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

Date & Time:	Thursday, July 13, 2017 9:00 a.m. – 3:00 p.m.		
Place:	Merwin Hydro Control Center 105 Merwin Village Court Ariel, WA 98603		

Contacts: Frank Shrier: (503) 320-7423

Time	Discussion Item			
9:00 a.m.	Welcome			
	Review Agenda and ACC 6/8/17 Meeting Notes			
	Comment & Accept Agenda and 6/8/17 Meeting Notes			
9:10 a.m.	Public Comment Opportunity			
9:20 a.m.	In Lieu process - Update			
10:00 a.m.	Break			
10:10 a.m.	Review and Edit Aquatic Fund Process Documents			
12:00 p.m.	Working Lunch			
2:00 p.m.	Merwin ATE Study, Discussion of Results and Next Steps			
2:30 p.m.	Study/Work Product Updates			
	• H&S Plan Update			
	<ul> <li>Deferral of Comprehensive Periodic Review - H&amp;S Program</li> </ul>			
	<ul> <li>Woodland Release Ponds Construction - Status</li> </ul>			
	<ul> <li>Acclimation Ponds Plan - Status</li> </ul>			
	<ul> <li>Merwin Upstream Passage – Status</li> </ul>			
	<ul> <li>Swift Floating Surface Collector – Status</li> </ul>			
2:45 p.m.	Next Meeting's Agenda			
	Public Comment Opportunity			
	Note: all meeting notes and the meeting schedule can be located at:			
	http://www.pacificorp.com/es/hydro/hl/lr.html#			
3:00 p.m.	Adjourn			

Join by Phone

+1 (503) 813-5252 [Portland, Ore.] +1 (855) 499-5252 [Toll Free]

# Conference ID: 2506249

# PLEASE BRING YOUR LUNCH

# FINAL Meeting Notes Lewis River License Implementation Aquatic Coordination Committee (ACC) Meeting July 13, 2017 Merwin Hydro Control Center Ariel, WA

#### **ACC Participants Present (18)**

Frank Shrier, PacifiCorp Kim McCune, PacifiCorp Chris Karchesky, PacifiCorp Erik Lesko, PacifiCorp Levi Pienovi, PacifiCorp Todd Olson, PacifiCorp (via conference) Peggy Miller, WDFW Pat Frazier, WDFW Tom Wadsworth, WDFW Aaron Roberts, WDFW Ruth Tracy, USDA Forest Service (via conference) Greg Robertson, USDA Forest Service Michelle Day, NMFS Steve Manlow, LCFRB Amelia Johnson, LCFRB Amanda Froberg, Cowlitz PUD Steve Manlow, LCFRB

#### Guests (1)

Mike Bonoff, MB&G (via conference)

#### **Calendar:**

August 10, 2017	ACC Meeting	Merwin Hydro
Assignments from J	uly 13, 2017	Status
advise the additional	USFWS): Contact PacifiCorp by July 21, 2017 and amount of time needed for the Services to make decision. PacifiCorp can then prepare and submit quest to FERC	Utilities requested FOT
McCune: Email an Recommendation Pla than August 8, 2017.		
	CC approved Aquatic Fund process updates/edits cuments back to the ACC for one more final	Complete – 7/18/17

Assignments from June 8, 2017	Status
ACC: Review and comment on Aquatic Fund process documents and	Complete –
bring forward priority issues at the July ACC meeting.	7/13/17

Assignments from May 11, 2017	Status
Karchesky: Provide a Fall integrated Spring Chinook distribution plan to	
the ACC in September 2017.	7/13/17

Assignments from April 13, 2017	Status
Karchesky: Provide preliminary results of 2017 Merwin Adult Trap	Complete –
Efficiency for Winter Steelhead - report to ACC during July meeting.	7/13/17

# **Opening, Review of Agenda and Meeting Notes**

Frank Shrier (PacifiCorp) called the meeting to order at 9:08 a.m. and reviewed the agenda. No agenda additions were requested.

Shrier also reviewed the June 8, 2017 meeting notes and assignments. The meeting notes were approved at 9:20 a.m. without change.

