

**Lewis River Hydroelectric Projects Settlement Agreement  
Aquatic Coordination Committee (ACC)  
Meeting Agenda**

**Date & Time:** Thursday, November 10, 2016  
9:00 a.m. – 12:00 p.m.

**Place:** Merwin Hydro Control Center  
105 Merwin Village Court  
Ariel, WA 98603

**Contacts:** Frank Shrier: (503) 320-7423

<b>Time</b>	<b>Discussion Item</b>
9:00 a.m.	Welcome <ul style="list-style-type: none"> <li>➤ Review Agenda and ACC 10/13/16 Meeting Notes</li> <li>➤ Comment &amp; Accept Agenda and 10/13/16 Meeting Notes</li> </ul>
9:10 a.m.	Public Comment Opportunity
9:20 a.m.	Aquatic Fund 2016/2017; Review Evaluation Matrix
<b>10:15 a.m.</b>	<b>Break</b>
10:30 a.m.	Aquatic Fund 2016/2017; Review Evaluation Matrix (cont'd)
11:30 a.m.	Study/Work Product Updates <ul style="list-style-type: none"> <li>○ M&amp;E Plan Update</li> <li>○ H&amp;S Plan Update</li> <li>○ Woodland Release Ponds/Permit - Status</li> <li>○ Acclimation Ponds - Status</li> <li>○ Merwin Upstream Passage – Status</li> <li>○ Swift Floating Surface Collector – Status</li> <li>○ SPCH smolt release updates</li> </ul>
11:45 a.m.	<ul style="list-style-type: none"> <li>➤ Next Meeting's Agenda</li> <li>➤ Public Comment Opportunity</li> </ul> Note: all meeting notes and the meeting schedule can be located at: <a href="http://www.pacificorp.com/es/hydro/hl/lr.html#">http://www.pacificorp.com/es/hydro/hl/lr.html#</a>
<b>12:00 p.m.</b>	<b>Adjourn</b>

Join by Phone

+1 (503) 813-5252 [Portland, Ore.]

+1 (855) 499-5252 [Toll Free]

**Conference ID: 848594**

**FINAL Meeting Notes**  
**Lewis River License Implementation**  
**Aquatic Coordination Committee (ACC) Meeting**  
**November 10, 2016**  
**Merwin Hydro Control Center**

**ACC Participants Present (14)**

Jeremiah Doyle, PacifiCorp  
 Frank Shrier, PacifiCorp  
 Kim McCune, PacifiCorp  
 Erik Lesko, PacifiCorp (via conference)  
 Amanda Froberg, Cowlitz PUD  
 Aaron Roberts, WDFW  
 Peggy Miller, WDFW (via conference)  
 Pat Frazier, WDFW  
 Ruth Tracy, USDA Forest Service  
 Bryce Michaelis, USDA Forest Service  
 Amelia Johnson, LCFRB  
 Jim Malinowski, Fish First

**Guests**

Pete Barber, Cowlitz Indian Tribe  
 Greg Robertson, USDA Forest Service

**Calendar:**

December 8, 2016	ACC Meeting	Merwin Hydro
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<b>Assignments from November 10, 2016</b>	<b>Status</b>
McCune: Email a reminder that Aquatic Fund pre-proposal comments are due on or before December 1, 2016.	<b>Complete – 11/11/16</b>
PacifiCorp – Add to the May/June 2017 ACC agenda to discuss priority reach list; does lower river provide benefit to reintroduction fish?	<b>Complete – 12/9/16</b>

<b>Assignments from September 8, 2016</b>	<b>Status</b>
Roberts: As numbers of adult Coho returning to the hatchery increase, Michelle Day wants to revisit how long fish are being held in Lewis River Hatchery before being processed.	<b>Pending – Roberts to contact Michelle Day</b>

<b>Assignments from February 11, 2016</b>	<b>Status</b>
Frazier: Submit extension request details to McCune for the 2013 Survey of BT Stream Habitat Aquatic Fund Project.	<b>Complete – 12/8/16</b>

## Opening, Review of Agenda and Meeting Notes

Frank Shrier (PacifiCorp) called the meeting to order at 9:10 a.m. and reviewed the agenda. No additions to the agenda were requested.

