LEWIS RIVER AQUATIC COORDINATION COMMITTEE

Facilitator: ERIK LESKO
503-412-8401

Location: TEAMS MEETING ONLY

Date: February 10, 2022

Time: 9:30 AM – 12:15 PM

AGENDA ITEMS

9:30 AM	Welcome ➢ Review and Accept 2/10/2022 Agenda ➢ Review and Accept 1/13/2022 Meeting Notes
10:00 AM	Public Comment Opportunity
10:15 AM	Aquatic Fund Project Scoring and Selection *Erik Lesko*
11:30 AM	Study/Work Product Updates ➢ Flows/Reservoir Conditions Update ➢ ATS Update ➢ Fish Passage Update ➢ USFWS update on fish stranding above Swift (tentative)
11:45 AM	Next Meeting's Agenda Public Comment Opportunity
12:00 PM	Meeting Adjourn

Note: all meeting notes and the meeting schedule can be located at:
https://www.pacificorp.com/energy/hydro/lewis-river/acc-tcc.html

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Phone Conference ID: 644 857 650#

FINAL Meeting Notes
Lewis River License Implementation
Aquatic Coordination Committee (ACC) Meeting
February 10, 2022
TEAMS Meeting Only

ACC Representatives and Affiliates Present (19)
Bridget Moran, American Rivers
Sarah Montgomery Anchor QEA
Eli Asher, Cowlitz Indian Tribe
Amanda Froberg, Cowlitz PUD
Steve Manlow, LCFRB
Bonnie Shorin, NMFS
Chris Karchesky, PacifiCorp
Erik Lesko, PacifiCorp
Jeremiah Doyle, PacifiCorp
Mark Ferraiolo, PacifiCorp
Jim Byrne, Trout Unlimited
Kate Day, USFS
Jeff Garnett, USFWS
Aaron Roberts, WDFW
Bryce Glaser, WDFW
Josua Holowatz, WDFW
Peggy Miller, WDFW
Sam Gibbons, WDFW
Bill Sharp, Yakama Nation

Guests (0)
None

Calendar:

February 10, 2022	ACC Meeting	TEAMS Meeting

Assignments from February 10, 2022	**Status**
Erik Lesko: Revise the questions in the Aquatic Fund Scoring Template to incorporate feedback from 2022 process and provide a revised template for the ACC to consider. Review process recommendations.	**Ongoing.**
Erik Lesko and Sarah Montgomery: Provide the ACC representatives who were not present at the meeting a 7-day vote on the Aquatic Fund decisions.	**Complete.**
Erik Lesko: Provide monthly updates regarding proposed reservoir shoreline development projects.	**Complete 03/10/2022 (monthly updates to continue)**

Assignments from January 13, 2022	Status
Erik Lesko: share Swift Reservoir operations and spatial data that is provided to the Services to the ACC (if not deemed confidential); if confidential; communicate that it cannot be shared.	**Complete.**
Erik Lesko: Present monitoring strategies for fish stranding assessments in Swift Reservoir in 2022 with the ACC in April.	**Ongoing.**
Kale Bentley: Provide feedback to Karchesky regarding time-stratified estimates of collection efficiency using passive integrated transponder (PIT) tag data.	**Complete.**

Assignments from November 16, 2021	Status
All: Provide comments on the Aquatic Monitoring and Evaluation Plan (AMEP) to Chris Karchesky by February 15, 2022.	**Ongoing.**
Erik Lesko: Extend the Aquatic Fund period of performance for the Chum Channel Project.	**Ongoing.**

Assignments from August 13, 2020	Status
ACC members: Provide background information regarding why the Merwin floating trap design was identified as part of the Settlement Agreement.	**Assigned to Fish Passage Subcommittee.**

Opening, Review of Agenda and Meeting Notes
Erik Lesko (PacifiCorp) called the meeting to order at 9:35 a.m. and reviewed the agenda. Lesko added an update on the future fish passage proceedings and a Fish Passage Subcommittee update. Lesko reviewed the January 13, 2022, meeting notes. The meeting notes were approved at 9:45 a.m., with clarifying edits from Washington Department of Fish and Wildlife (WDFW) and PacifiCorp.

Public Comment Opportunity
No members of the public present.

Aquatic Fund Scoring
Erik Lesko shared the Aquatic Fund Scoring 2022 (Attachment A) with the ACC, which was distributed to the ACC on February 3, 2022 (a revised version was provided on February 7, 2022, and the final version including votes was sent to the ACC following the meeting on Monday February 14). He said, as a point of process, there have been some discussions amongst ACC representatives about how to score the questions consistently across different types of projects. Lesko said he received some feedback on this and will revise the questions for the ACC to consider again at a later meeting. Peggy Miller suggested considering a separate set of questions for projects that are implementation vs. design or feasibility oriented. Bryce Glaser suggested looking at fish recovery boards for examples of questions that could apply to multiple types of projects. Steve Manlow agreed that it is hard to come up with objective criteria that fit all project types, but there is room for improvement in the current scoring template.

Lesko reviewed the results of the scoring process. Starting with the Campground Creek project, Lesko noted that project scored very highly and asked if there are any further ACC comments.

Eli Asher said the project should be funded and Glaser agreed. Miller noted that the USFS answered the questions well, especially about funding for the culvert near the gate. Kate Day commended Phil Thompson (USFS) for his hard work on the proposal. Lesko noted that Day rated the project on behalf of USFS, which is allowed because the ACC representative is not the proposal or project manager. Lesko called for a vote on the project, and the votes are recorded in Appendix A. The Campground Creek project was approved pending 7-day additional review period for representatives not present at the meeting.

The ACC discussed the Northwoods project proposal. Lesko said that prior to the ACC scoring, the Aquatic Fund applications, he had notified the applicants of the preliminary scores and received feedback regarding the Aquatic Fund application and scoring process. Lesko shared a summary of the applicants' feedback, which focused on the following points: applicants felt blindsided by the results after following the correct process for applying; the process discourages public participation; detailed comments were received on final scoring but not at the draft stage, which is a lost opportunity to improve the application between draft and final stages. Asher noted that verbal comments were provided during the draft stage and following the ACC process is not a guarantee of funding.

