Meeting Minutes

Lewis River Aquatic Technical Subgroup

To: Lewis River Aquatic Technical Subgroup Date: April 23, 2023

From: Larissa Rohrbach, ATS Coordinator, Anchor QEA, LLC

Re: Final Minutes of the April 6, 2023, Lewis River Aquatic Technical Subgroup Meeting

The Lewis River Aquatic Technical Subgroup (ATS) meeting was held virtually on April 6, 2023, from 9:00 a.m. to 12:30 p.m. Attendees are listed in Section IV of these meeting minutes.

Action Item Summary

- See Work Plan.

Agreements or Recommendations

- None.

Review Items

- None.

Finalized Documents

- None.

I. Review Agenda, Review Last Meeting Action Items, and Approve Previous Meeting Minutes (Rohrbach/Lesko)

A. Announcements

Several announcements were made regarding staffing and representation to the ATS.

- Larissa Rohrbach announced that she will replace Sarah Montgomery in the facilitation support role for Anchor QEA.
- Chuck Peven announced that this would be his last meeting as he would be retiring at the end of April. Peven provided contact information for Natasha Preston who will coordinate filling in the role for NMFS.

- WDFW introduced Anja Huff, their new hatchery science coordinator for Southwest Washington (Region 5), noting her participation will add to WDFW's capacity on ATS issues. Huff formerly worked on statewide Hatchery Evaluation and Assessment Team (HEAT).

ACC members have not been receiving ATS materials, including agendas and meeting announcements. Certain ACC members are particularly interested in tracking development of Lewis River transition plans for Coho salmon, steelhead, and spring Chinook salmon. Erik Lesko agreed they would be added to the distribution lists, and he would forward calendar placeholders.

B. Review Agenda

- Rohrbach reviewed the agenda and no changes were requested.

C. Review ATS Work Plan Priorities

- Rohrbach reviewed the most recent version of the ATS Work Plan which was distributed with today's agenda. The status of work plan items was updated.

II. ATS Meeting Topics

A. Draft Coho transition plan - comments and responses (Holowatz/Glaser)

Bryce Glaser led the discussion noting that there would be no formal summary presentation today, but that WDFW would like to summarize comments and their suggested responses to date.

Glaser said WDFW has compiled comments into matrix. Comments were received from PacifiCorp, LCFRB, and NMFS. WDFW will distribute comments and responses to the ATS following today's discussion to clarify some components and resolve some issues. A revised version of the draft transition plan will also be distributed to show how WDFW will respond to those comments.

Glaser noted that the objective is to obtain agreement from the ACC on the transition plan, which may allow the programs to move forward with implementation as WDFW develops the HGMPs in parallel and works through the Consultation process with NOAA Fisheries. Chuck Peven agreed that NOAA Fisheries does not want to slow down the implementation of a program that is beneficial to the resource while in Consultation over the HGMPs.

Erik Lesko said many of PacifiCorp's comments and questions are related to consistency with their Lewis River Settlement Agreement (SA), and today's discussion will help to identify how to resolve those concerns.

Four major concerns were identified from the comments, and were discussed, as follows:

1. Concerns were raised around increasing the temporal and geographic distribution of the integrated late program, which will require more natural origin returns (NOR) than are currently taken for broodstock. There are concerns about having enough fish to meet the needs for upstream transport targets. In response, WDFW has done a spreadsheet modeling exercise to improve the ATS's comfort level with that change and the program size splits that were outlined in the transition plan. WDFW felt there is a need to maintain the segregated program for harvest.