Shrier also reviewed the October 13, 2016 meeting notes and assignments. The meeting notes were approved at 9:25am with minor housekeeping changes and the following clarification on page 6 – **Seed Planting for Coho**:

Karchesky (PacifiCorp) briefly mentioned that a number coho have already been observed in the upper most areas of the upper basin (e.g., Clearwater Creek, Smith Creek) as part of the ongoing redd surveys. Karchesky questioned whether the seed plant efforts were still necessary *for 2016 even though there has been significant volitional distribution of coho in the upper basin.*

## Public Comment

None

## Review of 2016/2017 Aquatic Fund Pre-proposals – Utilities Comments

Shrier provided a cursory review of the Utilities’ comments specific to the six (6) following aquatic fund pre-proposals:

Cowlitz Tribe	Colvin Dam Removal Preliminary Design
USDA Forest Service	Lewis River 21 Phase I
USDA Forest Service	Spencer Creek Alluvial Fan and Channel Rehabilitation
LCFEG	Haapa Side Channel Habitat Restoration - Phase II
LCFEG	NF Lewis 13.5 River Braiding Project
WDFW	Bald Mt. Creek Fish Barrier Correction

See [Attachment A](#) - Lewis River Aquatic Fund Utilities Evaluation, dated 11/1/16 for greater project detail.

McCune informed the ACC attendees that they will have approximately thirty (30) days to submit their formal comments. McCune will email a reminder that comments will be due on or before December 1, 2016. On December 8, 2016 the ACC is expected to render a decision as to which Aquatic Fund projects will be selected for full proposal.

Upon review of the WDFW project Jim Malinowski (Fish First) inquired as to why WDFW is not responsible for the Bald Mt. Creek fish barrier removal. Shrier responded that if the project goes forward, the proponent needs to address that question.

General discussion took place regarding the Utilities comments and if the Utilities are in agreement that large woody debris (LWD) should not be placed in the mainstem. PacifiCorp commented that structures in the mainstem are not maintaining well and blowing out. After considerable discussion and clarification of Utility comments PacifiCorp wants to support mainstem projects but also wants the detail within a project proposal about how the structures will be anchored.

The ACC agreed that it was not a conflict to the Aquatic Fund review process to ask the Forest Service a question about a former LWD project completed in 2011/2012. The ACC wishes the

USFS to explain their discoveries of the LWD structures above the Muddy River confluence. Greg Robertson (USFS) expressed that approximately 250 pieces of LWD material (12 – 13 structures) were created for winter forage, gravel and adult hiding cover. Robertson indicated that he had visited the site last week and there are some remaining structures. A natural existing log jam had washed out and took out or buried some of the structures. It is not the case that the entire system blew out. The project is working really well; the water depth in these areas is approximately 8-10' deep now.

Structures are functioning as intended. The structures moved but that is part of the natural process.

<Break 10:30am>

<Reconvene 10:40am>

## **Study/Work Product Updates**

### **M&E Plan Update**

The M&E Plan is out for its 90-day review and comment period. The following three objectives needed further work:

*Objective 17* – Monitor Bull Trout Populations (see [Attachment B](#) for greater detail): Emailed to the ACC for review November 9, 2016 as part of the 90-day review period of the entire document. Pat Frazier (WDFW) provided a cursory review of the Lewis River Bull Trout Recovery Plan which was completed in 2015. Frazier informed the ACC attendees that the Recovery Plan describes recovery criteria and lists five key points as the general range-wide strategy for recovery of bull trout: “(1) conserve bull trout so that they are geographically widespread across representative habitats and demographically stable in six recovery units; (2) effectively manage and ameliorate the primary threats in each of six recovery units at the core area scale such that bull trout are not likely to become endangered in the foreseeable future; (3) build upon the numerous and ongoing conservation actions implemented on behalf of bull trout since their listing in 1999, and improve our understanding of how various threat factors potentially affect the species; (4) use that information to work cooperatively with our partners to design, fund, prioritize, and implement effective conservation actions in those areas that offer the greatest long-term benefit to sustain bull trout and where recovery can be achieved; and (5) apply adaptive management principles to implementing the bull trout recovery program to account for new information.”