ACC representatives present determined that it would be more appropriate from a process standpoint to discuss the applicants concerns and feedback after voting has been finalized.

ACC representatives present continued discussions on the Northwoods project. Lesko summarized the comments received from the ACC, which included some comments related to the appropriateness of funding the project related to the Utility's obligations, the technical merits of the proposal, and the cost. He asked for any further comments before moving to a vote. Manlow noted that project does not seem to be a good fit for the intent of the program. The project is more of a minimization measure than a long-term benefit. Ideally, projects would offer practical, long-term solutions with a very high probability of success. It is a large project area with microtopography and changing water elevations. Adjusting the stream morphology to avoid entrapment would be very challenging to produce a successful project compared to its likely cost. He said the LCFRB does not approve this project for those reasons.

Glaser noted that the project eligibility issues had been settled, but WDFW had still hoped for the Services to issue the amendment to the Biological Opinion before final scoring. Regardless, the project was eligible, and the main concerns were technical. He said for those reasons, WDFW does not support funding this project and would block consensus on approving it.

Jim Byrne said Trout Unlimited believes the mortality issues warrant addressing and should have been addressed in the Biological Opinion initially. Because the project addresses direct mortality, Trout Unlimited does approve of funding this project, but would not block consensus of the majority. He noted additional concerns about the cost of the project.

Kate Day agreed with the previous statements and added that the ACC's process may not have allowed for all of these issues to be raised at the right time, but some of them were and were not addressed in the final proposal.

Miller noted that the project changed from a design only project to a feasibility project with an option for "no action" in the final proposal. There was a significant change between what WDFW provided initial comments on and what was reviewed in the final proposal, thus additional technical concerns were raised at the final review stage.

Lesko agreed with Day and said when there are clear concerns about implementing a project, the ACC should find a more direct way to relate that to the applicant earlier in the process. Asher and Manlow both noted that the stranding issue should indeed be addressed, but this project is not the appropriate tool to address the issue. Bill Sharp said he looks forward to continuing these conversations about the delta and the hydrosystem and can share some of the Yakama Nation's work on related topics. However, the proposed project has technical flaws and he does not approve of funding it.

Lesko called for a vote on the project, and ACC representatives votes are recorded in Attachment A. Lesko said because he has discussed the applicants' concerns about the ACC's process in detail, he abstained from voting due to a potential bias.

Though Byrne initially voted yes, he did not block consensus on the decision and said he hopes the mortality issue can be addressed through terms and conditions of the Biological Opinion.

The Northwoods project was not approved for funding via a consensus, and the ACC will have an additional 7-day voting period for any representatives not present at the meeting.

The ACC revisited concerns that were raised about the Aquatic Funds application and scoring process. Glaser said the ACC should endeavor to address these concerns so that public participation is these processes is not discouraged. Lesko said it is likely that the applicants for the Northwoods project will want to engage with the ACC during a future public comment period. Miller asked whether it is appropriate the share the preliminary Aquatic Fund Scoring Matrix scores with project applicants (both are on the ACC email distribution list). Lesko said he understands that concern, but realized that proposals submitted by the public should not be treated any different than those submitted by ACC Representatives. That is, scoring results are provided to the ACC prior to the selection meeting and believes that those results should also be made available to the sponsors of public project proposals. Lesko said the ACC can revisit this process along with revising the scoring questions at a later meeting.

Bridget Moran asked whether there is a process for applicants to revise and resubmit later. Lesko said there used to be a contingency process for approved projects, but that became infeasible. Once the vote is final, and a project is not approved, the applicants are welcome to resubmit for the next funding cycle.

Study/Work Product Updates

Flows/Reservoir Conditions Update

Merwin Reservoir – currently down 5.6 ft
Yale Reservoir – currently down 16 ft
Swift Reservoir – currently down 28 ft
Total current hole – about 50 feet (about 40 feet when Yale limitation is included)

Lesko said natural flows are at 1230 cfs, and the reservoir hole continues to increase. He said the ACC has previously inquired about projects that occur in the reservoirs, such as dock replacements. He said he will notify the ACC in the future about these types of projects. Manlow requested an update on the proposed marina project in Merwin Reservoir. Manlow said he would like to know the status of the project and whether any additional over-water cover is proposed.

Lesko said he will provide an update on the Camper's Hideaway project as well as a boat ramp project in Yale Reservoir at the next meeting.

Glaser said updates on projects and drawdowns would be appreciated. In January, there was a drawdown that WDFW or the ACC had not been notified of, which caused impacts to fishing access and potential biological impacts as well. Advance notice of projects and drawdowns allows WDFW to coordinate, provide public releases, and consider the effects of the projects. Lesko agreed that early coordination and communication on proposed projects and river drawdowns should be emphasized moving forward.

Miller asked whether there are reporting or notification requirements for drawdowns, and where those would occur. She also noted that the constructed channel has a minimum flow, which needs to be reported in the annual report for the duration of the license. Doyle pointed Miller to Section 4 of the annual report (which addresses water quality).

ATS Update

Erik Lesko said the ATS is currently working to finish the 2022 AOP. Additional work has been needed to finalize the genetics protocols, which WDFW has been working on, and the monitoring and evaluation section, which Anchor QEA is helping with. Glaser noted that the ATS has made very good progress on the steelhead broodstock discussions. Lesko now expects a review draft to be available by the end of March.

Chris Karchesky reminded the ACC that the 90-day review period for the AMEP was coming to a close and that comments were due February 15, 2022.

Fish Passage Subcommittee Update

Glaser said this standing agenda item has been added for the FPS to report back to the ACC with any updates. Glaser shared the FPS' draft charter (Attachment B), which the FPS is working to finalize. The FPS will bring the charter to the ACC as a decision item at an upcoming meeting.

Glaser said the Utilities have yet to designate a representative, and the FPS hopes that they will engage with the group soon. Regardless, the charter will come to the ACC for decision-making so the Utilities will need to approve of the charter, at a minimum.

Asher noted that he appreciates that the FPS has a standing agenda topic for the ACC meetings. He asked what decision is needed to pass the charter? Glaser said he believes a decision document should formalize adoption of the FPS' charter, and it can be very short and straightforward. The ACC's decision to approve the charter will signal direction for the FPS.

