcpud.org>
Subject: RE: DCPUD Letter Response to Comments Regarding Wells LIHI Certification Application

Sorry, I have one more question – regarding fall operations for adult steelhead downstream passage – do you operate surface gates, and if so when does the season begin and end?
Thanks!
Maryalice

From: Andrew Gingerich <andrew.gingerich@dcpud.org>
Sent: Wednesday, March 26, 2025 11:18 AM
To: mfischer@lowimpacthydro.org
Subject: RE: DCPUD Letter Response to Comments Regarding Wells LIHI Certification Application

Morning Maryalice, we're working on responding and look forward to providing supplemental info. It's been an action packed week and we have some folks out for college spring break with their kiddos complicating action here.

I should have a formal response in the next couple days. I'm out Friday. Worst case Monday or Tuesday.

Best, Andrew

Andrew Gingerich
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From: mfischer@lowimpacthydro.org <mfischer@lowimpacthydro.org>
Sent: Monday, March 24, 2025 12:44 PM
To: Amber Nealy <amber.nealy@dcpud.org>
Cc: Gary Ivory <gary.ivory@dcpud.org>; Shane Bickford <shane.bickford@dcpud.org>; Jeff Johnson <jeff.johnson@dcpud.org>; Cait O'Reilly <cait.oreilly@dcpud.org>; Andrew Gingerich <andrew.gingerich@dcpud.org>; Tom Kahler <tom.kahler@dcpud.org>; Mariah Mayfield <mariah.mayfield@dcpud.org>; John Rohrback <john.rohrback@dcpud.org>
Subject: RE: DCPUD Letter Response to Comments Regarding Wells LIHI Certification Application

Hello all, I have some clarifying questions as I try to wrap all this up. I did receive additional comments and recommendations from the commenters. I can share them with you but for now I would like to focus on some specifics in your January response to comments.

1. Your proposed condition 1 states "*Douglas PUD will be required to provide LIHI with an annual update on the proposed steelhead overshoot and fallback study, including status updates on the development of a study plan, field efforts, and final reports documenting adult steelhead interaction with the Wells Project.* On the bottom of page 6/top of p 7 you also state "*Additionally, Douglas PUD is developing an active-tag study intended to provide details on steelhead behavior within the Wells Project area that PIT-tag studies cannot provide*." **Please describe the current status of these proposals including any proposed schedule(s), study plan outlines, etc.**
2. Regarding subyearling Chinook, I reviewed the minutes from the 11/18/24 joint workshop and understand that the discussion was to continue in January and February meetings. **If you have minutes from those meetings, please share them. Please also share the Anchor QEA matrix of issues and resolutions mentioned in those meeting minutes -even if still in draft form. I will keep these documents confidential if they have not been approved by the HCP CC.**
3. Regarding lamprey, your proposed condition 3 states that Douglas would "*provide LIHI with an annual summary of juvenile lamprey screw trap counts, where available, in the Okanogan, Methow, and Twisp River Basin*". Yet on page 2 of your response, you note a screw trap only at the Methow. **Are there no traps at the other upstream locations and if not, why? Is there a schedule or plan to add additional traps or some kind of trigger (based on counts at Methow or something) that would necessitate**

adding screw traps at those locations?

Thank you,
Maryalice Fischer
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From: Amber Nealy <amber.nealy@dcpud.org>
Sent: Wednesday, January 15, 2025 11:24 AM
To: mfischer@lowimpacthydro.org
Cc: Gary Ivory <gary.ivory@dcpud.org>; Shane Bickford <shane.bickford@dcpud.org>; Jeff Johnson <jeff.johnson@dcpud.org>; Cait O'Reilly <cait.oreilly@dcpud.org>; Andrew Gingerich <andrew.gingerich@dcpud.org>; Tom Kahler <tom.kahler@dcpud.org>; Mariah Mayfield <mariah.mayfield@dcpud.org>; John Rohrback <john.rohrback@dcpud.org>; Amber Nealy <amber.nealy@dcpud.org>
Subject: DCPUD Letter Response to Comments Regarding Wells LIHI Certification Application

Good Morning Maryalice,

Please find attached a letter response to comments submitted to Low Impact Hydropower Institute (LIHI) regarding Wells Hydroelectric Project LIHI Certification Application. Should you have any questions please reach out to Shane Bickford at 509-881-2208 (Shane.Bickford@dcpud.org) or Andrew Gingerich at 509-881-2323 (Andrew.Gingerich@dcpud.org).

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[1] Karl K. English, Cezary Sliwinski, Bryan Nass,1 and John R. Stevenson. 2001.Assessment of Adult Steelhead Migration through the Mid-Columbia River using Radio-Telemetry Techniques, 1999-2000.