FINAL

Final Meeting Minutes

Lewis River Aquatic Technical Subgroup

To: Lewis River Aquatic Technical Subgroup (ATS) Date: August 13, 2025

From: Erik Lesko, ATS Facilitator, PacifiCorp

Cc: Larissa Rohrbach and Lincoln Baxter, ATS Administrative Support, Anchor QEA

Re: Final Minutes of the April 24, 2025, Lewis River ATS Meeting

The Lewis River Aquatic Technical Subgroup (ATS) meeting was held virtually on April 24, 2025, on Microsoft Teams, from 9:30 a.m. to 1:00 p.m. Attendees are listed in Section V of these meeting minutes.

Action Item Summary

I. Welcome (Lesko)

A. Review Agenda (Lesko; 10 min)

Erik Lesko (PacifiCorp) called the meeting to order at 9:32 a.m. and reviewed the agenda ,including additions made from input provided by group members after the initial draft agenda had been shared. He introduced Marshall Barrows from U.S. Fish and Wildlife Service (USFWS). Transcription started at 9:38 a.m.

II. Bull Trout

A. Analysis of Redd Superimposition (T. Whitesel; 20 min)

Tim Whitesel introduced himself and said he understands there are questions on interpretation of USFWS's policy concerning the Bull Trout redd superimposition rate, so he was taking this opportunity to share the thought process put forward by the agency. He stated there is not a lot of data concerning the matter, so the methods are not complicated. He gave a presentation entitled *The Superimposition of Native Bull Trout Redds in the Lewis River Core Area by Transported and Released Coho Salmon Adults*.

Pre-Context

BiOP – circa 2006
- Lewis Core Area: 1,220 adults
- Local Populations: Rush Creek, Pine Creek, Cougar Creek
- "Monitoring will occur after the implementation of the HPP, but before the reintroduction efforts..."
- Incidental Take Statement: "The amount of incidental take is difficult to quantify, but is expected to be < 10 percent of redds."

Literature –
- Redds x 1.35 = Spawners (Barrows et al. 2023, in prep)
- Spawners x (0.5 to 1.0) = Effective Population (Ne) (Rieman & Allendorf 2001)
- Redds x (0.675 to 1.350) = Ne

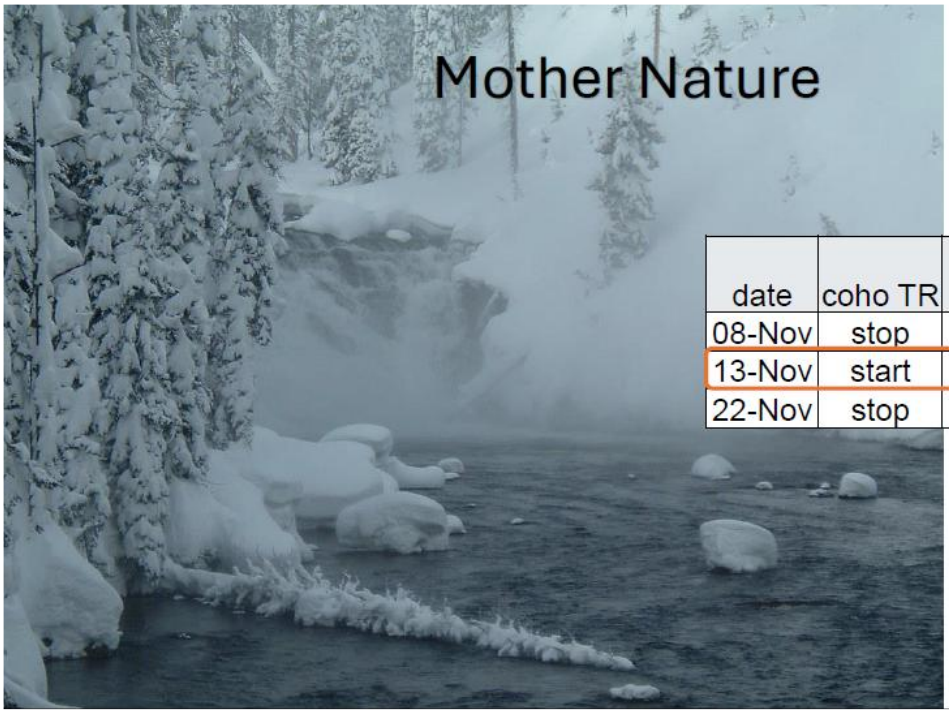
- BiOP era: ~ 1,220 spawners or Ne ~ 610-1,220

Monitoring: Early Redd Surveys

date	coho	si rate	bt redds	coho/d	si redds
08-Nov	8711	11.8%	68	94.4	8
01-Nov	8050	7.4%	68	104.9	5
25-Oct	7316	1.5%	68	731.6	1
18-Oct	4399	0.0%	35		0

Gratitude to J. Doyle, C. Karchesky, PacifiCorp for all data

Based on i) BT spawning complete by 08-Nov and ii) empirical determination of 11.8% at that time



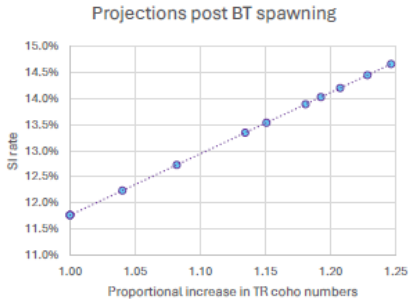
date	coho TR	redd monitoring
08-Nov	stop	no
13-Nov	start	no
22-Nov	stop	yes

SI Estimation$_{alternative1}$: No Redd Surveys

Based on:

i) an observed 11.8% SI rate for 8,845 transported & released (TR) coho
ii) an assumed linear relationship between proportional increase in TR coho and proportional increase in SI rate
iii) estimate the SI rate based on a proportional increase in TR coho

For example: a 5% increase in TR coho (relative to 8,845) would result in a 5% increase in SI rate (relative to 11.8%) ... or 9,287 TR coho results in an SI rate of 12.4%



Moderate Estimate on 22-Nov: 14.7%

SI Estimation$_{alternative2}$: No Redd Surveys

date	coho	si rate	bt redds	coho/d	si redds
08-Nov	8711	11.8%	68	94.4	8
01-Nov	8050	7.4%	68	104.9	5
25-Oct	7316	1.5%	68	731.6	1
18-Oct	4399	0.0%	35		0
Gratitude to J. Doyle, C. Karchesky, PacifiCorp for all data					

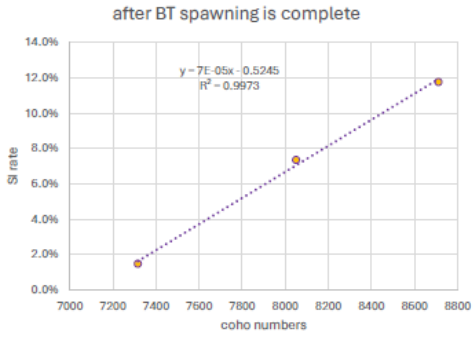
Minimum Estimate on 22-Nov: 11.8%

SI Estimation$_{alternative3}$: No Redd Surveys

Based on:

i) observed relationship between TR coho numbers and observed SI rates on BT redds
ii) estimate the SI rate as a function of TR coho numbers

For example: if 500, 600, and 700 TR coho = 5%, 6% and 7% SI rates (respectively), the equation for that relationship would predict that 800 TR coho would = 8% SI rate.

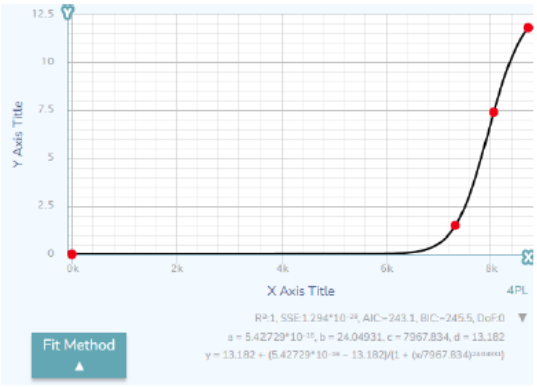


Maximum Estimate on 22-Nov: 25.8%

SI Estimation$_{alternative3}$: No Redd Surveys

Note:

i) perhaps a sigmoidal relationship
ii) limited data
iii) logic - 0 coho would result in an SI rate of 0.0%



Similar to, and not clearly more appropriate than, linear.