Merwin Fish Passage Update (see also Attachment C for the November Fish Passage Report)

Chris Karchesky reported that the Merwin Trap was currently in operation. Late-winter steelhead (both returning natural origin and Blank Wire Tag "program" fish) comprise the majority of the catch, but numbers in generally have been low as expected. Two natural origin return (NOR) steelhead were collected for brood stock earlier in the week. PacifiCorp is planning a brief outage of the facility's lift and conveyance system in late February to prepare for late winter steelhead broodstock collection.

Swift Floating Surface Collector (see also Attachment D for the December Fish Passage Report)

Chris Karchesky reported that the Swift Reservoir FSC was currently in operation. Coho parr are the majority of fish being collected currently and are entering the facility in above-average numbers. Karchesky suspected this relates to the high-water events that occurred in November2021, but may also be related to high numbers of fish in the system. He noted that they are expecting a high number of out-migrating juvenile coho this season on account of the number of adults and good spawning conditions in 2020. He also noted that the 2022 collection efficiency evaluation was underway, and that field work associated with that study would begin March. At this time Karchesky is expecting a brief outage at the Swift FSC sometime the week of March 7 to install hydrophones.

Lewis River Fish Passage & Future Fish Passage Update

See Attachment E.

Lesko said he received Asher's email with questions about PacifiCorp's engagement on future fish passage in the Lewis River. He provided the email to PacifiCorp's legal team, who provided a response as follows:

PacifiCorp received Eli's email, and the Services' decision documents. We are still reviewing these documents internally, and are not prepared to discuss these matters today.

Lesko said he understands that PacifiCorp's response may not fully address Asher's questions and concerns, and said the legal team is still receiving and reviewing documents internally. Asher noted that his questions and comments were not fully addressed. He said the agenda should be revised to reflect "future fish passage" or "legal statement on future fish passage" instead of "in lieu update" (this was an inadvertent oversight and has been corrected on the agenda). Glaser said the ACC is intended to be able to help move forward with implementation of the license and settlement agreement, and PacifiCorp's unwillingness to make progress on this topic needs to be addressed. Lesko said he understands the frustration and encourages ACC representatives to engage directly with PacifiCorp legal team to address questions and concerns more fully. Asher said the Cowlitz Tribe will also continue to encourage that.

Fishery Planning Update

Holowatz said as part of the annual fishery planning for spring Chinook, WDFW develops a fact sheet for public distribution that summarizes the status of forecasted returns in the Cowlitz, Kalama, and Lewis River basins (Attachment F). He said the Lewis River forecast indicates there should be enough fish for broodstock collection as well as fish for upstream transport (for the reintroduction program). He said the fishery for adult Chinook salmon is currently slated to occur under permanent rules until April 30. Glaser added that the Cowlitz, Kalama and Lewis, and mixed stocks in the Columbia basin are managed to provide minimum escapement targets for hatchery needs. Because those needs can constrain the whole lower mainstem fishery, the fact sheet helps inform the public about the management targets and priorities that affect fishery restrictions. Karchesky asked Holowatz what the current forecast for adult spring Chinook returning to the Lewis River was this year? Holowatz replied, 2,600 adults.

USFWS Update on Fish Stranding Above Swift Dam

Lesko said he provided hydrologic, bathymetry and water temperature data on Swift Reservoir to the Services, which will be used to inform an addendum to the Biological Opinion. Shorin and Garnett have yet to review the data so further updates are pending.

Public Comment Opportunity
No members of the public present.

Holowatz asked what is the purpose of having two public comment opportunities? Glaser said the public is invited to comment both before and after agenda topics are discussed so they can provide more input based on the discussions that occurred, since public comment is closed during the course of the agenda topics.

Agenda Items for March 10, 2022

- Review February 10, 2022, Meeting Notes
- Lewis River Reach 21 Project – USFS Presentation
- AMEP Comments
- Update on Marina Development and Other Projects
- Services Update on Fish Stranding above Swift (Tentative)
- Study/Work Product Updates

Adjourn 12:15 p.m.

Next Scheduled Meeting

March 10, 2022
Teams Call Only
9:30 a.m. – 12:00 p.m.

Meeting Handouts & Attachments

- Meeting Notes from 1/13/2022
- Agenda from 2/10/2022
- **Attachment A –** Aquatic Fund Scoring Results 2022
- **Attachment B –** Fish Passage Subcommittee Charter – Draft
- **Attachment C –** Merwin Adult Trap Collection Report (January 2022)
- **Attachment D –** Swift FSC Facility Collection Report (January 2022)
- **Attachment E –** Lewis River Fish Passage Report (January 2022)
- **Attachment F –** Spring Chinook Forecasted Returns Fact Sheet

Lewis River Fish Passage Subcommittee Team Charter

Directive:

The Fish Passage Subcommittee (FPS), under the direction of the Aquatic Coordination Committee (ACC), will assist in the development and review of remaining upstream and downstream passage facility designs and transport plans provided by PacifiCorp and Cowlitz PUD. The FPS in conjunction with the ACC will review PacifiCorp's development of an implementation schedule and timeline that identifies each significant step in the process, starting from study selection and extending through completion of the facility.

The FPS under the direction of the ACC will consider lessons learned from the operation and infrastructure of Swift Downstream Collector and Merwin Adult Collection facilities in the development and review of remaining upstream and downstream passage facilities. New information and technologies will be shared ~~and in coordination~~ with the Aquatic Technical Subgroup (ATS) for their consideration to improve juvenile and adult collection efficiency and survival ~~will review existing information on the~~at Swift Downstream Collector and Merwin Adult Collection ~~Facility~~ facilities. ~~and provide PacifiCorp with recommendations to improve juvenile and adult collection efficiency and survival.~~

Roles:

Lewis River Fish Passage Subcommittee: The FPS operates as a recommending body to the ACC on implementation of Section 4 of the 2004 Lewis River Settlement Agreement and strives to facilitate efficiency and an open flow of information for decision documentation and subcommittee management and operate within the established ACC Structure and Ground Rules.