    - Kale Bentley said transition plans evaluate the transport plans and develop alternatives to ultimately meet a harvest component, and the anadromous reintroduction goals in the SA. WDFW is currently only proposing to pass the late/integrated Coho program upstream, based on broodstock necessary to meet a release goal of 900,000 smolts. There are similar programs for steelhead (early winter steelhead for harvest, late winter steelhead as an integrated program). For both Coho and steelhead, WDFW is proposing to use the integrated program for reintroduction; in some years there will be fewer NOR fish available for reintroduction. The source of the fish matters before focusing on meeting targets for absolute numbers.
    - Sam Gibbons showed a spreadsheet model of implementing an integrated program at various sizes, mining rates and pNOB. Three questions of interest were evaluated:
        - Are there enough NOR to meet the target of 50% pNOB in most years with the given mining rate
        - Are the NORs collected for brood demographically replaced by "wild equivalent" hatchery-origin return (HOR) spawners, assuming relative reproductive success of 0.5 for HORs.
        - Are there enough HOR adults to meet upstream transport and broodstock goals with the given program size and mining rate?
    - Lesko said he appreciated the spreadsheet to answer some of the question about whether there would be enough fish. This answers the question of what risks there are to the hatchery program and reintroduction obligations. A question remains about what would happen in some years when there are not enough NOR fish for transport.
    - Glaser said this analysis showed that there would be demographic replacement with enough HOR fish to replace NOR fish that would be transported while still attaining a pNOB goal of 50%; in some years that can vary higher or lower. Options could be to included in the plan to allow for variances made on a year-by-year basis, for instance, when forecasts are low or realized returns are low. The H&S Plan directs us to develop an integrated plan that drives the population toward local adaptation; shifting too soon to a larger integrated program for reintroduction with the number of NORs available will make it more difficult to achieve an integrated hatchery program. WDFW has proposed that Phase 1 of the transition plan would

start with status quo for hatchery production numbers; in most years there will be adequate abundance for transport upstream. In Phase 2, if the programs are not hitting targets, WDFW proposes to consider shifting that production split to produce more integrated fish. The abundance of NOR will be driven by collection efficiencies of juveniles from the upper Lewis River basin. Lesko said PacifiCorp agrees to moving toward the plan of using the integrated stock for the basis for the reintroduction, and agrees to including some language in the transition plan to incorporate segregated early Coho salmon if numbers are in decline, to reduce the risk of not meeting the objectives in the SA.

- Bentley said the program can move beyond the absolute numbers to also use current information from existing datasets to identify thresholds or provisions based on biological information like density dependence and relative reproductive success. Glaser said the next step in the Annual Monitoring and Evaluation Plan (AMEP) is to better identify biological metrics and to use lifecycle modeling approaches to identify triggers that are not just based on absolute fish numbers; WDFW supports building similar adaptive management approaches into all the Lewis River programs. WDFW supports including language to the transition plan about in-year adjustments, and to include language that the triggers for making adjustments may change over time as information on other biological metrics become available.
- Lesko said there is a need to avoid a situation where a segregated program is producing a large surplus and still not meeting upstream transport goals. Glaser said that concern is noted, but wanted to acknowledge that transporting that segregated stock may actually be a detriment to the program. Lesko said that PacifiCorp agrees with the approach to adaptive management showing there can be flexibility within years to use early-run fish or to adjust harvest rates, noting that there will be additional needs for more fish in the future. Glaser said that in the transition plan, we want to describe that future need at enough of a level of detail, and how we propose to meet it, to be able to obtain coverage from the Services for those adaptive management changes and avoid having to go back into Consultation every time there is a need for adaptive management.
- Glaser will develop a first draft of additional language on adaptive management around NOR abundance for the next draft of the Coho salmon transition plan.

2. PacifiCorp and the LCFRB commented that the potential for harvest in the upper basin needs discussion and clarification. Glaser said uncertainty can be described in the transition plan where management targets have not yet been developed, preserving options for the future, while this transition plan is considered a draft that can be adaptively managed, and indicate those management goals will be revisited over time.