End Result

date	bt	si	rate (%)	lo pine	up pine	p8	cougar	s conditions
October 18, 2024	35	0	0.0	X	X	X	X	good
October 25, 2024	68	1	1.5	X	X	X	X	good
November 1, 2024	68	5	7.4	X	X	X	X	good
November 8, 2024	68	8	11.8	X	X	X	X	good
November 15, 2024								NA
November 22, 2024	68	8	11.8	X	O	O	O	poor
November 27, 2024	68	10	14.7	O	X	X	O	poor
December 6, 2024	68	10	14.7	X	O	X	O	poor
December 13, 2024	68	10	14.7	X	X	X	O	Poor
Actual			**14.7+**					
Estimated			**11.8-14.7-25.8**					

Post-Context

Literature –
Redds x 1.35 = Spawners (Barrows et al. 2023, in prep)
Spawners x (0.5 to 1.0) = Effective Population (Ne) (Rieman & Allendorf 2001)
Redds x (0.675 to 1.350) = Ne

BiOP era: Ne ~ 610-1,220 (Core Area)

2024 …
Pre SI: 68 Redds = Ne ~ 45.9-91.8 (Core Area)
Post SI (14.7%): 58 Redds = Ne ~ 39.2-78.3 (Core Area)
50:500 concept: inbreeding depression possible, genetic drift likely

Bryce Glaser (Washington Department of Fish and Wildlife [WDFW]) thanked Whitesel for the presentation and said WDFW will likely have more questions once it has had time to digest the content. He then asked about management decisions that will be made for this coming transport season and whether their methods and reasoning will mirror that of the year prior. He stated that it is necessary to have a clear understanding whether decisions relating to the superimposition threshold will be made using empirical data versus modeled predictions. He mentioned the concern that last year's observed 14.7% estimate was within the 25% modeled upper limit estimate of 25.8% and that the decision was made to discontinue transport of Coho Salmon based on the upper limit of the modeled estimate. Whitesel said he would pass on answering for the regulatory components of implementing the Incidental Take Statement (ITS) at this time, as these topics are being discussed among Aquatic Coordination Committee (ACC) representatives.

Jeffrey Garnett said that it was his understanding that one of the tasks of the ATS was to examine the work presented by Whitesel and then determine ways to improve on the methods or codify the protocol. Whitesel reiterated that the regulatory component of this work is outside his wheelhouse but stated that all three modeled estimates exceed the threshold in the ITS of 10%. He also stated that from a purely conservation perspective, it is reasonable to err in favor of Bull Trout, whose core population is not in good condition.

Mike Hudson (USFWS) added that the three alternative approaches were presented to examine a range of outcomes, and the middle range option turned out to be optimal. He added that the 14.7% rate predicted by this method was not ultimately exceeded based on the empirical data that was later able to be collected, suggesting that ceasing Coho Salmon transport had the desired effect.

Kale Bentley (WDFW) offered his thanks to Whitsel for the presentation and asked for clarification on the difference between analysis alternatives one and three. Bentley stated that his understanding is that this work operates on a base assumption that transported Coho Salmon disperse themselves evenly throughout the available habitat after release. Whitesel stated that this assumption was not taken into consideration during the development of the models. Bentley suggested that historical data showing where Coho Salmon spawn and how they respond to different flow conditions could better inform these models in the future. Whitesel agreed, saying that there are a lot of analyses that could be carried out with enough time and budget.

Whitesel added that judging from trends in Coho Salmon numbers and release timing, he suggests that a 10% superimposition rate is likely reached before weather conditions limit access. Hudson said that every year brings new conditions, so the group needs to be prepared for anything.

Bentley asked about monitoring redd superimposition and whether it would be appropriate to apply the methods used to derive the contemporary estimates (e.g., in 2024) to try estimating superimposition rates from data collected in the past. Data collected on Bull Trout redds counts and Coho Salmon transport numbers could be sufficient data. Whitesel suggested that one could do this but called into question the utility of such a task. Bentley suggested that this exercise could help to better inform decisions regarding methods moving forward. Whitesel deferred to regulatory staff and said that the planned monitoring addresses the biological opinion (BiOp) and ITS on Bull Trout.

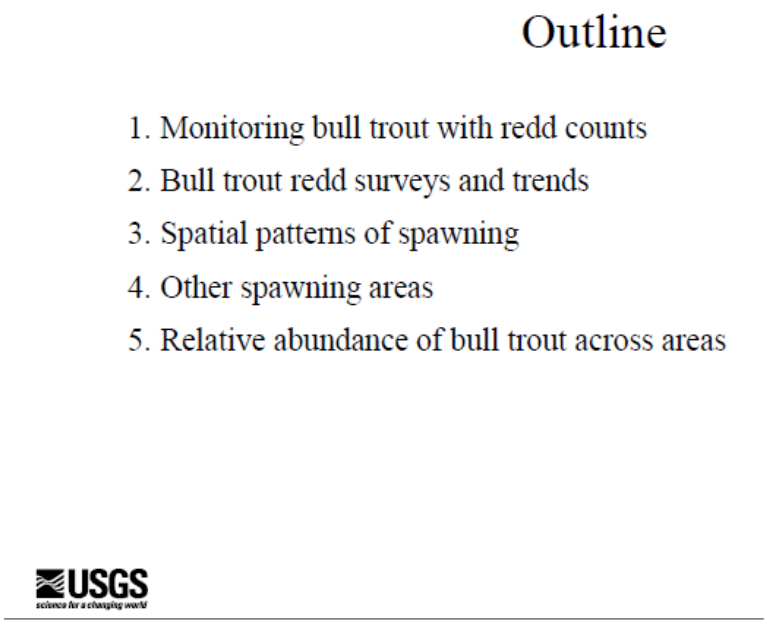
Whitesel then posed a question to either Bentley or Glaser about whether they have a different approach that they think would be useful to apply. Glaser responded that he doesn't have a different method to propose but he was concerned that language regarding the 10% superimposition threshold is vague and wanted to hear more discussion of how that would be applied. He wanted to come to a consensus on a plan for the upcoming season so no one is surprised by last-minute responses to changing conditions. He also stated that if a threshold exceedance will be a consistent annual issue moving forward, then there needs to be planning for how to operate in compliance with the BiOps for both Coho Salmon and Bull Trout. Whitesel offered thanks to Bryce and asked about the number of Coho Salmon called for by the National Oceanic and Atmospheric Administration BiOp; Lesko answered that number refers to the health and safety plan, which is 6,800 Coho Salmon.

Bentley said that after considering the information presented by Whitesel, he is able to make sense of it all but needs more information to inform how well the analysis performs. He also said that with more time, there should be opportunities to develop methods to more accurately predict superimposition rates, but at this point, with the information available, this seems like the best approach. Bentley also stated that he recognizes the 10% threshold as the number that should be regarded for protections dictated by the ITS but questioned whether it was biologically meaningful; it is difficult to determine the effect of these interactions. Whitesel thanked Bentley and left the call.

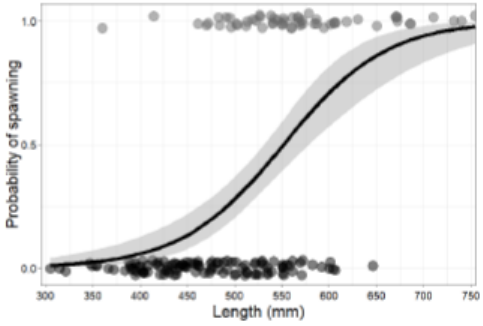
Hudson said methods and decisions are being made based on little information but that continuing to monitor conditions will better inform these estimates and decisions moving forward. Regarding whether the 10% threshold is biologically meaningful, the upcoming presentation from Robert Al-Chokhachy (USFWS) will shed light on how small and susceptible the Lewis River Basin Bull Trout population is. This group is working to determine capacity for Coho Salmon in the upper basin in a way that considers all factors of environmental function, including Bull Trout interactions. This could lead discussions to consider that capacity for Coho Salmon could be greater but is limited by the impact on Bull Trout, recognizing that these reintroductions could also have benefits for Bull Trout. Hudson highlighted that implementation of a monitoring program allows the group to be flexible and respond to information will help make decisions moving forward.