The role of the FPS ~~role~~ is to review existing facilities and provide the ACC with an assessment of those systems, identify data gaps, suggest studies, review new technologies, recommend changes to the Transportation Plan and develop recommendations for future juvenile and adult fish passage systems ~~and recommend operations~~ in the Lewis River., ~~and to provide the ACC with an assessment of those systems.~~ The FPS will review materials and provide the ACC with recommendations and rationales for decision making.

Lewis River Aquatic Coordination Committee (ACC): The ACC will consider recommendations provided by the FPS.

PacifiCorp and Cowlitz PUD (Utilities): Members of FPS/ACC and will consider recommendations provided by the FPS/ACC.

Scope of Work:

The FPS will advise and make recommendations to the ACC on the Utilities' development of the implementation schedule and timeline that identifies each significant step in the process, starting from study selection and extending through completion of the facility. The FPS will assist with development and review of design/procedural documents and make recommendations to the ACC for the following program facilitation elements, including but not limited to:

- Scope fish passage technologies/alternatives

- Review engineering designs and make recommendation to the Utilities.
- Implementation strategies
- Fish passage plan/adult transport scenarios

Membership:

The FPS is open to all ACC members and technical representatives. As of November 2021, the core organizations on the sub-committee include:

Organization	*Primary Contact/Alternate Contact*
American Rivers	Bridget Moran/
Cowlitz Tribe	Eli Asher/ Rudy Salakory
Lower Columbia Fish Recovery Board	Steve Manlow/ Steve West
Trout Unlimited	Jonathan Stumpf/ Jim Byrne
Yakama Nation	Bill Sharp/ Elaine Harvey
US Forest Service	J.D. Jones/Kate Day
NOAA	Logan Negherbon/ Scott Anderson
US Fish & Wildlife Service	Jeffrey Garnett
PacifiCorp	TBD
Cowlitz PUD	TBD
Washington Dept. of Fish & Wildlife	Bryce Glaser/ Josua Holowatz
Fish First	Janae Brock

ACC and technical representatives may participate as interested or be added as a core member.

Meetings:
The FPS will be guided by the existing ACC Structure and Ground Rules. FPS meetings will be held monthly. The FPS will meet primarily on a virtual platform and in person, if needed. If there are no meeting topics to discuss, no meeting will be held that month. An effort will be made to announce all FPS meeting topics to the ACC and technical representatives 7 days before the meeting. Meetings will occur at key decision points to develop and review Lewis River fish passage guidance documents, evaluate alternatives, review emerging data, review design development, and, in conjunction with the ATS, assess program performance and needs for the new facilities. Additional meetings will be scheduled as needed.

Summary notes for each sub-committee meeting will be prepared and made available to ACC members. The notes will include a summary of major discussion points, decisions discussed, alternatives considered, summary of progress on milestones, and next steps.

Recommendation Documentation:
Recommended Decision Documents, supporting materials and presentations will be prepared by the sub-committee and copies disseminated to the ACC one week in advance of ACC meetings as needed to support decision making. All decision points will be formatted as a Decision Document.

Milestones and measures-
TBD

Fish Facility Report

Merwin Adult Trap

January 2022

Reporting Date	Spring Chinook (1)									Early Coho											
	AD-Clip			Wild			Recap			AD-Clip			CWT			Wild			Recap		
	M	F	JK	M	F	JK	M	F	JK	M	F	JK	M	F	JK	M	F	JK	M	F	JK
1-Jan																					
2-Jan																					
3-Jan																					
4-Jan																					
5-Jan																					
6-Jan																					
7-Jan																					
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25-Jan																					
26-Jan																					
27-Jan																					
28-Jan																					
29-Jan																					
30-Jan																					
31-Jan																					
Monthly	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Reporting Date	Late Coho												S. Steelhead					
	AD-Clip			CWT			Wild			Recap			Fresh		Recap		Wild	
	M	F	JK	M	F	JK	M	F	JK	M	F	JK	M	F	M	F	M	F
1-Jan																		
2-Jan																		
3-Jan																		
4-Jan																		
5-Jan							1		3									
6-Jan	1		1															
7-Jan																		
8-Jan																		
9-Jan																		
10-Jan																		
11-Jan																		
12-Jan							2											
13-Jan								1										
14-Jan																		
15-Jan							1											
16-Jan																		
17-Jan																		
18-Jan																		
19-Jan																		
20-Jan																		
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24-Jan																		
25-Jan							1											
26-Jan																		
27-Jan																		
28-Jan																		
29-Jan																		
30-Jan																		
31-Jan																		
Monthly	1	0	1	0	0	0	5	1	3	0	0	0	0	0	0	0	0	0
Annual	1	0	1	0	0	0	5	1	3	0	0	0	0	0	0	0	0	0

Reporting Date	W. Steelhead								Fall Chinook								
	AD-Clip		BWT		Recap		Wild		AD-Clip			Wild			Recap		
	M	F	M	F	M	F	M	F	M	F	JK	M	F	JK	M	F	JK
1-Jan																	
2-Jan																	
3-Jan																	
4-Jan																	
5-Jan	119	57	1					1									
6-Jan	114	91		1			2	1				2					
7-Jan	1																
8-Jan																	
9-Jan																	
10-Jan																	
11-Jan	21	17					1										
12-Jan	16	9						1									
13-Jan	11	4	4				1	1				1					
14-Jan	8	14		1													
15-Jan	7	4	1														
16-Jan	2	4		2													
17-Jan	3	3															
18-Jan	4	1	1														
19-Jan	6	5															
20-Jan	1	2															
21-Jan	6	4						1									
22-Jan	2		1	2			1										
23-Jan	5	6											1				
24-Jan	2	3	2										1				
25-Jan	1	5	2														
26-Jan	2	4										1					
27-Jan		3															
28-Jan	4	4					2	1									
29-Jan	2	2															
30-Jan	1	1	1														
31-Jan	1	6	1														
Monthly	339	249	14	6	0	0	7	6	0	0	0	4	2	0	0	0	0
Annual	339	249	14	6	0	0	7	6	0	0	0	4	2	0	0	0	0

Reporting Date	Sockeye		Chum		Pink		Cutthroat	Rainbow (< 20 inches)	Bull Trout	Daily Total
	M	F	M	F	M	F				
1-Jan										
2-Jan										
3-Jan										
4-Jan										
5-Jan										182
6-Jan										213
7-Jan										1
8-Jan										
9-Jan										
10-Jan										
11-Jan										39
12-Jan										28
13-Jan										23
14-Jan										23
15-Jan										13
16-Jan							1			9
17-Jan										6
18-Jan										6
19-Jan										11
20-Jan										3
21-Jan										11
22-Jan										6
23-Jan										12
24-Jan										8
25-Jan										9
26-Jan										7
27-Jan										3
28-Jan										11
29-Jan										4
30-Jan										3
31-Jan										8
Monthly	0	0	0	0	0	0	1	0	0	639
Annual	0	0	0	0	0	0	1	0	0	639

1 Only hatchery verses wild distinctions are currently being made. All hatchery fish are labeled as "AD-Clip".
2 Total counts do not include recaptured salmon.