#### **Public Comment**

None

# In Lieu Process Update - Mike Bonoff, MB&G

Bonoff informed the ACC the In Lieu Decision Support Document process began in September 2016 by a Working Group of the ACC to provide recommendations to the USFWS & NMFS (Services) regarding consideration of future fish passage and in-lieu alternatives though the Lewis River project. The Working Group met eleven times in 2016 and a subsequent Core Work Group (science group) representatives met for three additional meetings in 2017.

While a consensus recommendation was not received the consultation process was thoughtful and good recommendations based on foundational science were provided to the Services for their consideration.

The decision support document was emailed to the Working Group and Core Work Group June 2, 2017 for a 3-week review and comment period. A final draft decision support document was emailed to the ACC June 28, 2017 for review and comment due July 13, 2017.

PacifiCorp has a phone call into NMFS (Michelle Day) to discuss the number of months that the Services may need from the FERC before the Services can render its decision. PacifiCorp wishes to submit an extension of time request letter to the FERC no later than July 31, 2017.

Day expressed that she and Mark Celedonia (USFWS) are discussing the time frame needed and will get back to PacifiCorp. PacifiCorp only needs an estimate of additional time needed from the Services in order to move forward with the FERC extension.

Pat Frazier (WDFW) noted that they have a few comments on the decision support document and will provide them to PacifiCorp no later than close of business July 19, 2017. MB&G will then finalize the document week of July 24, 2017.

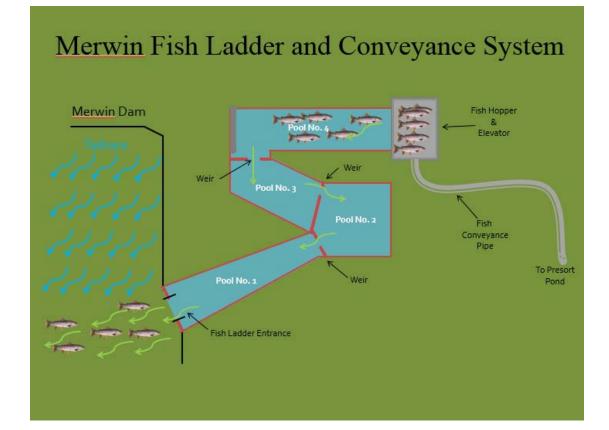
# Merwin ATE Study, Discussion of Results and Next Steps

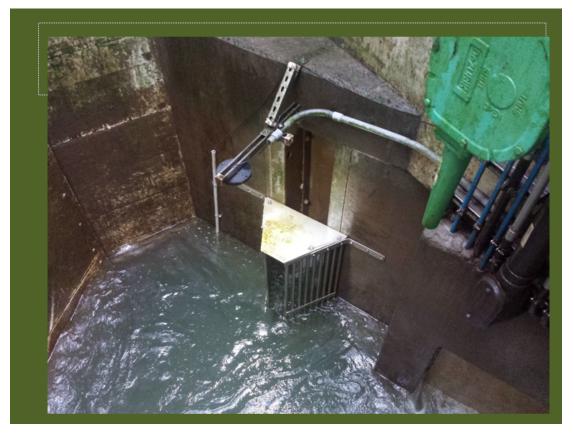
Chris Karchesky (PacifiCorp) provided a Summary of Merwin Adult Trap Efficiency Study Results from 2015 through June 16, 2017 (Attachment A) and a cursory review of the Merwin Fish Ladder and Conveyance System that included total number of fish tagged, number of fish that entered the tailrace and eventually the trap, and the number that were finally captured. Estimates of trap collection efficiency were provided for each year to date.

Karchesky provided an overview of the behavior results observed so far. In 2017, a fyke was installed between ladder pools 1-1 and 1-2 to reduce the number of fish returning to the tailrace after entering the trap. Karchesky explained that this structured has reduced this behavior substantially - in 2017 there were only 8 recorded exit events, and zero events when the water was below 7,000 cfs. Prior to the fyke being installed (2016) there were over 700 recorded exit events (fish entering and exiting the trap).

While higher retention was observed following the fyke installation, overall trap collection efficiency remained similar. Karchesky explained that this may likely be the result of varying environmental conditions between years (e.g., flow and temperature), and PacifiCorp is moving forward with including these variable into the analysis to better understand factors contributing to collection efficiency.