Frazier expressed that the specific actions necessary to achieve recovery are identified at the core area spatial scale of which the Lewis River is the core area. Frazier noted that the Lewis River Bull Trout Recovery Team (LRBTRT) is comprised of federal, state, and non-governmental biologists and scientists to develop the Lewis River Bull Trout Recovery Plan.

The bull trout objectives were developed by the Utilities in collaboration with the LRBTRT and are consistent with the: 1) Bull Trout Recovery Plan, 2) the Coastal RUIP, and 3) the Lewis River Bull Trout Recovery Monitoring Plan. At a minimum, elements of the following objectives to be monitored annually are:

- Demographic Characteristics
- Vital Rates

- Spatial Distribution
- Movement Patterns
- Genetic Diversity
- Provide annual operating Plans and Reports

Additional monitoring and evaluation objectives may be included over time in consultation with the USFWS and the LRBTRT and the results provided in the ACC/TCC annual report.

*Objective 15* – Upper Survey Work: PacifiCorp plans to submit to the ACC for review by November 14, 2016.

*Objective 22* – Crosswalk Table: PacifiCorp plans to submit to the ACC for review by November 14, 2016.

Frazier noted that he met with the bull trout group to discuss Section 17 and have set a schedule to complete a draft and provide to the M&E subgroup via email by November 9, 2016.

### **H&S Plan Update**

Erik Lesko (PacifiCorp) informed the ACC attendees that the Subgroup will be meeting November 18, 2016 to discuss rearing and release strategies. PacifiCorp is asking the Subgroup to review the meeting materials before the Friday, November 18, 2016 meeting.

### **Woodland Release Ponds**

The FERC informed PacifiCorp that it is to proceed with the 30-year term lease offered by WDNR. The exchange of drafts continues between DNR and PacifiCorp. PacifiCorp will begin above-ground construction as soon as DNR lease is fully executed.

### **Acclimation Pond Updates**

*Muddy River:* PacifiCorp staff met with USFS at Muddy River site and discussed when the structure will be removed. USFS wants to discuss any proposed action with PacifiCorp’s design engineers on how best to remove the structures remaining.

*Clear Creek and Crab Creek:* Holding pattern for now; the ACC will review Spring 2017.

### **Merwin Fish Collection Facility and General Operations ([Attachment C](#))**

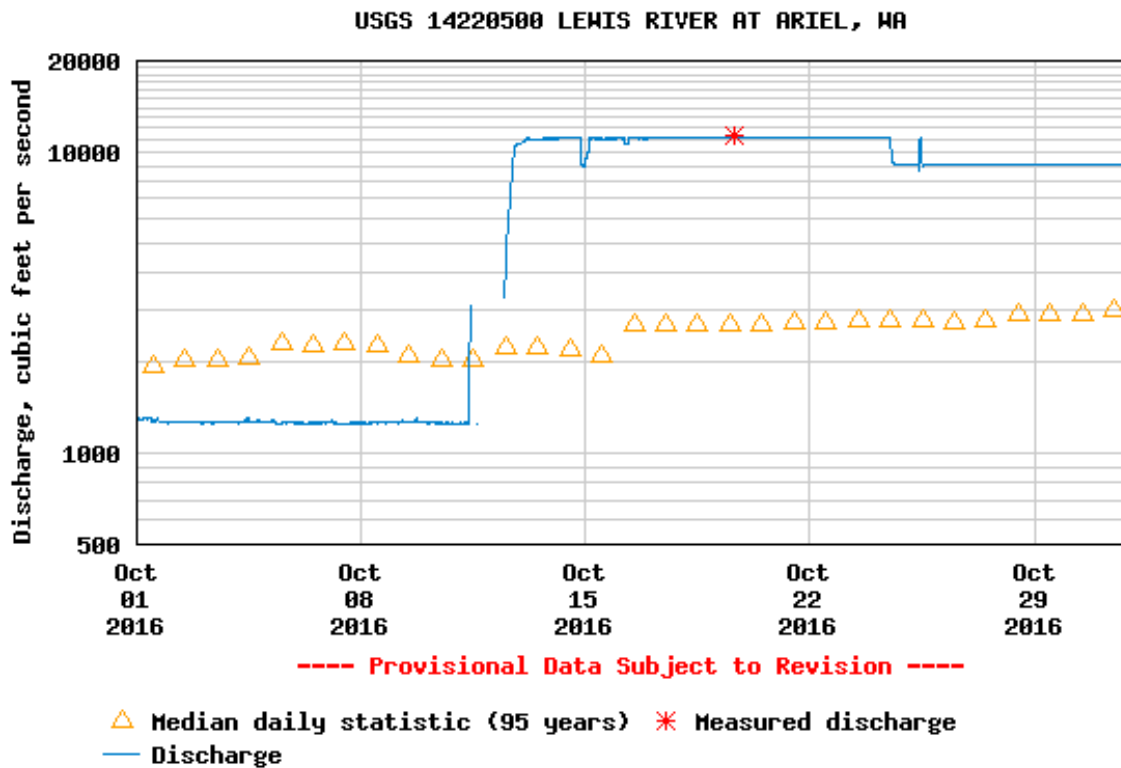
During the month of October, a total 4,995 fish were captured at the Merwin Fish Collection Facility. The vast majority of these fish were early coho (2,909 - 58%) and late-coho (1,088 - 22%) while the few remaining comprised of mostly of summer steelhead and fall Chinook. All hatchery fish were given to Washington Department of Fish and Wildlife. Thirty-three (33) coastal cutthroat greater than 13-inches were captured this month.