B. Bull Trout Distribution and Trends (R. Al-Chokhachy; 45 min)

Al-Chokhachy gave a presentation entitled *Monitoring Bull Trout Populations in the Upper Lewis River* and said the purpose of his presentation was to discuss empirical data collected thus far and how it has informed the following five areas of study concerning the Bull Trout population in the Upper Lewis River.



1. Bull trout redd monitoring: why redd counts?



- Direct measure of the number of the reproductive population
- Life-history variation
  - Adult monitoring using mark-recapture not necessarily indicative of the reproductive population

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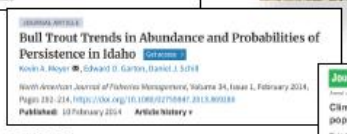
Bull trout redd monitoring: why redd counts?

- Effective monitoring tool
  - Existing publications, reports, etc.
  - USFWS and M. Scheuerell (USGS)


Use of Redd Counts to Detect Trends in Bull Trout (*Salvelinus confluentus*) Populations


Bull Trout Trends in Abundance and Probabilities of Persistence in Idaho


Journal of Applied Ecology
Climate, invasive species and land use drive population dynamics of a cold-water specialist

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Bull trout redd monitoring: why redd counts?

- Cost-effective, low-impact monitoring
- Adfluvial/migratory fish
  - Easy to identify (Al-Chokhachy et al. 2002); Howell and Sankovich (2012)
- Low observer error
  - Dunham et al. (2001); Muhlfeld et al. (2006)
  - Importance of training and continuity of observers (Howell and Sankovich (2012)
  - Lewis
    - Al-Chokhachy and Doyle (2019)

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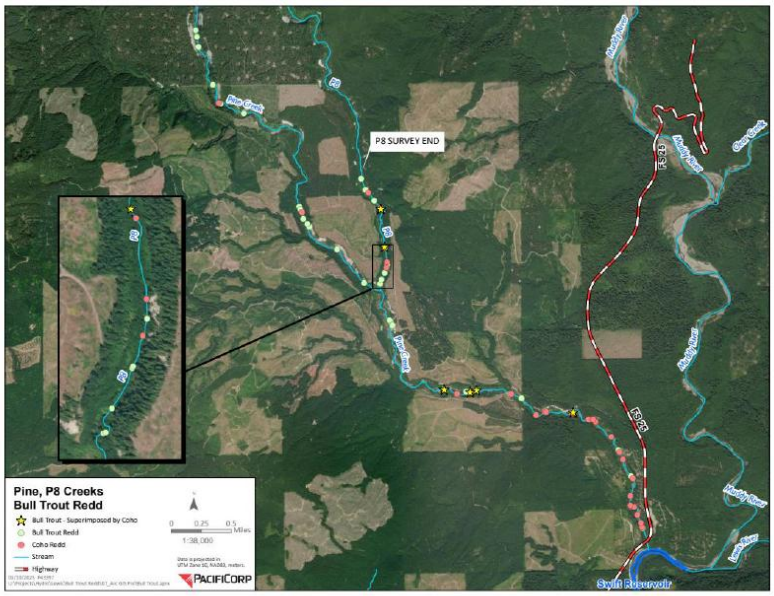
Pine Creek and P8 spawning surveys

- Information on bull trout and coho
  - 2024
    - Bull trout (n = 46), coho (n = 39)
    - *Conspecific superimposition (n=45, bull trout)
- Spatial overlap
  - Superimposition



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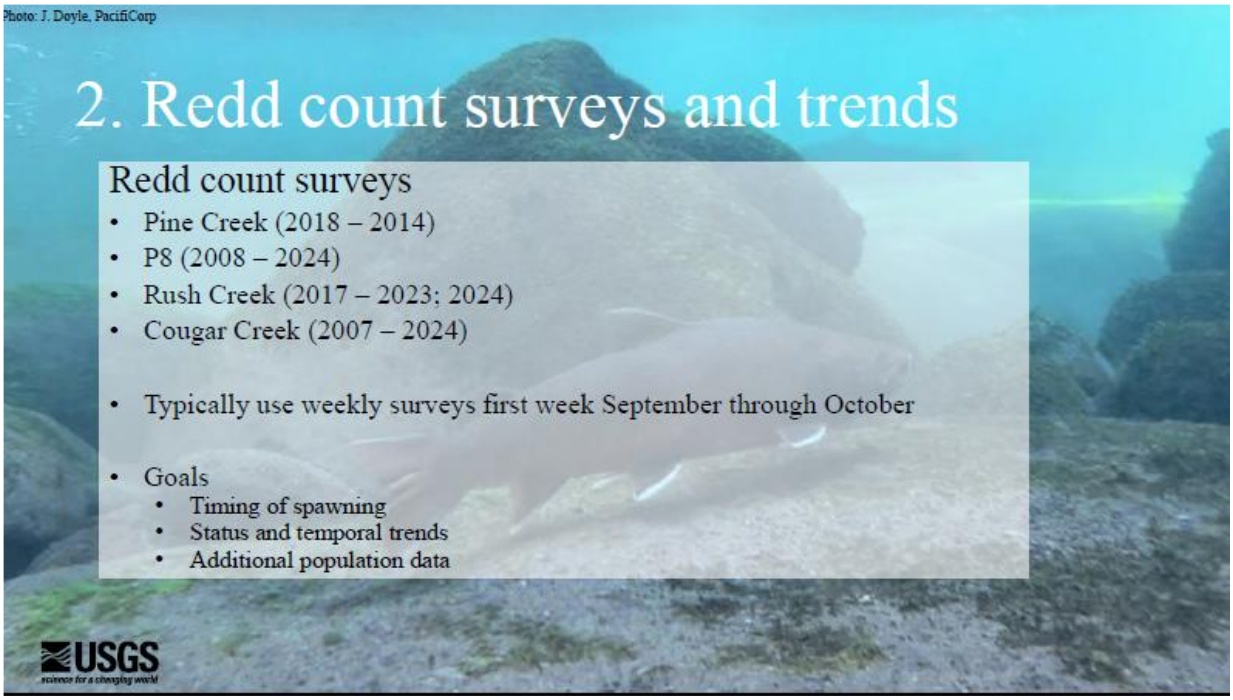

Rush Creek spawning surveys

- Weekly surveys first week September through October
- Bull trout (n = 5)

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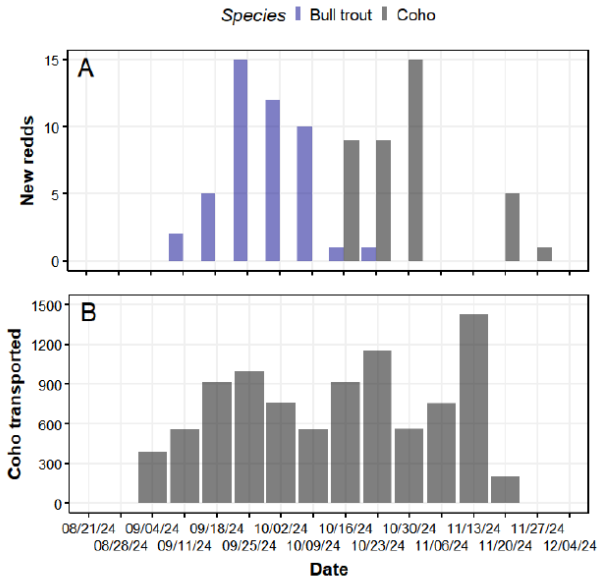
Pine Creek and P8 spawning surveys

- Range of dates of new redds
  - Bull trout (9/11 – 10/23)
  - Coho (10/16 – 11/27)
- 96% of bull trout redds before the onset of coho spawning