    - Glaser reported in a conversation with Steve Manlow he shared the LCFRB concern that the plan proposes an interim harvest objective and a long-term harvest objective. In the interim,

there should be no harvest in the upper basin as we reestablish the management goals and recovery phase triggers. As part of those discussions, we would consider when the right time would be to allow for harvest in the upper basin (i.e., during the implementation phase versus after recovery). The ideal solution would be to achieve a scenario where collection rates are high and recovery targets are being met. There could be interim steps if the population is growing, while controlling for pHOS objectives, to potentially allow for some harvest to occur. We want to build out some conceptual long-term frameworks with options. The LCFRB does not want harvest to slow down recovery efforts; would translocating a lot of HOR to the upper basin affect our recovery efforts, from a harvest perspective.

- Glaser said there was value in keeping harvest in the plan to show that the long-term goal is to include harvest in the plan and how we might manage that.
- Lesko said PacifiCorp provided comments from a similar perspective of ensuring harvest does not preclude recovery.
- Glaser said that throughout the Columbia Basin, mark-selective fisheries are the model for how to allow harvest on populations in recovery phases; the question becomes how that would be phased in and during what phase of the transition program. Glaser noted the trigger for allowing harvest will likely be dependent on achieving SA targets for downstream juvenile collection efficiency and NOR abundance.

3. Comments were received about better describing what full recovery looks like and clarifying the outcome goals from PacifiCorp's SA. WDFW will incorporating mission statements from the SA and recovery plans to clarify what recovery looks like.

4. Comments were received from PacifiCorp and others regarding performance metrics and management targets for segregated programs. WDFW agreed that the populations should be identified as in the reintroduction phase of recovery and that specific targets to manage to are not available now, but those would come online in the future.

Glaser and Josua Holowatz will prepare a revised draft of the Coho Salmon transition plan, and provide responses in addition to those addressed today in the comment-response matrix. The revised plan and matrix will be distribute to the ATS (and ACC), aiming for distributing by April 21 for further discussion in the next meeting.

B. Draft steelhead transition plan – introduction (Holowatz/Glaser)

Josua Holowatz shared a brief presentation with a high-level introduction to the steelhead transition plan, which WDFW has been working on since November. Alternative approaches were presented with the tradeoffs involved with each. The steelhead transition plan will be distributed for review to

the ATS in late April, comments received and a revised, ATS-approved draft will be presented to the ACC for their approval.

Bryce Glaser said Alternative 1 would create a segregated HOR broodstock, but to reduce risk of developing a program that is NOR brood-hungry, it would require early-returning HOR fish, which could take a long time to obtain enough fish as we are learning with the KEWS program.

Kale Bentley said the Chambers stock (an out-of-basin early run segregated stock) is going to be eliminated, and outlined the three alternatives:

- Alternative 1 would create a new in-basin segregated harvest program. The goal would be to develop a program with the same characteristics, but derived from an in-basin population, or within the ESU strata.
- Alternative 2 moves toward a single integrated program.
- Alternative 3 maintains two programs, harvest and conservation. The conservation program would not change from the existing integrated program, however the harvest program would use F1 offspring from the conservation program as broodstock. Instead of trying to select for the early return timing, these fish would return at the same time as the NORs and conservation fish.

Bentley continued, that a demographic model was used to incorporate summer-run steelhead into these scenarios and evaluate metrics such as abundance of NORs and effective NORs (those allowed to spawn naturally), partitioned between the upper and lower basin or combined. Those results can be presented at a future time. The stepping-stone approach given in Alternative 3 does result in slightly more NORs and effective NORs based on the assumption in the model that HORs would have lower smolt-to-adult return rates (SARs) based on information from other basins, but there are certainly a lot of unknowns. There are tradeoffs between abundance and genetic risks; with the fully-integrated approach pNOB will be greater than zero and will provide an overall higher PNI, while the steppingstone program is derived from HOR fish.

Bentley said that through this exercise, scenarios included shifting some of the winter-run production onto the summer-run program, while maintaining overall steelhead release targets given in the SA. Because harvest of the early winter program has been so poor, there could be some benefits of additional summer-run fish for harvest, which was tested with all three alternatives.