The Merwin Trap ran continuously through the month of October, except during the schedule outage the week of October 17, 2016 to install the new ladder fyke. However, during the scheduled outage, it was discovered that the cables that operate the automatic crowder had unexpected wear and needed replacement. Unfortunately, both projects could not be completed at the same time. Therefore, because the cabling system and crowder operation is critical to trap operation, the cable was replaced. In an effort to resume trap operation as soon as possible during the coho run, the schedule fyke installation was postponed to a later date (approximately

November 28, 2016 – December 12, 2016). The trap was returned to daily operations Monday, October 24<sup>th</sup>. On October 26<sup>th</sup>, 2016, the hopper hoist block failed and was replaced Wednesday, October 26, 2016. The trap was again returned to daily operations on Thursday, October 27<sup>th</sup>. The Auxiliary Water Supply (AWS) system, which can boost attraction flow up to 400 cfs, was operated daily in the month of October.

River flow below Merwin Dam fluctuated between 1,270 and 11,000 cfs throughout the month of October.

### Discharge, cubic feet per second



### Upstream Transport ([Attachment C](#))

For calendar year 2016, seven hundred sixty seven blank wire tag winter steelhead, 4,823 coho, and thirty-three cutthroat trout greater than thirteen inches in length have been transported upstream.

#### 2016 Coho Upstream Transport (thru October 31, 2016)

	Male	Female	Jack	Total
Early-coho	1,786	1,784	532	4,102
Late-coho	381	339	1	721

### Swift Floating Surface Collector ([Attachment C](#))

The Swift FSC returned to service on October 12<sup>th</sup>, 2016 following the summer maintenance period. The summer outage period was established by PacifiCorp with concurrence of the Lewis River Aquatic Coordination Committee in order to preform annual maintenance on the facility.

During this time period, reservoir water temperatures are generally warm and fish migration numbers are low.

During the month of October, 399 fish were collected with the majority of those fish being transported downstream. Juvenile coho accounted for the largest percentage (73%) of fish collected. Overall, 71,278 fish have been collected so far at the Swift FSC in 2016.

Not seeing full slug of fish yet; checking it every day. Getting considerable debris due to runoff and wind patterns.

### **Spring Chinook Smolt Release Update**

All spring Chinook were released in October 2016 to capture the best vitality that the group had. There was no release in February 2016.

### **Other**

PacifiCorp is leaning toward putting a 5-day operation criteria in place for winter steelhead from now until a consistent number of late winter steelhead begin to show up. The trap will continue to fish 7-days a week but workers will only handle and sort Monday through Friday. PacifiCorp will discuss this in greater detail at the December ACC meeting; currently still trapping and sorting 7 days per week.

*ACC Meeting adjourned at 11:10 a.m.*

### **Agenda items for December 8, 2016**

- November 10, 2016 Meeting Notes
- New Information; In Lieu presentation & discussion
- Study/Work Product Updates
- Aquatic Fund 2016/2017; Review Evaluation Matrix

### **Next Scheduled Meetings:**

December 8, 2016
Merwin Hydro Control Center
Ariel, WA
9:00 a.m. – 3:00 p.m.