- Rush Creek (not shown)
  - 5 redds, all before 10/16/24



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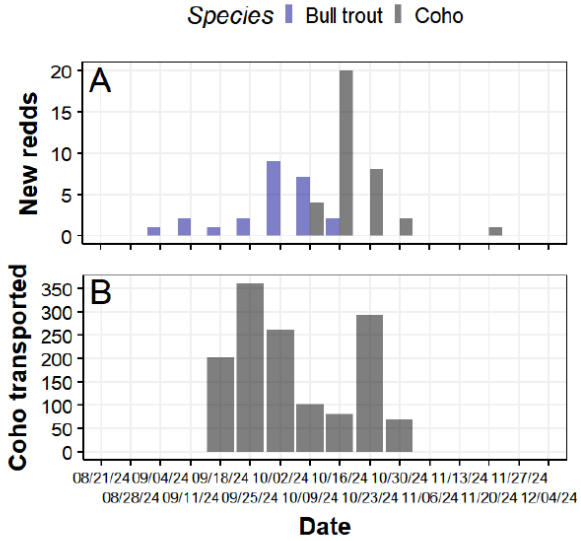
Cougar Creek spawning surveys

- Redds
  - Bull trout (9/4 – 10/16)
  - Coho (10/9 – 11/20)

- Overlap
  - Coho redds > bull trout redds
  - 65% of bull trout redds before the onset of coho spawning



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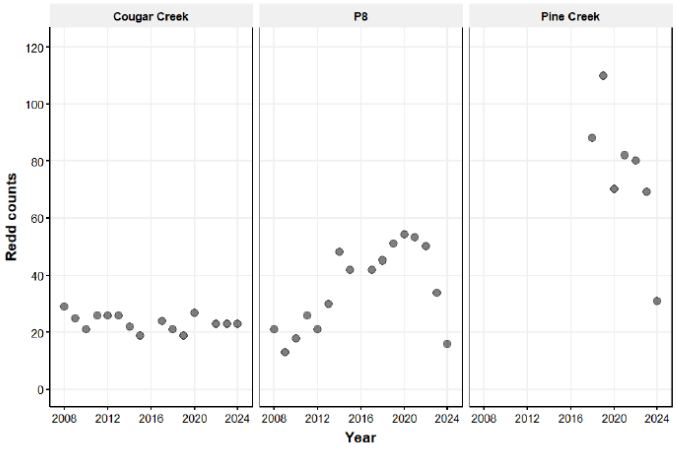
Redd count abundance and trends



- Interannual variation
- Cougar
  - ***CV = 0.13***
- P8
  - ***CV = 0.41 (0.28, last 10 yrs)***
- Pine Creek
  - ***CV = 0.32***

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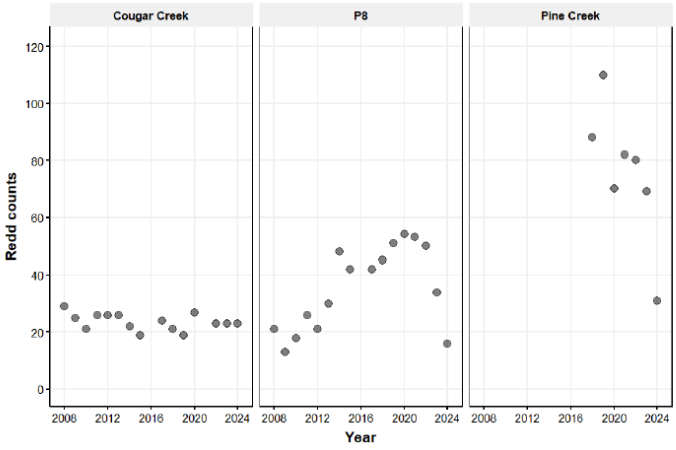
Redd count abundance and trends



- Trend (λ) via state space models
- **Cougar Creek**
  - Relative abundance (moderate)
  - λ = 1.00 (CI = 0.98 – 1.01)
- **P8**
  - Relative abundance (moderate)
  - λ = 0.98 (CI = 0.83 – 1.17)
  - Past 10 years
    - λ = 0.89 (CI = 0.75 – 1.07)
- **Pine Creek**
  - Relative abundance (moderate)
- **Rush Creek**
  - Relative abundance (low; median = 12)

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Photo: J. Doyle, PacifiCorp

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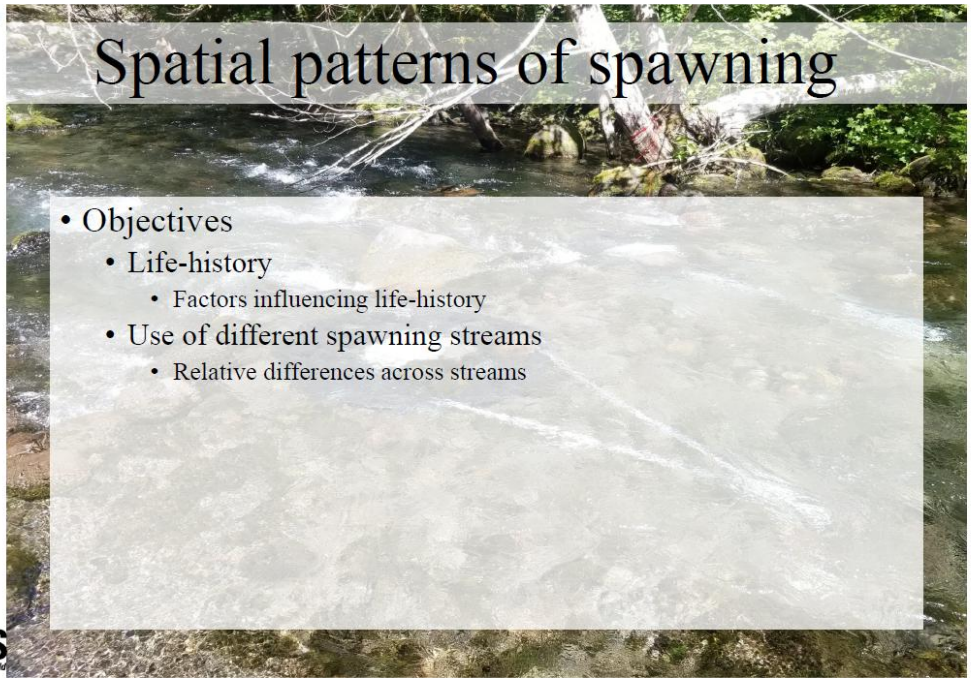

Photos: J. Doyle, PacifiCorp

Spawning migration monitoring

- Multiple antenna types (past - current)
  - 5' diameter wagon wheel antennas from Biomark
  - Auto-tune, 30-day battery life
  - August to October with no power interruptions
- Scans for both FDX and HDX PIT tags
- Auto-tune
- Read range
  - FDX tags = 45 – 50 cm
  - HDX tags = 45 – 90 cm

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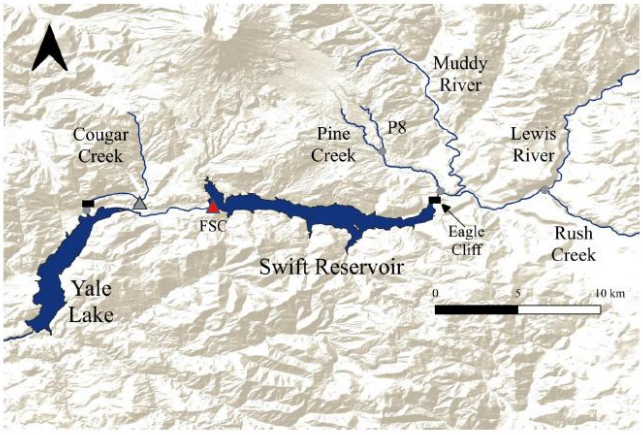
Photo: J. Doyle, PacifiCorp