Fish Facility Report

Swift Floating Surface Collector

January 2022

	Coho			Chinook			Steelhead				Cutthroat			Bull	Planted	
Day	**fry**	**parr**	**smolt**	**fry**	**parr**	**smolt**	**fry**	**parr**	**smolt**	**kelt**	**fry**	**<13 in**	**> 13 in**	**Trout**	**Rainbow**	**Total**
1																
2																
3																
4																
5																
6	1	43	11		4	14			1			2		0	2	**78**
7	4	52	24		3	16			2			1		0	0	**102**
8	5	107	80		3	25			4			3		0	3	**230**
9	13	243	106			62			5			5		0	6	**440**
10		324	48			44			8			8		0	1	**433**
11		25	15			12			2			1		0	0	**55**
12		23	8		1	14			2					0	1	**49**
13		37	13			5			1			1		0	4	**61**
14		54	8			8			3			1		0	0	**74**
15																
16																
17																
18																
19																
20																
21																
22	9	142	4		2	13			4					0	2	**176**
23		259	13		1	13		2	5			1		0	0	**294**
24		147	25		3	15			1					1	1	**193**
25	1	223	17			15			0			1		0	0	**257**
26		218	3		2	29			2			2	1	0	0	**257**
27		494	14		1	30			0			1		0	0	**540**
28		234	26			10			0				4	0	5	**279**
29		157	4		4	36			0			2		0	1	**204**
30		257	0		1	21			0					0	0	**279**
31	5	136	1		3	6	4		0					0	1	**156**
Monthly	38	3175	420	0	28	388	4	2	40	0	0	29	5	1	27	**4157**
Total	38	3175	420	0	28	388	4	2	40	0	0	29	5	1	27	**4157**

Lewis River Fish Passage Report

January 2022

Merwin Fish Collection Facility and General Operations

During the month of January, a total of 639 fish were captured at the Merwin Dam Adult Fish Collection Facility (MFCF). As is typical this time of year, winter steelhead were the most prevalent species collected this month (n= 621), followed by late run coho (n= 11), Fall Chinook (n= 6) and cutthroat trout (n= 1). One natural-origin winter steelhead as well as one cutthroat trout containing PIT tags were detected at the Merwin facility in January. Tagging history and daily detections of PIT tagged fish passing through the Lewis River Fish Passage Facilities are available through Columbia Basin PIT Tag Information System (PTAGIS).

The fish lift and conveyance was taken out of service on December 24 through January 4 due to unsafe operating conditions caused by severe winter weather, and again from January 7 through January 10 due to high water conditions which exceeded the operational design of the structure. Flows below Merwin Dam varied considerably throughout the month (Figure 1).

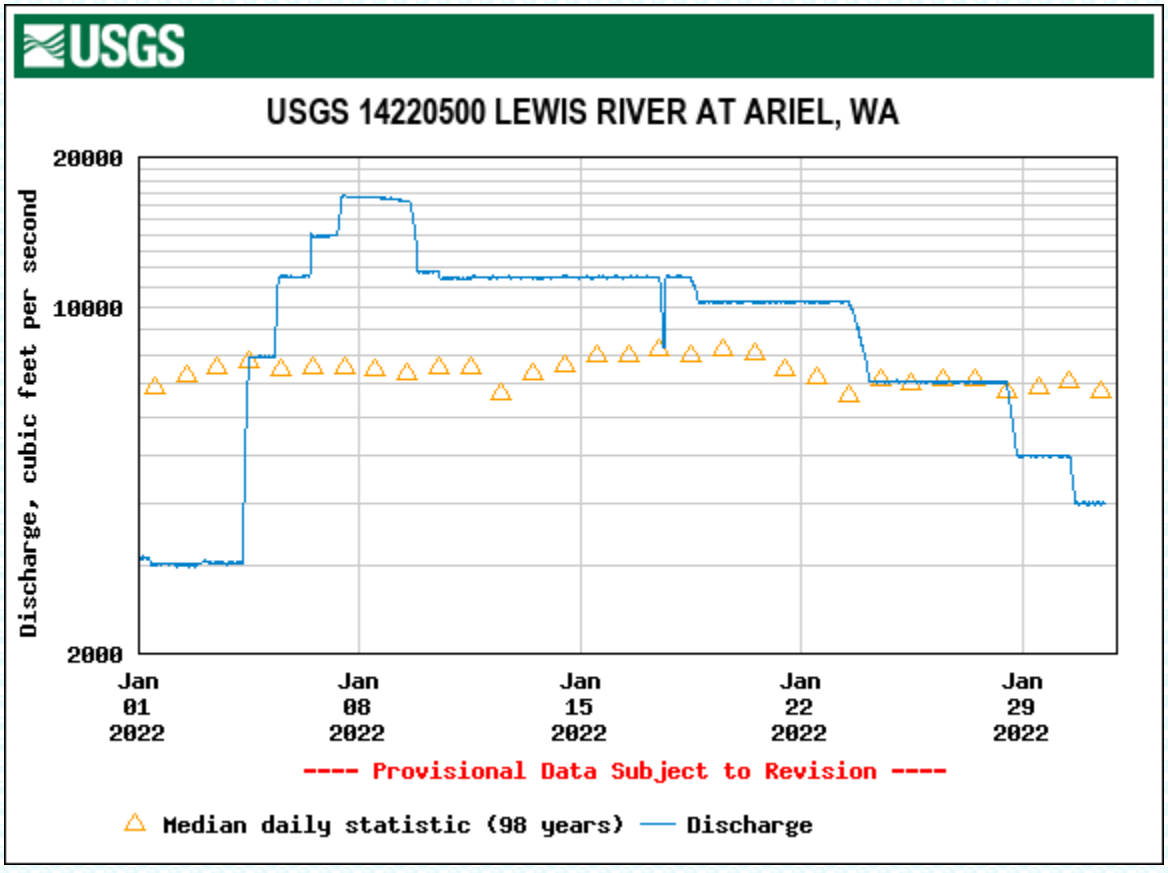

Figure 1. Discharge in cubic feet per second recorded at the USGS Ariel, WA gauge (14220500) located immediately downstream of Merwin Dam.