### **Meeting Handouts & Attachments:**

- Meeting Notes from 10/13/16
- Agenda from 11/10/16
- **Attachment A** - Lewis River Aquatic Fund Utilities Evaluation, dated November 1, 2016
- **Attachment B** - Objective 17 – Monitor Bull Trout Populations Memo, dated November 9, 2016
- **Attachment C** – Lewis River Fish Passage Report (October 2016)

Lewis River Aquatic Fund - Utilities' Evaluation of 2016/2017 Project Proposals

No.	Applicant	Project Title	Project Schedule	Benefit	Bull Trout	Project Partners	Funding	Cost Share?	Consistency with Fund Objectives	Selected for Utilities for Full-Proposal - Y or N	Comments - Utilities
1	Cowlitz Tribe	Colvin Dam Removal Preliminary Design	2017/2018	Restore natural sediment transport processes and fish passage to benefit salmonid populations in Colvin Creek and downstream reaches of lower North Fork Lewis River.	No	Cowlitz Tribe and WDNR	\$ 62,500.00	Yes	1 Benefit Recovery Y 2 Support reintro. Y 3 Enhance habitat Y	Y	Contingent upon securing \$62,500 SRFB funds in 2017. Support Task 1: sediment analysis. If composition is primarily silt/sand we do not need to evaluate further. If composition core samples are deemed beneficial than I support moving forward with the project. Would like to know if further talks have happened with DAHP & if will be removed from the registry? If mitigation is warranted will Cowlitz Tribe fund? In favor of going to full proposal. This reach is not on the priority list but it is a good project. Need more detail on how the hatchery intake will be protected.
2	USDA Forest Service	Lewis River 21 Phase I	2017/2019	Restore approx. 1,000' of LR mainstem habitat 300' upstream of Rush Creek (tier 1 reach). Approx. 300 pieces of LWD will be placed along margins in the mainstem to improve rearing habitat.	Yes	Gifford Pinchot National Forest, Mt. St. Helens Institute	\$ 135,000.00	Yes	1 Benefit Recovery Y 2 Support reintro. Y 3 Enhance habitat Y	Y - Contingent upon response to how the LWD will be stabilized.	Do not believe that LWD placement in the mainstem has as much value as focusing funds on tributary streams or side channel habitat that do not have a high probability of "washing away" LWD structures. The LWD enhancement project at the Muddy River confluence was essentially removed by the December 2015 flooding. How can we be assured the wood will not blow out with the next storm event? There are better location options available such as tributaries. Priority Reach - in favor of going to full proposal. There needs to be a budget sheet that defines tasks and associated dollars. Other than the monitoring, it is not clear who is performing what task. LWD placed in the upper mainstem has an extremely low likelihood of staying in place given the frequency and severity of recent high water events.
3	USDA Forest Service	Spencer Creek Alluvial Fan and Channel Rehabilitation	2017/2019	Restore Spencer Creek from confluence of the NF Lewis upstream approx. 1,000 feet located o the lowest 1,000' of Spencer Creek. Creating approx. 7 complex structures within Spencer Creek to provide quality spawning, rearing and overwintering habitat.	No	Gifford Pinchot National Forest, Mt. St. Helens Institute	\$ 117,000.00	0	1 Benefit Recovery Y 2 Support reintro. Y 3 Enhance habitat Y	Y	Spencer Creek would benefit from wood placement and gravel retention. Priority Reach/Key Habitat - in favor of going to full proposal. There needs to be a budget sheet that defines tasks and associated dollars. Other than the monitoring, it is not clear who is performing what task. Spencer Creek rehab. work would benefit that stream basin and should go to full proposal.