Spawning migration monitoring



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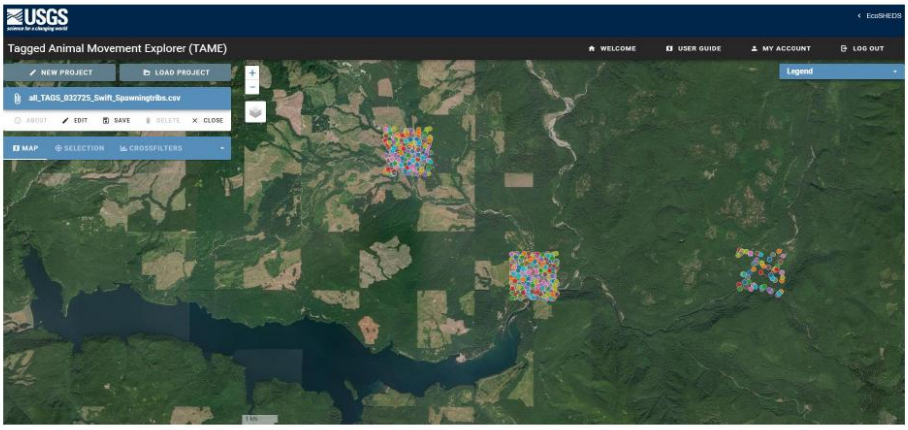
Spatial patterns of spawning migrations



- Individual detections across years
  - Pine/P8 –majority of spawning migrations

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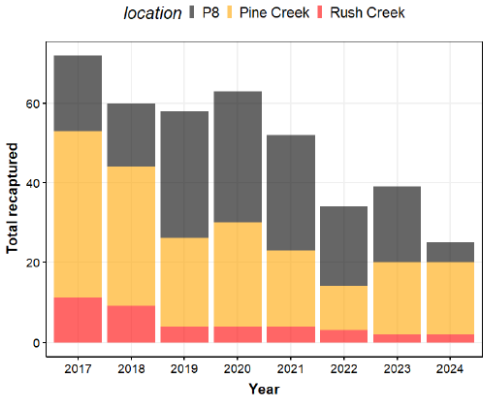
Spatial patterns of spawning migrations



- Individual detections across years
  - Pine/P8 –majority of spawning migrations
  - Consistent across time

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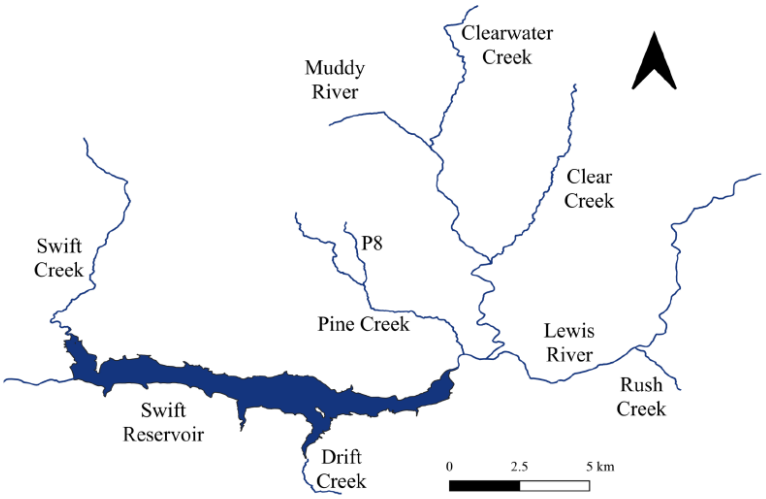
4. Other spawning areas



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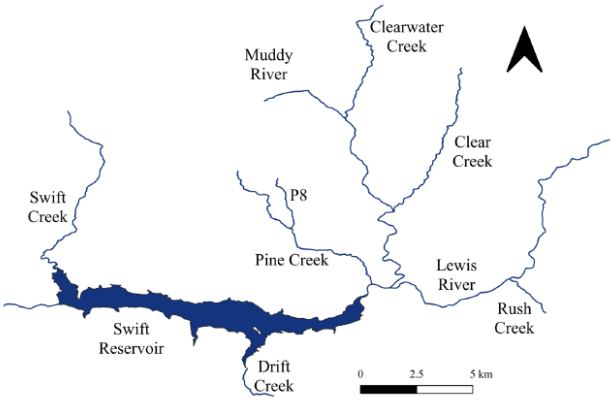
Additional spawning areas



- Bull trout have been detected in multiple streams
- Are there other areas bull trout are likely spawning in the upper Lewis?
  - >50 km of habitat

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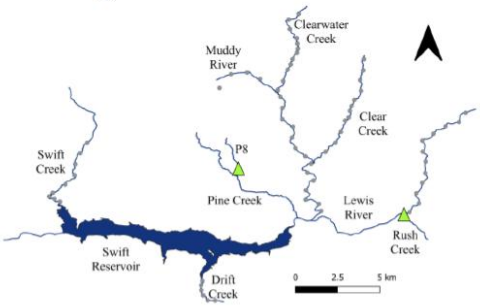
Additional spawning areas



- eDNA sampling
  - During autumn
  - Sample streams outside of the known spawning distribution
    - Detection efficiency
    - Systematically spaced survey sites

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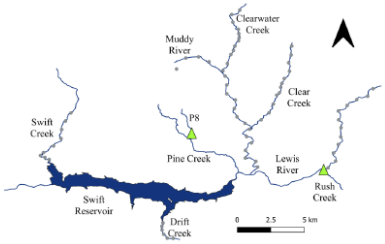
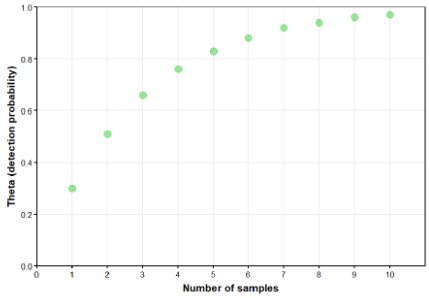
Additional spawning areas





- Bull trout DNA detection probability
  - P8 (high density): likely to detect with 1 sample (10/10)
  - Rush Creek (low density): 3 samples ~70% detection probability

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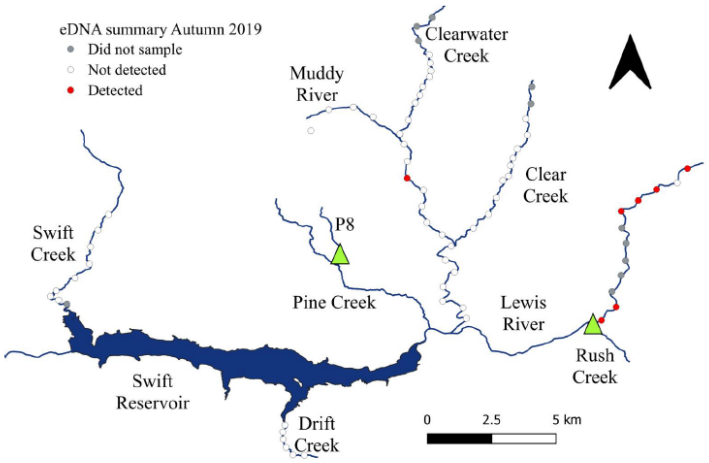
Additional spawning areas



- eDNA sampling
  - ***One detection:*** Muddy River
  - ***Absent:*** Clear Creek, Clearwater Creek, Drift Creek, Swift Creek
    - Detection probability
- Extensive detections in the mainstem
  - Likely rearing juveniles

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Photo: J. Doyle, PacifiCorp

5: Relative abundance of bull trout

Rotary Screw trap data

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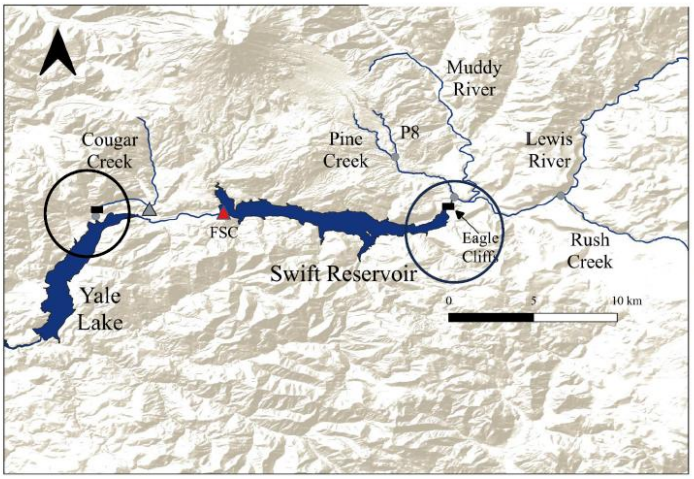
Rotary screw trap sites