2015			
Metric	Winter Steelhead	Spring Chinook	Coho Salmon
Total tagged (n)	148	40	35
Entered the Tailrace	146	40	35
Entered the Trap	126	36	8
Trap Enterence Efficiency (Pee)	86% (79-90%)	90%	23%
Captured	90	15	3
Collection Efficiency (ATE-test)	62% (51-67%)	38%	9%
2016			
Metric	Winter Steelhead	Spring Chinook	Coho Salmon
Total tagged (n)	148	-	-
Entered the Tailrace	128	-	-
Entered the Trap	119	-	-
Trap Enterence Efficiency (Pee)	93% (87-96%)	-	-
Captured	94	-	-
Collection Efficiency (ATE-test)	73% (65-80%)	-	-
2017 - Preliminary through 6/3	16/17		
Metric	Winter Steelhead	Spring Chinook	Coho Salmon
Total tagged (n)	150	-	-
Entered the Tailrace	144	-	-
Entered the Trap	119	-	
Trap Enterence Efficiency (Pee)	83% (?)	-	
Captured	106	-	-
Collection Efficiency (ATE-test)	74% (?)	-	-

PacifiCorp is moving forward with tagging natural origin recruit (NOR) coho which may begin as early as late-August 2017. Karchesky will provide the ACC with another update of the Merwin Adult Trap Efficiency Evaluation in early 2018.

#### Break 10:25am Reconvene 10:30am

# **Study/Work Product Updates**

# H&S Plan Update

PacifiCorp has scheduled a subgroup meeting for July 27, 2017 at the WDFW, Vancouver office.

Erik Lesko (PacifiCorp) informed the ACC that the Lewis River Settlement Agreement (SA), Section 8.2.6 as detailed below requires an independent consultant to review the Hatchery and Supplementation Program within 5 years after reintroduction into Yale and Merwin, which would be no later than December 31, 2017.

8.2.6 Comprehensive Periodic Review. The Licensees shall undertake a comprehensive periodic review within 5 years after reintroduction above Swift No. 1 Dam, within 5 years after reintroduction into Yale Lake, and within 5 years after reintroduction into Lake Merwin, and then every 10 years after that. This schedule is to be followed even in the event that reintroduction into either Yale Lake or Lake Merwin does not occur. The Licensees, in Consultation with the ACC, shall hire an independent consultant to review the Hatchery and Supplementation Program to assess (i) the Program's impact on the reintroduction program and on listed species, (ii) the Program's effectiveness in achieving the goals set out in Section 8.1 above, and (iii) efficiency of

hatchery operations. Factors to be considered in the review include current federal and state policies and plans, relevant best practices, and existing information regarding recent scientific advances. The reviewer will provide recommendations regarding ongoing management of the Hatchery and Supplementation Program and, if needed, recommend amendments to the Hatchery and Supplementation Plan. The Licensees shall incorporate recommendations for ongoing management of the Hatchery and Supplementation Program set forth in the review into the Hatchery and Supplementation Plan pursuant to Section 8.2.5 or explain why the recommendation is not being adopted.

The subgroup met June 15, 2017 and agreed that a deferral to December 31, 2018 is appropriate until such time they have finalized a functional Annual Operating Plan and Hatchery & Supplementation Plan first, then followed by the Comprehensive Periodic Review.

The ACC also agreed and approved deferral to December 31, 2018 to complete a comprehensive periodic review by an independent consultant. PacifiCorp will submit an extension of time letter to the FERC for its approval.

# Woodland Release Ponds/Construction Update

Construction on schedule; staging now for in-water work to begin August 1, 2017. Completion is expected by November 2017. The ponds will be ready for the 2018 out-migration (March – June 2018). PacifiCorp's staff wildlife biologist is on site when needed to monitor the eagle activity nearby.

# **Acclimation Ponds Update**

PacifiCorp provided hard copies to the ACC today of the acclimation pond site recommendation plan (Plan) to include before/after photos for their review and approval. Kim McCune (PacifiCorp) will follow up with emailing an electronic copy with comments due no later than August 10, 2017.

The Plan can also be viewed on the Lewis River website at the following link: http://www.pacificorp.com/content/dam/pacificorp/doc/Energy\_Sources/Hydro/Hydro\_Licensin g/Lewis\_River/li/acc/07130217DRAFTLRAcclPondSiteRecPlan.pdf

Shrier provided a cursory review of the Plan to include the Muddy River, Clear Creek and Crab Creek decommission schedules, map of the Lewis River basin showing all four possible acclimation site locations and before and after pictures of the 2015 flow event. Shrier also reviewed the Clear Creek and Crab Creek sites showing the completion and following the high water event in December 2015.