4	LCFEG	Haapa Side Channel Habitat Restoration - Phase II	2017/2021	Enhance 1,350' side channel and associated placement of LWD to enhance channel stability; connect backwater channel; construct 200' long groundwater fed alcove chum spawning and rearing channel; install beaver dam analog at confluence of side and backwater channels.	No	LCFEG, WA-DOC, WDFW, DNR, Kysar & Loomis, LCFRB	\$ 286,045.00	Yes	1 Benefit Recovery Y 2 Support reintro. Y 3 Enhance habitat Y	Y	Is this contingent upon securing SRFB funds in 2017?? Expect to see a land use agreement submitted with the full proposal. The proposal states that ACC funds will be used entirely for backwater pool enhancement with LWD. Presently, there is an existing pool with substantial vegetation cover. I realize this amount will be matched according to the proposal which is the only reason I would support moving forward. Without the match, the project can not be justified in my opinion. Increases habitat quantity and diversity - in favor of going to full proposal. This reach is not on the priority list. Proponent has not always been timely with obtaining permitting and consequently completing projects. What happens if SRFB funding is not awarded?
5	LCFEG	NF Lewis 13.5 River Braiding Project	2017/2020	Project builds on previous work by creating 1,200' of new side channel habitat including LWD complexity structures to increase the quantity and quality of spawning and rearing habitat.	No	Kysar family, WDNR, WA Dept Corrections, Hudson Bay High School, WA-DOC	\$ 152,650.00	Yes	2 Benefit Recovery Y 2 Support reintro. Y 3 Enhance habitat Y	Y	Is this contingent upon securing SRFB funds in 2017?? Is aquatic lease needed from DNR? This project continues the previous work at 13.5 which improved spawning and juvenile rearing habitat. When is the side channel flooded? Is it accessible by juvenile salmonids at the appropriate time of year? Expand on how this project meshes with previous work. Creates side channel habitat, increasing diversity - in favor of going to full proposal. This reach is not on the priority list. Proponent has not always been timely with obtaining permitting and consequently completing projects. What happens if SRFB funding is not awarded?
6	WDFW	Bald Mt. Creek Fish Barrier Correction	2017/2018	Replacing two barrier crossings to fish passage; located on a left bank trib to Cedar Creek (locally called Bald Mt. Creek); replace existing barrier culvert with 30' bridge; regrading road approaches, downstream channel regrading and reposition existing log controls to direct flow away from the road fill and create resting pools.	No	Clark Conservation; NRCS	\$ 223,000.00	Yes	3 Benefit Recovery Y 2 Support reintro. Y 3 Enhance habitat Y	N - until additional monitoring can document potential use	Is any other landowner access agreements needed for access to site?? Not supportive of using ACC funds for culvert removal on private land unless there is a documented benefit. While coho juveniles and cutthroat have been observed in the project area no steelhead or Chinook have been observed. There just doesn't seem to be enough documented use downstream of the culverts to justify the costs of this proposal. Why did they not apply through their department's Fish Barrier Removal Board? And if they did why was project denied? Benefits to Spring Chinook? Pictures? This amount of money could benefit a larger number of fish in the priority reaches? Not in favor of going to full proposal. This reach is not on the priority list and is actually a Tier 4 reach on Cedar Creek that does not directly benefit spring Chinook.
							<b>Totals</b>	<b>\$ 976,195.00</b>			
							<b>Total non-bull trout Funds</b>	<b>\$ 841,195.00</b>			
							<b>Bull Trout Funds</b>	<b>\$ 135,000.00</b>			
Fund Objectives:	1. Benefit fish recovery throughout the North Fork Lewis River, priority to federal ESA-listed species 2. Support the re-introduction of anadromous fish throughout the basin 3. Enhance fish habitat in the Lewis River Basin, with priority given to North Fork Lewis River										