- Eagle Cliff: spring through Autumn (2024)
  - Multiple years (2013 – current)
  - Located at the head of Swift Reservoir
- Cougar Creek: year-round (2024)
  - Since 2023
  - Lower Cougar Creek proximate to Yale Lake

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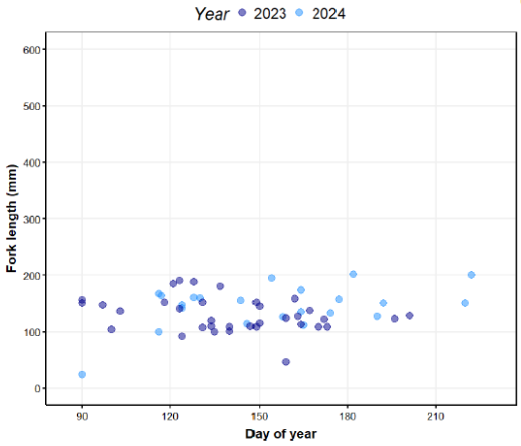
Downstream juvenile migration: Eagle Cliffs screw trap



- Multiple age classes
  - All likely ≤age-3 (Salow et al. 2004; Al-Chokhachy et al. 2019)
  - Most ages 1 and 2

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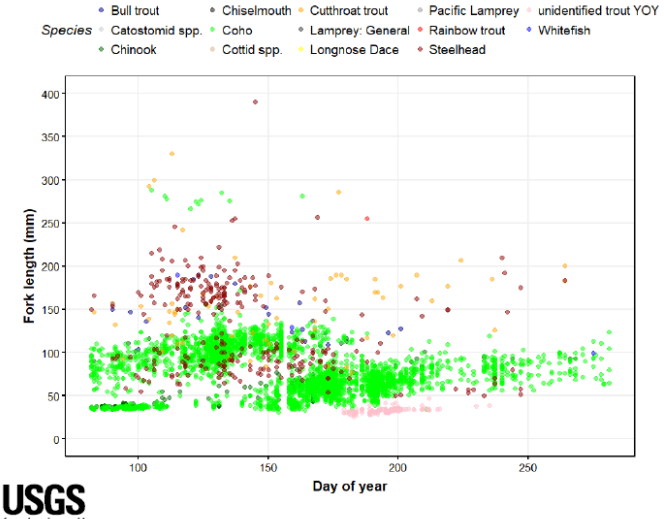
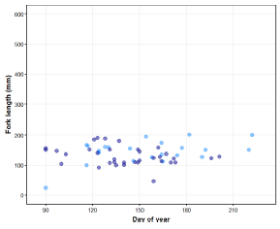
Eagle Cliffs screw trap: 2024



- Coho are the most numerically dominant species in the basin
  - 81% of all catch at the screw trap
  - Bull trout = 0.8%



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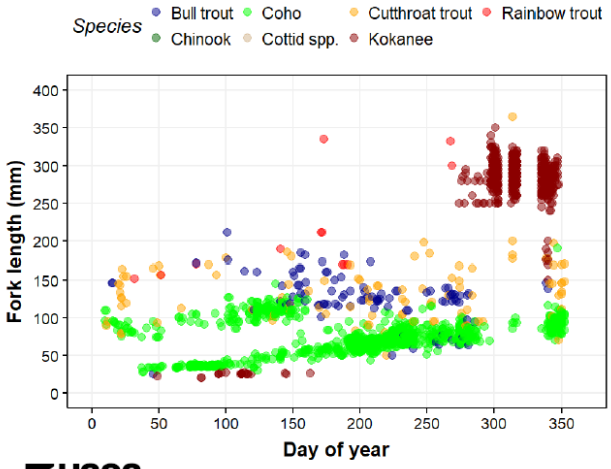
Cougar Creek screw trap



- All new data (2024 and early 2025)
- Coho are the most numerically dominant species in the basin
  - 55% of the catch at the screw trap
  - For juveniles (<200 mm)
    - Coho = 82% of the catch
    - Bull trout = 7.4%

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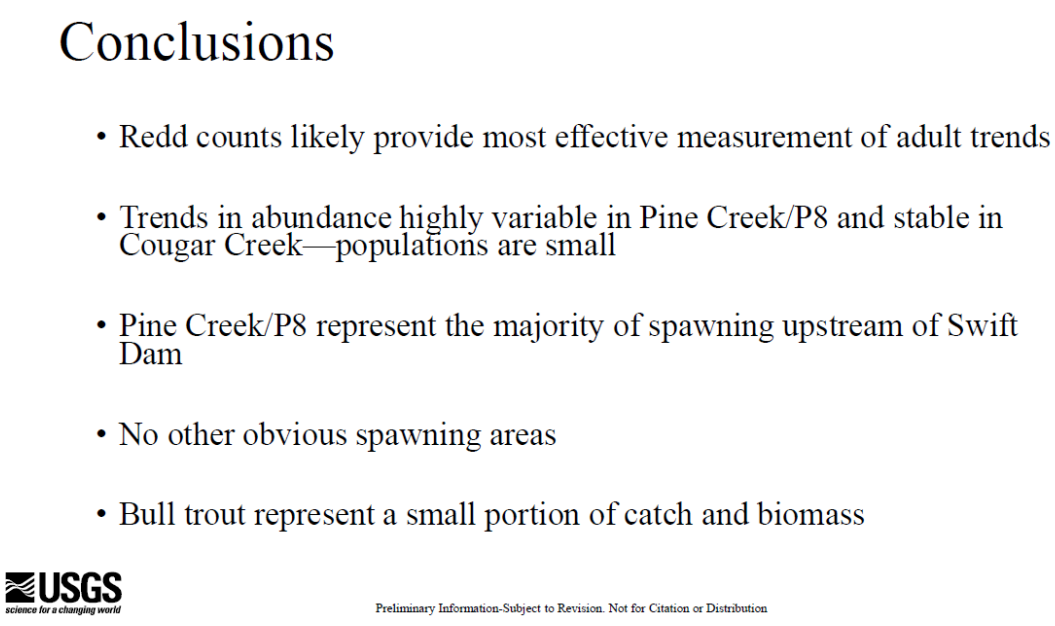

Bentley commented that he appreciated the presentation with a lot of interesting information. He asked for general information on how Coho Salmon and Bull Trout had coexisted in these systems for thousands of years prior to anthropogenic influence. He wondered about specific elements that cause Coho Salmon to be more of a threat to the Bull Trout population now versus in times past. Al-Chokhachy said that policies are mainly in place out of caution because so few Bull Trout populations persist in the Lower Columbia Basin. He stated that dams create a completely altered system that changes fish behavior and likely shifts the interspecies dynamic because Bull Trout are known generalist piscivores. He also stated that Mount St. Helens eruption has caused perpetually elevated turbidity and otherwise caused changes in the distribution of these populations into reaches they may not be adequately adapted to, and so the effect of introducing more competition into these systems may be exacerbated.

Bentley questioned the distinction in spawning timing of Coho Salmon and Bull Trout reported in the presentation, wondering whether that is influenced by when the data were collected. He also asked about any meta-analysis looking at which life stages of these fish were most affected. He also asked what evidence there was to show that spawning habitat is the limiting factor for productivity in these populations and suggested that rearing habitat would typically be the limiting factor for salmonid species. Al-Chokhachy responded that there is no evidence of spawning habitat use in Clear Creek due to thermal limitation and Rush Creek has substrate that is too large to support spawning activity. He said this idea is supported by an upcoming spawner recruitment model being developed from his

office in Montana that will be ready for presentation soon, as well as prior work from Canadian researchers. He mentioned he has made observations of altered behavior by young-of-year fish while snorkeling in this basin.

Al-Chokhachy and Bentley discussed the idea that Coho Salmon are not confirmed to be the cause of Bull Trout decline, but management decisions are being made under that assumption. Bentley said there is a need for more information to arrive at conclusions on the mechanisms of this flux. Al-Chokhachy stated that there is generally more information gathered on the Lewis River Basin population than most other populations, but agreed with Bentley. He said some Bull Trout populations that experienced declines were unable to recover. Bentley stated that some of these decisions are being made in support of Bull Trout to the detriment of other species ,like Coho Salmon, noting that this protocol prevents the passage of around 1,000 wild Coho Salmon that would otherwise be using these streams. Al-Chokhachy stated that Bull Trout are federally listed and entirely a wild population.