Upstream Transport

A total of total of 42 adult fish were transported upstream in January. Blank Wire Tag Winter steelhead composed the majority of the fish transported upstream (n= 20), followed by NOR winter steelhead (n= 13), late run coho (n= 8), and cutthroat trout (n= 1).

Floating Surface Collector (FSC)

The Swift Reservoir Floating Surface Collector (FSC) was taken out of service from December 24 through January 5, when winter weather created unsafe operating and transport conditions. The FSC was taken out of service again unexpectedly mid-January so that repairs could be made to one of the facility's water regulation pumps.

Overall, a total of 4,157 fish were collected during the month of January. The majority of the fish collected were juvenile coho (n= 3,633), followed by spring Chinook (n= 416), steelhead (n= 46), cutthroat trout (n= 34), and hatchery rainbow trout (n= 27). One adult Bull Trout was collected in January and returned to the reservoir. This month's collection totals are the second highest of any January since the commissioning of the facility in 2013 (Table 1).

Table 1: Total number of out-migrating juvenile salmonids (by species) collected at the Swift FSC during the month of January since 2013.

Run Year	January Collection Totals by Run Year at the Swift FSC				
	Coho	Chinook	Steelhead	Cutthroat	**TOTAL**
2013	186	49	0	17	**252**
2014	0	0	0	0	**0**
2015	796	501	6	45	**1,348**
2016	5,993	1,537	42	89	**7,661**
2017	173	55	5	8	**241**
2018	1,359	508	30	49	**1,946**
2019	591	16	2	0	**609**
2020	0	0	0	0	**0**
2021	2,515	223	60	80	**2,878**
2022	3,633	416	46	34	**4,129**

Cowlitz, Kalama, and Lewis River
Spring Chinook Fact Sheet
January 2022

2022 Spring Chinook Forecasts to Columbia River Mouth

- Cowlitz River= 4,079 adult spring Chinook
- Kalama River= 2,016 adult spring Chinook
- Lewis River= 2,358 adult spring Chinook
- Spring Chinook forecasts are commonly based on average brood year relationships, where:
    - age-3 fish (jacks) predict age-4 fish
    - age-4 fish predict age-5 fish

The above forecasts are developed by using a suite of sibling regression, cohort ratio, and average return models to estimate runsize.

Hatchery Releases

- Spring Chinook hatchery releases from Cowlitz, Kalama, and Lewis hatchery facilities for 2010-2020 are shown in Table 1.
- Returning adults (age 4-6) in 2022 are from releases in 2017-2020.
- Cowlitz release goals increased in 2013-2014 as a result of changes in release strategies.
- Cowlitz and Kalama releases in 2014-2020 were near or above goal.
- Cowlitz 2019 releases included an additional 118,000 subyearling smolts in June as a result of surplus production.

Table 1. Spring Chinook hatchery releases from Cowlitz, Kalama and Lewis facilities in 2010-2020. Highlighted area corresponds with releases contributing to this year's adult return.

	COWLITZ			KALAMA			LEWIS		
Release Year	Goal	Plant	% of goal	Goal	Plant	% of goal	Goal	Plant	% of goal
2010	1,262,539	1,280,347	101%	500,000	352,924	71%	1,050,000	1,110,755	106%
2011	1,260,226	1,076,945	85%	500,000	501,556	100%	1,050,000	1,057,833	101%
2012	942,369	881,337	94%	500,000	559,575	112%	1,350,000	1,410,270	104%
2013	1,464,849	1,601,472	109%	500,000	521,462	104%	1,250,000	1,286,170	103%
2014	1,797,115	2,051,598	114%	500,000	515,038	103%	1,675,000	1,516,940	91%
2015	1,793,529	1,958,471	109%	500,000	549,558	110%	1,925,000	1,814,469	94%
2016	1,793,529	1,874,482	105%	500,000	481,624	96%	1,250,000	717,742	57%
2017	1,741,899	1,852,960	106%	500,000	533,954	107%	1,250,000	402,224	32%
2018	1,741,899	1,844,162	106%	500,000	509,425	102%	1,250,000	710,708	57%
2019	1,741,899	2,011,018	115%	500,000	509,909	102%	1,350,000	2,294,425	170%
2020	1,741,899	1,968,336	113%	500,000	479,961	96%	1,350,000	1,760,485	130%

- Lewis releases in 2014-2018 were below goal due to a combination of reduced in-hatchery survival and subsequent low adult returns for use as hatchery broodstock.

- Changes in release size and timing strategies have been made at Lewis Hatchery to address the challenges with in-hatchery survival that have occurred in recent years. A program has been implemented to evaluate this change, including subyearling smolt releases in June and October. The release goals and release numbers in Table 1 include all strategies.
- 2019 Lewis Hatchery releases included an additional 900,000 subyearling smolts released in June to supplement forage for Southern Resident Killer Whales.

Hatchery Escapement Goals

- Hatchery escapement needs for Cowlitz, Kalama, and Lewis rivers are shown in Table 2.
- The on-station escapement needs at each hatchery in Table 2 are the number of adults needed to meet broodstock needs for the in-basin hatchery release goals and harvest programs.
- On-station hatchery escapement needs for the Cowlitz and Lewis are defined in the *U.S. v. Oregon* Biological Opinion (BIOP) issued by NOAA Fisheries. Available at: https://media.fisheries.noaa.gov/dam-migration/s7-_usvoregon_2018-2027_mgmagmnt__final_signed.pdf
- Based on preseason forecasts for 2022, the Cowlitz, Kalama, and Lewis rivers are projected to have sufficient hatchery-origin adults available in excess of broodstock needs to provide for tributary sport fisheries.