## **2.17 OBJECTIVE 17- MONITOR BULL TROUT POPULATIONS**

These bull trout objectives represent the mutual obligations of PacifiCorp and Cowlitz PUD. Methods to achieve these objectives will be provided in the Utility's Lewis River Bull Trout Annual Operating Plan.

Bull trout populations affected by the Lewis River Hydroelectric Project are monitored to 1) inform Project management decisions and 2) provide information to assist in gauging whether recovery goals and objectives are being met. Bull trout recovery goals and objectives are identified in the Recovery Plan for the Coterminous United States Population of Bull Trout (USFWS 2015a) and the associated Coastal Recovery Unit Implementation Plan for Bull Trout (RUIP; USFWS 2015b). Both plans seek to reverse declining trends and to ensure long-term persistence of bull trout and their habitats.

The Recovery Plan describes recovery criteria and lists five key points as the general range-wide strategy for recovery of bull trout: “(1) conserve bull trout so that they are geographically widespread across representative habitats and demographically stable in six recovery units; (2) effectively manage and ameliorate the primary threats in each of six recovery units at the core area scale such that bull trout are not likely to become endangered in the foreseeable future; (3) build upon the numerous and ongoing conservation actions implemented on behalf of bull trout since their listing in 1999, and improve our understanding of how various threat factors potentially affect the species; (4) use that information to work cooperatively with our partners to design, fund, prioritize, and implement effective conservation actions in those areas that offer the greatest long-term benefit to sustain bull trout and where recovery can be achieved; and (5) apply adaptive management principles to implementing the bull trout recovery program to account for new information.”

Recovery unit implementation plans were developed for each of the six bull trout recovery units in the United States by individuals familiar with the populations within the recovery unit. The RUIPs describe threats to population persistence, recommend actions necessary to promote recovery, and identify research, monitoring and evaluation needs. The specific actions necessary to achieve recovery are identified at the Core Area spatial scale (e.g. Lewis River basin) and are included in their respective RUIP. The Lewis River Bull Trout Recovery Team (LRBTRT), comprised of federal, state, and non-governmental biologists and scientists, provided the aforementioned information for the Lewis River Core Area, which was subsequently included in the Coastal RUIP.

The LRBTRT took the RUIP one step further with the additional development of a Lewis River Bull Trout Recovery Monitoring Plan, which details specific methods and direction for population monitoring of bull trout in the Lewis River basin.

### **Bull Trout Objectives:**

The bull trout objectives were developed by the Utilities in collaboration with the LRBTRT and are consistent with the: 1) Bull Trout Recovery Plan, 2) the Coastal RUIP, and 3) the Lewis River Bull Trout Recovery Monitoring Plan. The monitoring objectives are intentionally broad in

scope to allow for flexibility in specific actions as monitoring needs evolve. At minimum, elements of the following objectives will be monitored annually:

- Demographic Characteristics
- Vital Rates
- Spatial Distribution
- Movement Patterns
- Genetic Diversity
- Provide annual operating Plans and Reports

Achieving these monitoring objectives annually will provide information necessary to evaluate population response to recovery measures implemented and to assess the recovery progress of bull trout in the Lewis River Core Area. Additional monitoring and evaluation objectives may be included over time, in accordance with the Lewis River Bull Trout Recovery Monitoring Plan, and identified in the Lewis River Bull Trout Annual Operating Plan.

The Lewis River Bull Trout Annual Operating Plan will identify the specific monitoring actions that will be implemented by the Utilities each year to achieve the monitoring objectives. Each year, the Plan will be developed in consultation with the USFWS and the LRBTRT. The Plan may change through time as new scientific information becomes available or as monitoring needs change. The results of the monitoring actions identified in the Plan will be provided in the annual Aquatic Coordination Committee/Terrestrial Coordination Committee report.

The USFWS sees the development of the Bull Trout Annual Operating Plan as an opportunity for a bull trout sub group of the ACC (i.e., LRBTRT) to meet, at a minimum, annually. The primary purpose of this annual meeting will be to discuss progress in meeting Monitoring and Evaluation Plan requirements for bull trout monitoring in the past year, and to collaboratively develop an annual operating plan for the next year's activities.

#### References:

U.S. Fish and Wildlife Service. 2015a. Recovery plan for the coterminous United States population of bull trout (*Salvelinus confluentus*). Portland, Oregon. xii + 179 pages.

U.S. Fish and Wildlife Service. 2015b. Coastal recovery unit implementation plan for bull trout (*Salvelinus confluentus*). Portland, Oregon. 155 pages.