The Utilities propose to decommission and remove the Muddy River, Clear Creek and Crab Creek acclimation facilities. Facility removal and site remediation will be completed upon receipt of necessary permits and approvals. For the remainder of acclimation fish program, PacifiCorp will release up to 100,000 juvenile spring Chinook per year into the upper North Fork Lewis River basin. Releases will be near the former acclimation pond sites. Timing of release and number of fish released at each site will be at discretion of the ACC.

Shrier informed the ACC attendees that he discussed the matter of decommissioning the acclimation sites with Bob Rose (Yakama Nation). Rose expressed that PacifiCorp is between a

rock and a hard place. Rose' recommendation is that we need to remove the acclimation ponds if they are not functioning. However, Rose suggested we step back and do some observational work on the direct released fish and the other acclimation programs to look at effectiveness and the plusses and minuses of SARs. Rose suggested to do this for 25 years (at least 4 years of 4 year old returns) or until the Year 27 check in and then decide what to do next.

Shrier also informed the ACC attendees that Eli Asher (Cowlitz Tribe) spoke with Taylor Aalvik (Cowlitz Tribe) about the acclimation pond sites. Aalvik's recollection was that Janne (Cowlitz Tribe) was particularly keen on the acclimation ponds on behalf of the Cowlitz Tribe, and that Tribe members and staff were less enthusiastic (or not in favor at all). Aalvik also suggested that PacifiCorp call Bob Rose directly to discuss the Yakama perspective.

# Proposed 2017 Acclimation Fish Release Strategy

Karchesky (PacifiCorp) provided the following acclimation fish release strategy as a pilot study for ACC consideration:

- ~50,000 acclimation spring Chinook available for release in 2017.
- Fish are targeted to be 65 to the pound by the end of July compared to 26 to the pound by October.
- Based on results of 2016 effort, larger fish released in October appeared to move downstream quickly (< 48 hours) when released directly.
- Propose releasing acclimation fish earlier to distribute smaller fish into the upper basin before smoltification.
- Release fish at three general locations: 1) upper Muddy River site above bridge; 2) Clear Creek Bridge site, and; 3) Upper Lewis near Crab Creek.
- Eagle Cliff Screw Trap scheduled to be in operation through July 2017 can be used to estimate how many of these acclimation spring Chinook enter the reservoir during the month of July.
- In addition to screw trap, localized snorkel surveys will be conducted in August to determine the presence or absence of spring Chinook near the release sites.
- The proposed fish release schedule and quantities are provided below:

	Release Sites			
Week of	<b>Upper Muddy River</b>	Clear Creek	Upper Lewis (Crab Creek)	
17-Jul	4000	2000	4000	
24-Jul	4000	2000	4000	
31-Jul	4000	2000	4000	
7-Aug	4000	2000	4000	
14-Aug	4000	2000	4000	
Total	20000	10000	20000	

#### 2017 Acclimation Fish Proposed Release Schedule



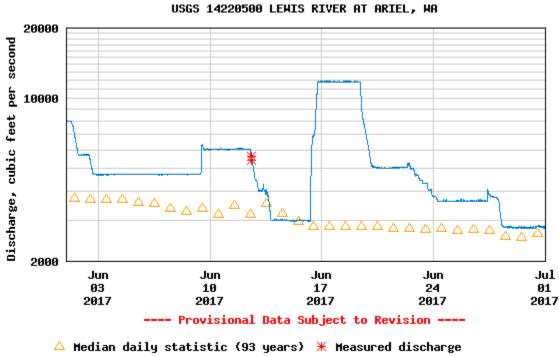
The ACC agreed with the proposal as a pilot study. PacifiCorp will report back to the ACC in its 2017 Annual Report and provide periodic updates at future ACC monthly meetings.