Lesko asked if the alternatives have been shared with NOAA Fisheries, or if they've provided feedback. Glaser said they have not for the Lewis River steelhead, although similar alternatives have been presented for the Cowlitz River to NOAA Fisheries representatives.

Lesko said it looks like all three alternatives will have some impact on the reintroduction program, and since 2008 numbers appear to continue to go down. Bentley and Chuck Peven noted this decline has been observed across the range of steelhead from California to British Columbia, which was discussed in the recent steelhead managers meeting.

Lesko said the idea to move some production to the summer-run program is an interesting idea; and asked whether more modifications to the summer-run program could be made to extend the harvest on those fish rather than harming the late winter-run program. Glaser said WDFW considered shifting even more of the program to the summer-run, early timed program, however when that was done in the Cowlitz Basin, people were angry and WDFW has concerns about that. A difference was that early winter program was a huge contributor to the Cowlitz fishery, whereas the Chambers stock does not appear to be a large contributor to the fishery on the Lewis River. We know the summer-run program is performing well, so some of the early winter-run program production could be moved to summer-run, while maintaining the winter run for some harvest and continuing to have enough numbers for upstream reintroduction. Some level of late winter harvest opportunity could provide a much longer and better opportunity,

Lesko said the proposed steelhead transition plan seems similar to the Coho Salmon program with a segregated harvest component and an integrated program. Glaser said yes, however WDFW's preferred alternative (3) for steelhead will use F1s from the integrated program, so it will only be one genetic step away from the integrated stock.

C. Update: Annual Operations Report roll-out to ACC (Lesko)

Lesko said he is planning a presentation of the Annual Operations Report (AOR) to the ACC in their May meeting. PacifiCorp will plan no more than 2 hours for the presentation. There are several new members on the ACC and there is a need to inform people of PacifiCorp's activities. PacifiCorp will show the organization of the report so new members know where to find information, with a focus on aquatics. Lesko noted this would be the first year this has been done, and the approach could be revised in the future if needed.

Lesko suggested reviewing an abbreviated presentation with the ATS in their next meeting to determine the level of detail necessary to prepare for a full presentation to the ACC.

PacifiCorp would review results of 2022, highlighting trends that PacifiCorp identifies as noteworthy. Lesko suggested reviewing the objectives table from H&S Plan and M&E Plan, with a focus on those that have performance targets like juvenile abundance, spawner abundance, fish passage, and bull trout. Glaser agreed with high-level overview approach to show areas that are going well and areas that need some work. He suggested a concept like building a scorecard of what's being done, what's

ongoing, what's not being addressed yet. Lesko said the objectives table could be sent out ahead of time, showing key results for each objective. The objectives table shows the breadth of all the work that's being done, and shows where approaches to monitoring are still being developed.

Lesko asked what specific topics the ATS would suggest providing updates on, based on what is typically included in the AOR, or the AMEP and H&S Plan, or any topic that people are particularly interested in. Lesko will develop some key talking points, in preparation for the May 11 ACC meeting.

D. Update: Genetic monitoring strategy update (Lesko)

Erik Lesko provided an update on the Lewis Basin genetic monitoring strategy. There is a need to understand the genetic baseline for all 3 species. Regarding *O. mykiss* upstream of Swift Reservoir, it became apparent that the steelhead/Rainbow Trout population has persisted upstream of Swift Reservoir. A report by Gary Winans (NOAA Fisheries) showed some hybridization between residents and reintroduced steelhead. WDFW geneticists noted that the existing population structure upstream of Swift Reservoir is not well known. There are also samples collected from tributaries (by PacifiCorp's contractor, Meridian Environmental) and from the Floating Surface Collector. All samples have been sent to Cramer Fish Sciences (Cramer) and SNPs are being run on a percentage of the thousands of samples. Cramer will write a summary report on their findings, including recommendations for additional sampling. There is likely to be additional sampling upstream of Swift Reservoir in tributaries to augment those baseline samples. Lesko will share this report document from Cramer in the next couple of weeks, then will schedule a call with Bentley and Todd Seamons (WDFW's geneticist) to share the plan for this summer's sampling.