Table 2. Cowlitz, Kalama, and Lewis River spring Chinook run-size forecasts for 2022 and hatchery escapement needs. Actual annual hatchery escapement needs may vary slightly to account for changes in fecundity, sex ratios, pre-spawn loss, etc.

2022 Expectations			
Details	**Cowlitz**	**Kalama**	**Lewis**
Forecasted return to Col. R. Mouth	4,079	2,016	2,358
Expected CR mainstem harvest for 2022	122	60	71
Forecasted return to tributary mouth	3,957	1,956	2,287
Avg. % natural-origin return	5.5%	2.88%	1.6%
Natural-origin return	218	56	37
Hatchery-origin return	3,742	1,900	2,250
Hatchery-origin escapement need to trib. mouth*	**1,518**	**683**	**1,578**
Est. lower river hatchery-origin spawners	181	83	198
Broodstock need at hatchery (from MA BIOP when applicable)	1,337	400	1,380
Upstream**	if available	NA	if available
SAFE Deep River Net Pen off-channel program		200	
Total hatchery-origin broodstock needs	1,337	600	1,380
Harvestable hatchery-origin surplus	**2,221**	**1,300**	**743**

*Includes fish spawning in the wild outside the hatchery

**Fish are trucked and released above dams for population recovery

- ESA obligations (MA Biological Opinion) guide hatchery-origin adult escapement goals so that conservation objectives can be met to continue efforts to re-introduce fish into the upper basins in the Cowlitz and Lewis rivers.

Ocean Conditions

- Ocean conditions have been identified as a leading contributor to adult salmon returns along the Pacific coast of the U.S. and Canada.
- Table 3 presents NOAA's Northwest Fisheries Science Center "stoplight" chart of ocean ecosystem indicators that are measured and collectively provide a gauge of the "ocean conditions" experienced by some salmonids during their marine residence.

Table 3. NOAA Fisheries – Northwest Fisheries Science Center Ecosystem Indicator "Stoplight" chart, available at: https://media.fisheries.noaa.gov/2021-12/Ocean%20Condition%20Indicators%20Trend%20no%20numbers%20DEC2021.png

	Year																							
Ecosystem Indicators	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*
PDO (Sum Dec-March)	21	7	3	15	8	23	14	19	16	11	5	1	18	4	2	9	12	24	22	20	13	17	10	6
PDO (Sum May-Sept)	12	5	7	6	13	19	18	20	14	16	2	11	8	4	1	9	22	24	23	17	15	21	10	3
ONI (Average Jan-June)	23	1	1	8	15	17	16	19	9	13	3	12	20	5	7	9	11	21	24	14	6	22	18	4
SST NDBC buoys (°C; May-Sept)	19	7	9	5	6	13	24	14	2	16	1	12	3	8	10	18	22	21	20	15	17	23	11	4
Upper 20 m T (°C; Nov-Mar)	23	13	10	12	7	17	18	15	14	6	1	11	20	5	4	9	3	24	22	21	16	19	2	8
Upper 20 m T (°C; May-Sept)	16	11	13	4	1	3	24	20	9	10	2	6	17	8	7	18	22	19	14	12	15	23	21	5
Deep temperature (°C; May-Sept)	23	7	9	5	1	11	13	17	12	6	2	8	15	10	4	16	22	21	14	19	20	18	24	3
Deep salinity (May-Sept)	23	4	12	5	6	19	20	13	8	2	3	17	21	15	16	14	24	18	10	9	7	11	22	1
Copepod richness anom. (no. species; May-Sept)	22	2	1	9	8	17	16	21	18	12	10	11	20	5	7	3	13	23	24	19	15	14	6	4
N. copepod biomass anom. (mg C m^{-3}; May-Sept)	22	17	13	14	6	19	16	23	18	15	9	12	11	3	5	7	8	20	24	21	10	4	2	1
S. copepod biomass anom. (mg C m^{-3}; May-Sept)	24	2	6	5	3	16	18	23	15	12	1	8	19	11	9	7	13	21	22	20	14	17	10	4
Biological transition (day of year)	21	13	8	3	11	17	14	22	16	4	1	2	19	5	12	6	6	23	23	20	15	17	8	10
Nearshore Ichthyoplankton Log(mg C 1,000 m^{-3}; Jan-Mar)	19	3	13	7	1	23	24	17	10	19	3	15	2	9	5	12	21	16	17	14	11	22	8	6
Nearshore & offshore Ichthyoplankton community index (PCO axis 1 scores; Jan-Mar)	11	6	5	8	10	13	18	22	2	15	3	12	16	4	1	7	9	20	23	24	19	21	17	14
Chinook salmon juvenile catches Log(no. km^{-1}; June)	21	3	7	19	6	10	17	23	14	12	1	8	5	15	2	4	9	16	20	24	18	13	22	11
Coho salmon juvenile catches Log(no. km^{-1}; June)	22	11	19	5	7	6	21	23	17	2	4	8	9	18	13	1	10	16	15	24	3	14	20	12
Mean of ranks	20.1	7.0	8.5	8.1	6.8	15.2	18.2	19.4	12.1	10.7	3.2	9.6	13.9	8.1	6.6	9.3	14.2	20.4	19.8	18.3	13.4	17.3	13.2	6.0
Rank of the mean rank	23	5	8	7	4	17	19	21	12	11	1	10	15	6	3	9	16	24	22	20	14	18	13	2
Ecosystem Indicators not included in the mean of ranks or statistical analyses																								
Physical Spring Trans. UI based (day of year)	4	8	23	20	5	15	18	24	15	1	7	3	10	13	21	11	22	12	6	19	13	15	9	2
Physical Spring Trans. Hydrographic (day of year)	23	4	14	9	6	13	16	24	7	10	1	10	20	4	12	2	18	8	19	21	16	15	21	2
Upwelling Anomaly (April-May)	12	4	20	8	11	17	15	24	12	6	9	10	18	20	18	14	22	1	3	23	7	5	15	2
Length of Upwelling Season UI based (days)	6	2	22	14	1	16	12	24	5	3	9	3	18	21	18	17	23	13	8	15	7	10	20	10
Copepod Community Index (MDS axis 1 scores; May-Sept)	23	2	6	9	4	18	16	22	19	11	1	8	15	10	7	5	13	21	24	20	14	17	12	3

- Ocean conditions deteriorated in 2014, leading to 2015 ranking as the worst year during the period of record; the subsequent years of 2016 and 2017 also ranked among the worst.
- Adult Spring Chinook returns are primarily composed of age-4 and 5 adults that encountered ocean conditions as juveniles and sub-adults during the preceding two to three years.
- The likely impact of poor ocean conditions from 2015 through 2017, is reflected in lower returns of adult spring Chinook to lower Columbia River tributaries in subsequent years (Figure 1).