# Merwin Fish Collection Facility and General Operations (Attachment B)

During the month of June, a total 1,332 fish were captured at the Merwin Adult Fish Collection Facility. The vast majority of these fish were spring Chinook (616 - 46%) of both hatchery and wild origin and hatchery summer steelhead (694 - 52%). A total of 2,808 spring Chinook have been captured at the Merwin Trap through June 2017. While a few winter steelhead (n=15) continued to arrive at the trap early in the month, no winter steelhead have been capture since June 21.

The Merwin Dam adult fish trap ran continuously through the month of June. River flow below Merwin Dam fluctuated between 2,780 and 11,900 cfs throughout the month.

#### Discharge, cubic feet per second



— Discharge

#### **Upstream Transport (Attachment B)**

Only one Blank Wire Tag (BWT) winter steelhead were transported upstream above Swift Dam in June 2016. This fish combined for a total of 599 BWT winter steelhead transported as part of the 2017 run year. One hundred-fifty BTWs have been radio tagged and released back downstream as part of the Merwin Adult Trap Efficiency (ATE) Evaluation, which began February 16, 2017. Of these fish, 116 had been recaptured and transported upstream by the end of June.

2017 Late-Winter Steelhead (BWTs) (thru June 2017)

Male	Female	Total
327	272	599

PacifiCorp began transporting adult spring Chinook to the upper basin May 18, 2017. By the end of the June, a total of 1,043 fish had been transported and released at the head of Swift Reservoir.

2017 Spring Chinook (thru June 2017)

Male	Female	Jacks	Total
340	397	306*	1,043

\* Contain approximately 25% females < 24 inch ("Jills").

# Swift Floating Surface Collector (Attachment B)

During the month of June, over 8,000 fish were collected at the Swift FSC. Juvenile coho accounted for the majority of fish collected (6,947 - 80%) followed by planted rainbow trout (1,042 - 12%), juvenile steelhead (469 - 5%) and all other species (3%). Except for bull trout and planted rainbows, all fishes (and life-stages) were transported downstream. Surface water temperatures in Swift Reservoir through the month of June ranged typically between 14 and  $16^{\circ}$  C. One brief outage occurred during the month June 27, 2017 when the FSC was turned off due

to failed screen cleaner. The cleaner was repaired and the FSC was put back in service June 28, 2017.

# **Review and Edit Aquatic Fund Process Documents**

The ACC reviewed the following documents listed below for content editing in preparation for the August or September Aquatic Fund Announcement.

- Draft Rev Lewis River AQ Fund Process Document and timeline
- Pre-Proposal Form
- Full Proposal Form
- Evaluation Criteria
- Aquatic Fund Announcement Letter

McCune will insert all ACC approved updates and email all revised documents back to the ACC for one more final two-week review.

# Working lunch 12:15pm

# Agenda items for August 10, 2017

- ➢ July 13, 2017 Meeting Notes
- Study/Work Product Update

# Adjourn 2:45pm

#### **Next Scheduled Meeting:**

August 10, 2017
Merwin Hydro Control Center
Ariel, WA
9:00 a.m 3:00 p.m.

# Meeting Handouts & Attachments:

- ➢ Meeting Notes from 6/8/17
- > Agenda from 7/13/17
- Attachment A Summary of Merwin Adult Trap Efficiency Study Results, July 13, 2017
- Attachment B Lewis River Fish Passage Report (June 2017)

# Summary of Merwin Adult Trap Efficiency Study Results

#### Criteria

- \* 98% Collection Efficiency
- \* Median tailrace time less that or equal to 24 hours with no more than 5% of fish taking longer than 168 hour to pass.

#### 2015

Metric	Winter Steelhead	Spring Chinook	Coho Salmon
Total tagged (n)	148	40	35
Entered the Tailrace	146	40	35
Entered the Trap	126	36	8
Trap Enterence Efficiency (Pee)	86% (79-90%)	90%	23%
Captured	90	15	3
Collection Efficiency (ATE-test)	62% (51-67%)	38%	9%

\* Tagging occurred 3 Mar - 21 May (for steelhead)

\* Average vs. Median time?