Al-Chokhachy said the question is whether there are ways to prevent Coho Salmon from spawning on Bull Trout redds. Bull Trout have been here without Coho Salmon for 80 to 90 years. They evolved together, but there is also innate learned behavior that we know develops in animals that has been gone; how do we let this system calibrate without losing Bull Trout along the way?

Lesko asked about the distribution changes that Al-Chokhachy reported and wondered whether the habitat changes that have occurred in Rush Creek are the cause of that change. Al-Chokhachy stated the cause is not confirmed and that it could be because habitat in Pine Creek has improved. He said this speaks to the value of having open habitat for fish to utilize. Lesko noted that Bull Trout typically reside in spring-fed streams that flow year round, and Coho Salmon could concentrate in these streams during years where other streams have dried up. He mentioned 6 to 8 years of distribution data from prior Coho Salmon redd surveys and how they were never analyzed for changes in relation to annual flux in water conditions. Al-Chokhachy agreed that this analysis may be helpful. Bentley stated that his first thought would be that yes, flows absolutely impact distribution, but how could this information be put to use? Lesko stated that they could learn to anticipate lower Bull Trout-Coho Salmon interaction in years with higher flow, which could aid in adaptive management for these populations. Al-Chokhachy agreed with this idea.

Steve Manlow (Lower Columbia Fish Recovery Board [LCFRB]) stated his appreciation for the presentation. He brought up the challenges of elevated fine sediment in the basin and asked about where habitat restoration efforts should focus. He mentioned that LCFRB has developed designs that have been put on the back-burner, but they could be reassessed with new information regarding restoration needs. Al-Chokhachy stated that these options had been considered and there was worry about inflicting stress from restoration action on the vulnerable population of Bull Trout in these

systems. He also stated that there have not been many instances of these habitat restoration efforts leading to significant recovery of Bull Trout. He proposed that complexity issues should be addressed by riparian and upland restoration.

(Mike Hudson inserted a reference in the chat noting, "This is the work that Jamie Lamperth did to inform potential habitat restoration for bull trout," accompanied by the following link: https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/hydro/lewis-river/license-implementation/acc/LR_BT_Hab_Restor_FinalReport.pdf.)

Glaser called back to Bentley's earlier point about whether we know spawner abundance is the limiting factor with these interactions. He asked whether there is any existing data on the relative abundance of Bull Trout that remain in the reservoir versus those that make spawner runs up into tributaries, and suggested total abundance of Bull Trout may be stronger than thought. Al-Chokhachy responded that there generally is not much information available on lake habitat for salmonids. He stated that stable isotope data will be shared when finished and that there is a push to collect more. He agreed that reservoir usage is a big piece of the puzzle, but determining how to gather that data without impacting the population is the hard part. Glaser stated his thanks for the input and stated that as data gaps get identified and prioritized, more resources may need to be put toward understanding this topic.

C. Bull Trout ITS Implementation

Garnett opened discussion to address questions on how to interpret the ITS, specifically whether P8 should be assessed as part of Pine Creek, and whether Pine and Cougar creeks should be assessed separately or as an aggregate. He stated that P8 is officially being considered part of Pine Creek ITS. He also stated that Cougar and Pine creeks are officially being assessed as an aggregate. Lesko asked for clarification that inclusion of P8 means that tributaries P1 through P7 are also included, and Garnett confirmed that they are.

Glaser thanked Garnett for the clarification. He asked whether there were any other existing tributaries like Rush Creek offering Bull Trout spawning habitat that should be brought into consideration. He also said he hopes this conversation will be had between Garnett and National Marine Fisheries (NMFS) staff on how these two BiOps relate to one another. Garnett responded that Rush Creek has been considered and is officially not part of the ITS because Coho Salmon are reported to have difficulty accessing that tributary. He also said that he has yet to have discussions on the relationship between these BiOps with NMFS but those discussions will be had soon. Bentley asked whether Rush Creek would be considered in the hypothetical event that Coho Salmon spawning activity was detected there. Garnett said that from a regulatory sense, those would still not

be considered as part of the ITS unless data collection showed spawning was occurring there and consultation was reinitiated.

Lesko concluded the conversation and thanked Garnett for offering official decisions from USFWS on multiple key issues facing the group.

D. Bull Trout Selective Protection/Exclusionary Measures (ATS; 20 min.)

The ATS discussed Bull Trout redd protection measures, which was a topic called for by group members after the initial draft meeting agenda was shared. There was discussion of not including the topic due to a lack of relevant information.

Glaser highlighted the need to think outside the box about selective exclusionary methods but that there were concerns about potential impacts from novel methods. He wanted the discussion to determine whether the group is comfortable pursuing experimental methods, for instance, if previously proposed ideas like alternate release sites should be considered.

Lesko presented the following image as the only relevant example he was able to find.

This image shows spawning exclusion measures implemented by a pipeline company and may be applicable to the purposes of the group. Manlow offered context for the image by stating there was no information to go along with it and so made it clear to the group that this is not a method that is

being endorsed and that it just serves to generate further ideas. Lesko mentioned that the company behind this exclusion fencing had published a paper on a separate project dealing with redd protection, though it was not peer-reviewed. He mentioned that he does not envision needing to implement this type of protection on all 68 documented Bull Trout redds, just those in areas that are also heavily used by Coho Salmon and therefore at higher risks from superimposition.

Hudson said that he had not been able to find much literature on this exclusionary devices around fish redds. He clarified that the provided example served to prevent redds from being constructed on an area that would later be disturbed and stated that this fencing effect on a redd that is already constructed is unknown. More information on impacts would need to be gathered before this method could be implemented broadly. He imagines small-scale weirs would be more effective and less invasive. Josua Holowatz (WDFW) offered insight as a person with experience installing and monitoring weirs in this area that leafy debris becomes a challenge.

Jeremiah Doyle (PacifiCorp) suggested that water velocity in Pine Creek will make any in-water measures difficult for either redd protection or weirs.

Hudson said this fencing method would need to be fully planned out and submitted to USFWS in order to determine what is allowable. He suggested that a different, more robust population or even a surrogate species would be more appropriate to determine impacts from this method. Manlow said that implementation of this method could trigger reconsultation and called into question the odds that the study design could be developed and worked through the services in time for next year. He also said that this discussion is being held because of resistance from the Utilities to consider alternate release locations. Garnett said he has some discomfort with this proposition and would need to see more data or conduct an analysis in a different system. He said he does not want to firmly state whether or not this activity would be covered under the current BiOp, and he sees hurdles for implementing this year.

Glaser said it was helpful to hear Garnett's input on this topic. He stated that the current draft of the Decision Document stipulates that ATS would host these discussions about low-cost methods to limit redd superimposition and then work to implement them once superimposition rates hit 5%. He suggested time should be invested in other potential methods since hearing that this tactic is unlikely to pass regulatory hurdles to be implemented this coming year. Lesko agreed and stated there are probably other options that have not been considered.

Bentley suggested putting a weir at the mouth of Pine Creek and leaving it open until the redd superimposition threshold is met.

Lesko stated that there is a lack of information and that the group will need to try different methods that may or may not work. He stated that alternate release sites are not a viable option to be

implemented this year. Chris Karchesky (PacifiCorp) confirmed and stated that the plan for this year is to learn whether fish released at Swift Dam still resulted in high redd superimposition rates and use this new information to inform decisions for 2026.

Glaser said that the language in the ITS is the crux of the issue and that there continues to be disagreement on language in the draft Decision Document. He said that conversations with Dave Price (NMFS) suggested strong support for alternate release locations and he feels it is a reasonable alternative to look toward for this year. He asked Marc Johnson (NMFS) whether he had discussed this topic with Price. Johnson said that no, those conversation had not occurred, but he would make a note to connect with Price on that. Glaser thanked Johnson, and stated that alternate release sites are a proposition that would not trigger reconsultation, unlike other methods being discussed. He suggested the group compile a list of proposed alternatives to determine the plan for this fall, finish the draft Decision Document, and craft the Coho Salmon transport plan.