# Lewis River Fish Passage Report

## October 2016

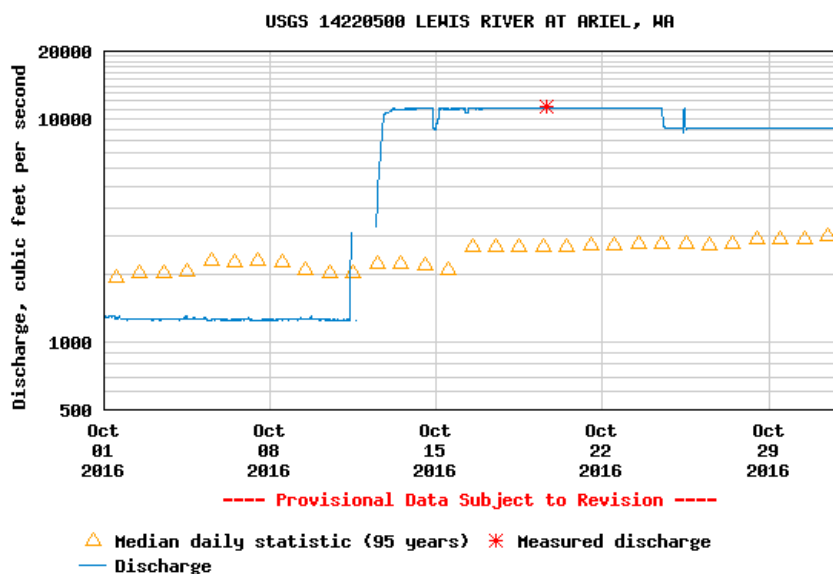
### Merwin Fish Collection Facility and General Operations

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River flow below Merwin Dam fluctuated between 1,270 and 11,000 cfs throughout the month of October.

### Discharge, cubic feet per second



### **Upstream Transport**

For calendar year 2016, seven hundred sixty seven blank wire tag winter steelhead, 4,823 coho, and thirty-three cutthroat trout greater than thirteen inches in length have been transported upstream.

2016 Coho Upstream Transport (thru October 31, 2016)

	Male	Female	Jack	Total
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### **Swift Floating Surface Collector**

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During the month of October, 399 fish were collected with the majority of those fish being transported downstream. Juvenile coho accounted for the largest percentage (73%) of fish collected. Overall, 71,278 fish have been collected so far at the Swift FSC in 2016.



**Fish Facility Report**  
**Swift Floating Surface Collector**  
**October 2016**

Day	Coho			Chinook			Steelhead				Cutthroat			Bull Trout	Planted Rainbow	Total
	fry	parr	smolt	fry	parr	smolt	fry	parr	smolt	kelt	fry	< 13 in	> 13 in			
01																0
02																0
03																0
04																0
05																0
06																0
07																0
08																0
09																0
10																0
11																0
12																0
13	0	1	0	0	1	3	0	0	0	0	0	0	0	0	0	5
14	0	0	3	0	0	5	0	0	0	0	0	0	0	0	1	9
15	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
16	3	2	2	0	1	0	0	0	0	0	0	0	0	0	0	8
17	0	3	4	0	1	0	0	0	1	0	0	0	0	0	0	9
18	3	7	10	0	1	2	1	0	1	0	0	0	0	0	0	25
19	8	8	3	0	0	1	0	0	0	0	0	0	0	0	1	21
20	0	20	7	0	2	3	0	2	0	0	0	0	0	0	0	34
21	6	9	1	0	0	0	1	0	0	0	0	1	0	0	0	18
22	0	15	27	0	3	3	0	1	0	0	2	0	0	0	0	51
23	4	4	13	2	1	1	0	0	0	0	3	0	0	0	0	28
24	0	4	5	0	4	1	0	0	0	1	0	0	0	0	0	15
25	0	10	5	0	0	1	0	0	0	0	2	0	0	0	0	18
26	2	5	2	0	5	0	0	0	1	0	2	0	0	0	0	17
27	1	11	1	0	3	1	0	1	0	0	2	0	0	0	0	20
28	0	8	5	0	0	2	1	0	0	0	2	0	0	0	0	18
29	0	14	9	0	0	3	0	0	0	0	0	0	0	0	0	26
30	0	7	12	0	0	7	0	2	0	0	3	1	0	0	0	32
31	0	14	11	0	2	15	0	0	0	0	0	0	0	0	1	43

<b>Monthly</b>	28	142	121	2	24	48	3	6	3	1	16	2	0	0	3	<b>399</b>
<b>Annual</b>	544	10631	48368	2	589	2805	5	69	2075	48	21	1012	33	39	5037	<b>71278</b>