\* Steelhead tagged later in study had higher probablity of passage

\* All test fish were non-naïve

#### 2016

Metric	Winter Steelhead	Spring Chinook	Coho Salmon
Total tagged (n)	148	-	-
Entered the Tailrace	128	-	-
Entered the Trap	119	-	-
Trap Enterence Efficiency (Pee)	93% (87-96%)	-	-
Captured	94	-	-
Collection Efficiency (ATE-test)	73% (65-80%)	-	-

\* ARIS evalaution in pool 1-4 - behavior assessment of crowder interaction

\* Tagging occurred 24 Feb - 20 May

\* Median time: 29.2 hours (0.03 - 605 hours); 14 fish had tailrace residence time greater than 168 hours

\* Steelhead tagged eariler in study had higher probablity of passage

\* All test fish were non-naïve

\* Recorded over 700 exit events - fish entering and exiting the trap

#### 2017 - Preliminary results through 6/16/17

Metric	Winter Steelhead	Spring Chinook	Coho Salmon		
Total tagged (n)	150	-	-		
Entered the Tailrace	144	-	-		
Entered the Trap	119	-	-		
Trap Enterence Efficiency (Pee)	83% (?)	-	-		
Captured	106	-	-		
Collection Efficiency (ATE-test)	74% (?)	-	-		

\* Fyke install between P-1 and P-2; only effective upto ~7,000 cfs total river flow

\*Tagging occurred 16 Feb - 2 May

\* Median Time: ?

\* Steelhead tagged eariler in study had higher probablity of passage

\* All test fish were non-naïve

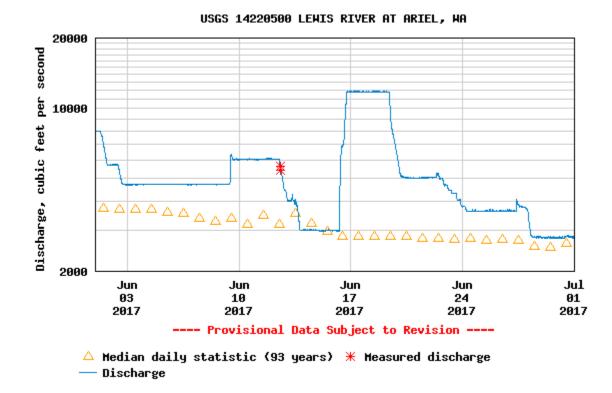
\* Recorded approxiamtly just 8 exit events - fish entering and exiting the trap

# Lewis River Fish Passage Report June 2017

# **Merwin Fish Collection Facility and General Operations**

During the month of June, a total 1,332 fish were captured at the Merwin Adult Fish Collection Facility. The vast majority of these fish were spring Chinook (616 - 46%) of both hatchery and wild origin and hatchery summer steelhead (694 - 52%). A total of 2,808 spring Chinook have been captured at the Merwin Trap through June 2017. While a few winter steelhead (n=15) continued to arrive at the trap early in the month, no winter steelhead have been capture since June 21.

The Merwin Dam adult fish trap ran continuously through the month of June. River flow below Merwin Dam fluctuated between 2,780 and 11,900 cfs throughout the month.



Discharge, cubic feet per second

#### **Upstream Transport**

Only one Blank Wire Tag (BWT) winter steelhead were transported upstream above Swift Dam in June 2016. This fish combined for a total of 599 BWT winter steelhead transported as part of the 2017 run year. One hundred-fifty BTWs have been radio tagged and released back downstream as

part of the Merwin Adult Trap Efficiency (ATE) Evaluation, which began February 16, 2017. Of these fish, 116 had been recaptured and transported upstream by the end of June.

2017 Late-Winter Steelhead (BWTs) (thru June 2017)

Male	Female	Total
327	272	599

PacifiCorp began transporting adult spring Chinook to the upper basin on May 18, 2017. By the end of the June, a total of 1,043 fish had been transported and released at the head of Swift Reservoir.

2017 Spring Chinook (thru June 2017)

	Male	Female	Jacks	Total						
	340	397	306*	1,043						
÷ /	Contain annualizatella 250/ famalas 224 in al (%Till-??)									

\* Contain approximately 25% females < 24 inch ("Jills").

# **Floating Surface Collector**

During the month of June, over 8,000 fish were collected at the Swift FSC. Juvenile coho accounted for the majority of fish collected (6,947 - 80%) followed by planted rainbow trout (1,042 - 12%), juvenile steelhead (469 - 5%) and all other species (3%). Except for bull trout and planted rainbows, all fishes (and life-stages) were transported downstream. Surface water temperatures in Swift Reservoir through the month of June ranged typically between 14 and  $16^{\circ}$  C. One brief outage occurred during the month on June 27, 2017 when the FSC was turned off due to failed screen cleaner. The cleaner was repaired and the FSC was put back in service on June 28, 2017.