- Spring Chinook returning to these rivers in 2022 have experienced the suite of ocean conditions documented from 2019 through 2021. During these years, ocean conditions have ranged from poor to good; with general improvement since 2019 and 2021 ranking as the second best during the 24 years of study.
- While the forecast returns of spring Chinook to the Cowlitz, Kalama, and Lewis Rivers for 2022 are generally similar to previous years, recent improvements in ocean conditions may be a leading indicator of increased returns in future years.

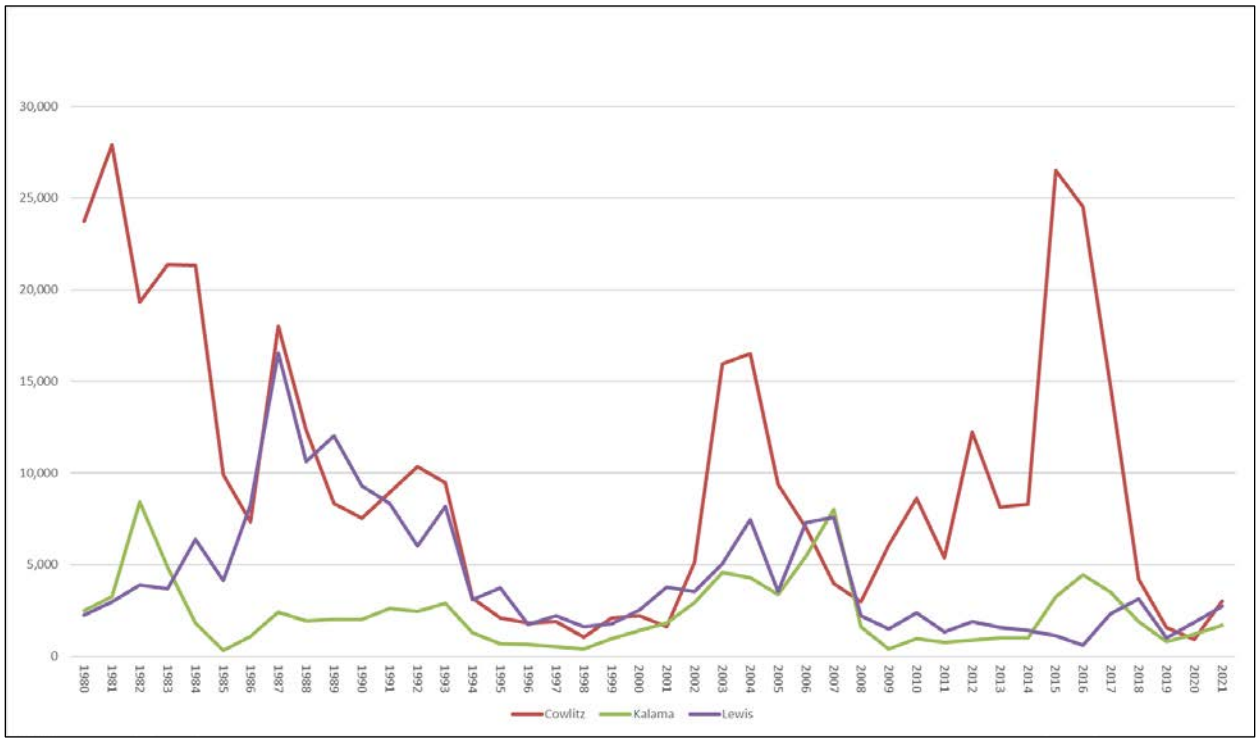

Figure 1. Adult spring Chinook returns to the Cowlitz, Kalama, and Lewis rivers by return year.

2022 Aquatic Funding Proposal Selection

Signatory organization	Voting Representative	Present
American Rivers	Bridget Moran	X
City of Woodland	Director, Public Works	
Clark County	Not Available	
Cowlitz County	Not Available	
Cowlitz Indian Tribe	Eli Asher	X
Cowlitz-Skamania Fire District No. 7	Not Available	
Fish First	Alex Maslov, Janae Brock	
Lewis River Citizens at-large	Not Available	
Lewis River Community Council	Mariah Stoll-Smith Reese	
Lower Columbia River Fish Recovery Board	Steve Manlow	X
National Marine Fisheries Service	Scott Anderson, Bonnie Shorin	X
National Park Service	Not Available	
Native Fish Society	Bill Bakke	
North County Emergency Medical	Not Available	
PacifiCorp and Cowlitz County PUD No.1	Erik Lesko	X
Rocky Mountain Elk Foundation	Not Available	
Skamania County	Not Available	
Trout Unlimited	Jim Byrne	X
US Bureau of Land Management	Not Available	
US Fish and Wildlife Service	Jeffery Garnett	X
USDA Forest Service	Kate Day	X
Washington Department of Fish and Wildlife	Bryce Glaser	X
WA State Recreation and Conservation Office	Adam Cole	
Woodland Chamber of Commerce	Not Available	
Yakama Nation	Bill Sharp, Elaine Harvey	X

APPROVED FOR FUNDING VOTE (Y/N/A)

Swift Campground Creek Culvert Replacement	Northwoods Cold-water Refuge Habitat Restoration Project
Y	N
Y	N
Y	N
Y	N
Y	A
Y	Y
Y	N
Y	N
Y	N
Y	N

Y = YES
N = NO
A = ABSTAIN