Hudson stated that here is monitoring in place to help inform decisions on Coho Salmon transport numbers and suggested there may be a way to approach Coho Salmon transport that allows the movement of fish to occur throughout the season and adjusting based on real-time information from Bull Trout redd monitoring. He suggested that weir installation in these systems would be near impossible even in the dry season. He clarified that he is not proposing any methods outside of compliance with the BiOp.

Glaser then asked what the message will be to the ACC. Lesko said that ATS likely will not have recommendations for a change in methods in 2025. He said alternative release sites are not set up logistically or mechanically, redd caps are likely out of compliance with the BiOp, and weir installation does not seem to be possible in 2025. Glaser suggested going to the ACC with the message that data gaps associated with tools like redd netting or weirs cast uncertainty on the efficacy of these methods or whether they would require reconsultation. He stated that he hears the Utilities' concerns about alternate release sites and the ability to retrofit trucks with proper gear or develop formalized release locations. He suggested there are methods that could be implemented to allow use of alternate release sites with smaller trucks. He said this continues to seem like the most feasible option. Hudson agreed with Glaser's proposed message to the ACC with one change to propose alternative transport scenarios that allow the Utilities and Services to be more flexible in response to real-time conditions rather than try to decide on a flat lower number as an impact threshold.

Glaser also suggested considering transporting a lower number of hatchery-origin return (HOR) Coho Salmon that could still provide more information for the life-cycle monitoring. Karchesky said proposed adjustments to the number of Coho Salmon to be transported are being written in to the 2025 Coho Salmon Transport Plan already, which currently states that HOR transport will be

decreased once a 5% Bull Trout redd superimposition rate is observed, while natural-origin return (NOR) transport will continue. Bentley suggested that decreasing the amount of HOR Coho Salmon in relation to this emergent issue with Bull Trout negates the purpose of passing hatchery Coho Salmon at all, pointing out the purpose was to assess productivity and carrying capacity of Coho Salmon in the upper basin since numbers of NOR Coho Salmon are too low for full recovery. He hypothesized that Coho Salmon are nowhere near carrying capacity in the upper basin, and Coho Salmon passage needs to continue to obtain that data and meet the NMFS BiOp.

Karchesky thanked Bentley for his remarks and said that the Utilities understand the need for Coho Salmon to be transported upstream, and there are data gaps that need to be filled to have more informed conversations about operations concerning ongoing operations moving forward and future consideration with the new fish passage facilities coming online soon.

Glaser suggested that if the group considers a reduction of HOR Coho Salmon to a certain threshold number, a better alternative may be to plan around a lower number spread over the entire run in order to capture a broader life history and run-timing diversity rather than to stop transport before the end of the run. Al-Chokhachy supported this idea and suggested that the method of using high transport numbers to better understand carrying capacity is an indirect way to achieve recovery. He questioned whether we are able to know when the system is saturated and whether now is the right time to be working toward making that determination when Bull Trout numbers are so low. Glaser said he understands that point, but current evidence suggests Coho Salmon passage numbers are not sufficient to meet carrying capacity, so why delay Coho Salmon recovery when there is not strong evidence of a negative impact on Bull Trout?

Glaser asked Doyle for any information on the HOR:NOR ratio from Coho Salmon carcass surveys to inform whether superimposition is occurring disproportionally on either origin fish. Doyle responded that they never found any carcasses during Bull Trout redd surveys.

Karchesky said that the general recommendation from the integrated population model work has been to vary Coho Salmon transport numbers to simulate a more natural population flux between return years and to move away from the consistent 9,500 Coho Salmon being moved annually. Because of this, higher numbers were selected to estimate carrying capacity more accurately in the near term. He also agreed with Al-Chokhachy regarding near-term data gaps that need to be addressed by this approach.

Bentley said the underlying assumption in these discussions is that more Coho equates to higher superimposition rates, which may be true, but other factors could be contributing to this. He suggested a useful exercise may be to revisit past years of data to determine how often the 10% superimposition threshold was exceeded and assess relationships with other factors. He asked what

would happen if the requirement to pass every wild fish upstream drives superimposition past the threshold.

Hudson suggested that once Al-Chokhachy's work is available for presentation, then past years of data can be assessed for superimposition exceedances. He agreed with Bentley and said that the superimposition threshold likely had not been exceeded before the last year or two.

Bentley added that because the redd superimposition threshold exceedances discussed are as a rate based on redd abundance, if distribution remains the same, then we should expect the same superimposition rate on an annual basis. Doyle said that Bull Trout are consistent in their habitat usage but it was only this past year that he observed Bull Trout being excluded from habitat that they previously used on an annual basis.

Highlights from this discussion will be prepared as talking points for the next ACC meeting.

III. Updates

A. Hatchery Practices and Pathology (Hatchery and Fish Health Staff; 15 min)

Juvenile Spring Chinook Salmon Release

Kevin Young (WDFW) gave an update on spring Chinook Salmon from Sean Roon regarding bacterial kidney disease (BKD) levels at Speelyai Hatchery. No BKD was detected in the February release group, but there were low levels detected in the October release group. The recommendation was made to administer Aquamycin treatment at 1.5% body weight after the stock is transferred from Speelyai Hatchery. Jesse Cody (PacifiCorp) had no updates on pathology from Merwin Hatchery.

Winter Steelhead and Spring Chinook Salmon Broodstock Collection (K. Young; 10 min)

Young said spring Chinook Salmon broodstock will be shipped to Lewis River Hatchery the week of April 28. Spring Chinook Salmon brood collection is in its third week, and the last couple weeks have stayed true to the collection curve. For the current week of April 21, things appear to be going well, and collection goals are anticipated to be met. Young said they may start collecting a week ahead if trends start to drop off.

Merwin Hatchery staff continue collection of (integrated) conservation program winter steelhead; collection of stepping-stone program broodstock is complete.

Young also said that Lewis River Hatchery released all their Coho Salmon smolts, and now their Coho Salmon fry are in incubation raceways.

Jesse Cody reported that Merwin had started volitional release of summer steelhead.

B. Winter Steelhead Mark Recapture (J. Doyle; 10 min)

Doyle reported that the team has been in the field every week. So far, 73 fish have been passive integrated transponder tagged; 32 were "salted" fish and 41 were residuals. There are 5 more weeks of field mobilizations. Doyle mentioned that captures in angling surveys have declined, while redd counts seem to have peaked. Lesko mentioned that water levels are low which did not help sampling efficacy.

IV. Administrative Items (Lesko; 10 min)

A. ATS Priorities

Erik Lesko stated that topics discussed today are the ATS priorities, with respect to Coho Salmon-Bull Trout interactions and coming up with a plan for this fall. He said that for the next meeting, discussion should prioritize determining how to move forward with alternatives presented in Whitesel's presentation. He suggested that working with Glaser to summarize alternatives and talking points discussed at this meeting to take to the ACC. He mentioned the draft Decision Document is out for ACC review and will be priority at their upcoming meeting.

Robert Al-Chokhachy mentioned the topic of analyzing past redd counts and suggested he could work with Jeremiah Doyle on presenting that information.

Bryce Glaser reminded the group that if the list of alternatives regarding Coho Salmon-Bull Trout interactions becomes too overwhelming, those involved could host separate meetings to make room for other ATS business. Lesko agreed and thanked the group for participation and called the meeting to a close.

The next meeting of the ATS will be held May 22, 2025.

V. List of Attendees

Name	Affiliation
Lincoln Baxter	Anchor QEA
Amanda Farrar	Cowlitz PUD
Steve Manlow	LCFRB
Kathryn Blair	NMFS
Marc Johnson	NOAA
Jesse Cody	PacifiCorp
Jeremiah Doyle	PacifiCorp
Chris Karchesky	PacifiCorp
Erik Lesko	PacifiCorp
Jonathan Stumpf	Trout Unlimited
Marshall Barrows	USFWS
Robert Al-Chokhachy	USFWS
Jeff Garnett	USFWS
Mike Hudson	USFWS
Timothy Whitesel	USFWS
Kale Bentley	WDFW
Bryce Glaser	WDFW
Josua Holowatz	WDFW
Anja Huff	WDFW
Christopher Kopack	WDFW
Peggy Miller	WDFW
Sean Roon	WDFW
Kevin Young	WDFW