Date		e at (>13 inches) at (< 13 inches) w (< 20 inches) out (> 13 inches) out (< 13 inches)				
ting Date	Spring Chinook <sup>1</sup>	Early Coho	Late Coho	S. Steelhead W. Steelhead	Fall Chinook	Sockeye Chum Pink Cutthroa Cutthroa Bull Troi Bull Troi Bull Troi
Report	AD-Clip Wild Recap TOTAL <sup>2</sup>	AD-Clip CWT Wild Recap TOTAL <sup>2</sup>	AD-Clip CWT Wild Recap TOTAL <sup>2</sup>	Fresh Recap Wild AD-Clip BWT RT Recap Wild	AD-Clip Wild Recap	Daily 7
	M F JK M F JK M F JK M F JK	M F JK M F	JK M F JK			
01-Jun	31 41 15 2 0 1 0 0 0 33 41 16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 3 0 0 0 0 0 0 0 0 0 0 1 1	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 <b>98</b>
02-Jun 03-Jun	24         38         19         0         0         0         0         0         0         24         38         19           12         13         10         0         0         0         0         0         12         13         10			5         3         0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 89 0 0 0 0 0 0 0 0 0 0 0 0 45
03-Jun 04-Jun	12         13         10         0         0         0         0         0         0         12         13         10           24         19         18         0         0         0         0         0         24         19         18			4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0         0         0         0         0         0         0         0         0         0         45           0         0         0         0         0         0         0         0         68
04-Jun 05-Jun	24         19         18         0         0         0         0         0         0         24         19         18           21         32         20         0         0         0         0         0         0         21         32         20					0 0 0 0 0 0 0 0 0 0 0 0 0 84
06-Jun	15 18 6 0 0 0 0 0 0 15 18 6		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 3 0 0 0 0 0 0 0 0 0 0 0 2 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 47
07-Jun	15 14 2 1 0 0 0 0 0 16 14 2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 4 0 0 0 0 0 0 0 0 0 0 0 0 2 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 41
08-Jun	10 12 14 0 0 1 0 0 0 10 12 15	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 41
09-Jun	6 10 4 0 0 1 0 0 6 10 5		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 33
10-Jun	10 5 1 0 0 0 0 0 0 10 5 1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 2 0 0 0 0 1 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 24
11-Jun 12-Jun	5         6         2         0         0         0         0         0         5         6         2           4         3         3         0         0         0         0         0         4         3         3					0         0         0         0         0         0         0         0         0         0         0         17           0         0         0         0         0         0         0         0         0         17
12-Jun 13-Jun						0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 18
13-Jun 14-Jun						0 0 0 0 0 0 0 0 0 0 0 0 0 0 38
15-Jun				7 11 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
16-Jun	2 3 0 0 0 0 0 0 2 3 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 11 0 0 0 1 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 21
17-Jun	1 5 0 0 0 0 0 0 1 5 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13 9 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 31
18-Jun	3 2 0 1 0 0 0 0 4 2 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	22 23 4 5 0 1 0 0 1 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 62
19-Jun	2 1 1 0 0 0 0 0 2 1 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 6 3 3 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 26
20-Jun	2 6 3 0 0 0 0 0 2 6 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	14 14 4 2 0 0 0 0 0 0 0 0 1 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 46
21-Jun	2 5 2 0 0 0 0 0 0 2 5 2		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 16 8 5 0 0 1 0 0 0 0 1 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 50
22-Jun 23-Jun	2         1         1         0         0         0         0         0         2         1         1           1         1         0         0         0         0         0         0         1         1         0			5         13         6         10         0         1         0	0 0 0 0 0 0 0 0 0	0         0         0         0         0         0         0         0         0         0         39           0         0         0         0         0         0         0         0         0         29
23-Jun 24-Jun						0 0 0 0 0 0 0 0 0 0 0 0 0 0 29 0 0 0 0 0 0 0 0 0 0 0 0 0 42
24-Jun 25-Jun						0 0 0 0 0 0 0 0 0 0 0 0 0 0 42
26-Jun						0 1 0 0 0 0 0 0 0 0 0 30
27-Jun	2 1 0 0 0 0 0 0 0 2 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	14 25 12 12 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 66
28-Jun	1 5 0 0 0 0 0 0 1 5 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	24 21 9 13 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 73
29-Jun	1 2 1 0 0 0 0 0 0 1 2 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	15 22 4 11 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 56
30-Jun	0 1 0 0 0 0 0 0 0 1 0			7 20 3 10 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 42
Monthly	217 260 131 5 0 3 0 0 0 222 260 134	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	226         300         72         96         1         4         2         0         1         0         0         0         10         2	0 0 0 0 0 0 0 0 0	0 2 0 0 0 0 0 0 0 0 0 1332
Annual	972 1289 541 13 13 4 4 4 0 0 992 992 1302 545	· · · · · · · · · · · · · · · · · · ·	0 1 1 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	449 564 106 181 181 181 281 247 247 340 283 283 283 40 67 43	0 0 0 - 0 0 0 0	2 3 1 1 2 12 12 0 5 5 5 5 7 9 0