Bentley said WDFW provided a table of all places samples were needed compared to where samples have been collected. Establishing the steelhead baseline was preventing the genetic analysis plan from moving forward, but we may want to fill out those tables for all the other species to identify where samples should be collected in addition to steelhead this year.

Bentley said there are known gaps in the spatial and temporal resolution for Coho and Chinook salmon; it would be great to collect some of those samples this fall. Lesko agreed, and noted that all the Coho and Chinook salmon samples have been inventoried by Cramer. Bentley said WDFW needs to do the same.

Lesko will schedule a meeting for early May, and revise the sampling gaps table and share it with WDFW before that meeting. Lesko has asked Cramer for recommendations for sampling design to fill the gaps.

E. Update: Hatchery Practices, Other In-Season Changes (All)

Mike Chamberlain reported that this week, starting on Sunday, the Coho salmon release period was started early from Lewis River Hatchery. There is concern about a problem with the generator set controller unit, which shuts off at high temperatures, so there would be no back-up power to the Coho salmon rearing ponds in the case of a power outage, in which case there would be no water supply. All early coho are being forced out, so it should not be considered a volitional release. The late run is still being allowed to volitionally leave, and they are already nearly all out. Chamberlain said he is in contact with Mark Ferraiolo at PacifiCorp and working on repairs to the generator set before repopulating ponds in early June. All other ponds appear healthy and on track for marking at the end of May. Staff are cleaning raceways to receive spring Chinook salmon in May. Lesko noted that Chamberlain communicated the early release timing to the smolt trapping crews, who pulled the cones at screw traps from Sunday through today to avoid the pulse of hatchery fish.

Kevin Young reported that the Merwin Hatchery staff are in the middle of collecting late winter steelhead brood. They have collected 13 males and 11 females. They have spawned 4 females and 5 males to date. Staff are getting ready for ponding season for summer and winter steelhead. The ozone system is back online as of yesterday at 3pm. Now the hatchery has two operating ozone generators when needed.

Kevin Young reported that staff at Speelyai Hatchery are collecting spring Chinook salmon brood now, but the numbers are low with only 3 males and 2 females collected so far. Spring Chinook salmon are not showing up, and the its unknown if this is due to cool water temperatures or the sea lion gauntlet, or other influences. Staff are currently marking spring Chinook salmon brood.

Bentley said, regarding the steelhead brood collection, the pNOB is at 33% right now. Staff have collected 16 HOR with blank wire tags (BWTs) and 8 NORs. For context, over the past 3 weeks, all the returns have been NORs, while at the end of February and early March, no NOR arrived. Crews have decided to continue with our collection schedule; if NORs continue to come in, the program will have a large number of NORs with higher pNOB. There is no pNOB target, however this is an example of a scenario where there is a need to make a decision to change the collection approach, or to stick to the collection plan based on numbers.

F. Review Next Meeting Topics (Rohrbach)

The ATS identified the following potential items to discuss at the next meeting:

- Next steps for the revised Coho transition plan
- Steelhead transition plan scenario model.
- Annual Operating Plan objectives review.

- Genetics Plan update (likely in the May meeting).

III. ATS Administration (Rohrbach)

The next meeting will be on April 27, 2023. Meetings be held virtually.

IV. List of Attendees

Name	Affiliation
Erik Lesko	PacifiCorp
Larissa Rohrbach	PacifiCorp
Steve Manlow	LCFRB
Steve West	LCFRB
Chuck Peven	NMFS
Mike Chamberlain	WDFW
Bryce Glaser	WDFW
Kale Bentley	WDFW
Josua Holowatz	WDFW
Anja Huff	WDFW
Erin Peterson	WDFW
Aaron Roberts	WDFW
Kevin Young	WDFW
Sam Gibbons	WDFW
Keely Murdoch	Yakama Nation