<sup>1</sup> Only hatchery verses wild distinctions are currently being made. All hatchery fish are labeled as "AD-Clip".

<sup>2</sup> Total counts do not include recaptured salmon.



#### Fish Facility Report Swift Floating Surface Collector June 2017

(		Coho			Chinoo	k		Stee	lhead		(	Cutthroat		Bull	Planted	
Day	fry	parr	smolt	fry	parr	smolt	fry	parr	smolt	kelt	fry	< 13 in	> 13 in	Trout	Rainbow	Total
01	0	3	56	0	0	1	0	0	23	0	0	0	2	0	8	93
02	0	0	123	0	0	0	0	0	22	0	0	0	2	0	0	147
03	0	0	291	0	0	1	0	0	44	0	0	0	0	0	35	371
04	0	1	275	0	0	5	0	0	37	0	0	0	0	0	46	364
05	0	6	285	0	0	3	0	0	29	0	0	11	1	0	121	456
06	0	4	58	0	0	1	0	0	53	0	0	13	3	0	68	200
07	1	5	287	0	0	0	0	1	12	0	0	4	0	0	9	319
08	0	2	51	0	0	0	0	0	9	0	0	4	0	1	38	105
09	0	4	46	0	0	1	0	0	10	0	0	13	1	0	43	118
10	0	0	64	0	1	0	0	0	11	0	0	2	0	0	24	102
11	0	1	357	0	0	0	0	0	19	0	0	11	1	0	54	443
12	0	16	1124	0	0	1	0	0	24	0	0	16	4	0	31	1216
13	0	5	192	0	0	0	2	1	9	0	0	0	0	0	50	259
14	0	0	283	0	0	1	0	0	4	0	0	6	0	0	61	355
15	0	12	334	0	0	0	5	0	17	1	0	4	1	0	20	394
16	0	0	69	0	0	0	4	0	4	1	0	1	0	0	0	79
17	8	1	150	0	0	4	0	0	4	0	0	4	0	0	21	192
18	0	1	739	0	0	0	0	0	8	0	0	4	0	0	55	807
19	0	4	465	0	0	4	0	0	17	0	0	12	1	0	65	568
20	0	5	433	0	0	0	0	0	9	0	0	4	0	0	38	489
21	0	4	604	0	0	12	0	0	10	0	0	4	0	0	103	737
22	0	1	263	0	0	9	0	0	35	0	0	0	9	0	58	375
23	1	0	79	0	0	0	0	0	35	0	0	0	1	0	28	144
24	0	0	67	0	0	0	0	0	0	0	0	0	0	0	28	95
25	0	1	48	0	0	0	0	0	1	0	0	4	0	0	36	90
26	0	1	41	0	0	0	0	0	3	0	0	3	0	0	0	48
27	0	1	14	0	0	0	0	0	1	0	0	1	0	0	1	18
28																
29	0	4	21	0	0	0	0	0	2	0	0	1	1	1	1	31
30	0	4	32	0	0	0	0	0	2	0	0	0	0	0	0	38
Aonthly	10	86	6851	0	1	43	11	2	454	2	0	122	27	2	1042	8653
Total	3205	606	9152	0	43	695	11	43	1511	9	13	320	38	6	1756	1846

