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Report Period: May 1 to May 15, 2022

Report No.: 2022 Willamette RST Bi-Weekly Report 05/01 to 05/15 by EAS

Re: WILLAMETTE VALLEY FISH PASSAGE MONITORING VIA ROTARY SCREW TRAPS

Project Schedule

Table 1. Project Schedule

Site	Task	Start	End	Days
Big Cliff Dam RST	Operation	12/01/2021	2/15/2022	292
Big Cliff Dam RST	Operation	3/15/2022	10/15/2022	
Big Cliff Dam Tailrace	Trap Efficiency Release (1,000 Fish)	12/22/2021	12/22/2021	1
Big Cliff Dam Tailrace	Temporary Trap Removal and Install	05/06/2022	05/13/2022	7
Green Peter Tailrace- Middle Santiam River RST	Trap Install	03/02/2022	03/02/2022	1
Green Peter Tailrace- Middle Santiam River RST	Operation	03/03/2022	06/30/2022	120
Green Peter Tailrace- Middle Santiam River RST	Trap Efficiency Release (643 Fish)	03/29/2022	03/29/2022	1
Green Peter Tailrace- Middle Santiam River RST	Trap Efficiency Release (521 Fish)	04/30/2022	04/30/2022	1
Green Peter Tailrace- Middle Santiam River RST	Temporary Trap Removal	05/12/2022	TBD	TBD
Foster Dam Head of Reservoir- South Santiam River RST	Trap Install	03/16/2022	03/16/2022	1
Foster Dam Head of Reservoir- South Santiam River RST	Operation	03/10/2022	06/30/2022	113
Cougar Dam RST	Operation	11/30/2021	11/30/2022	366
Cougar Dam	Trap Efficiency Release (1,200 Fish, 600 per route)	01/19/2022	1/19/2022	1
Cougar Dam	Trap Efficiency Release (735 Fish, ~365 per route)	04/20/2022	4/20/2022	1
Cougar Dam	Trap Efficiency Release (993 Fish, RO route)	05/15/2022	05/15/2022	1
Cougar Dam Head of Reservoir	Highline and Trap Install	03/7/2022	3/7/2022	1
Cougar Dam Head of Reservoir	Operation	03/8/2022	06/30/2022	115
Cougar Dam Head of Reservoir	Trap Efficiency Release (806 Fish)	03/18/2022	03/18/2022	1
Dexter Dam Tailrace RST	Highline Install	03/02/2022	03/02/2022	1
Dexter Dam Tailrace RST	Trap Install	03/03/2022	03/03/2022	1
Dexter Dam Tailrace RST	Operation	03/07/2022	12/16/2022	285
Dexter Dam Tailrace RST	Trap Efficiency Release (988 Fish)	03/23/2022	03/23/2022	1
Dexter Dam Tailrace RST	Trap Efficiency Release (1000 Fish)	05/04/2022	05/04/2022	1

Lookout Dam Tailrace RSTs	Operation	03/15/2022	07/31/2022	139
Lookout Dam Tailrace RSTs	Trap Efficiency Release (1,013 fish, PWR route)	04/13/2022	04/13/2022	1
Lookout Point Head of Reservoir RST	Trap Install	03/06/2022	03/06/2022	1
Lookout Point Head of Reservoir RST	Operation	03/07/2022	12/16/2022	285
Lookout Point Head of Reservoir RST	Trap Efficiency Release (993 fish)	04/05/2022	04/05/2022	1
Lookout Point Head of Reservoir RST	Trap Efficiency Release (989 fish)	04/14/2022	04/14/2022	1
Fall Creek Dam Tailrace RST	Operation	03/15/2022	07/15/2022	123
Fall Creek Head of Reservoir RST	Trap and Highline Install	01/11/2022	01/11/2022	1
Fall Creek Head of Reservoir RST	Operation	01/02/2022	05/31/2022	150
Hills Creek Dam RO and PWR	Deployment	10/12/2021	10/12/2021	1
Hills Creek Dam RO	Operation	10/15/2021	03/01/2022	138
Hills Creek Dam PWR	Operation	10/15/2021	03/01/2022	138
Hills Creek Dam	Trap Efficiency Release (1,200 fish, 600 per route)	01/6/2022	01/6/2022	1
Hills Creek Dam	Trap Efficiency Release (1,200 fish, 600 per route)	02/16/2022	02/16/2022	1
Hills Creek Dam	Trap Efficiency Release (1,200 fish, 600 per route)	02/23/2022	02/23/2022	1
Hills Creek Dam RSTs	Trap Removal	03/01/2022	03/01/2022	1

Summary of Rotary Screw Trap Data

Rotary screw traps (RSTs) have been operated at eleven locations in the southern Willamette River watershed. For this reporting period, traps were being operated at the following ten locations: Big Cliff Dam, Green Peter Tailrace- Middle Santiam, Foster Dam Head of Reservoir- South Santiam, Cougar Dam, Cougar Dam Head of Reservoir, Fall Creek Dam Tailrace, Fall Creek Head of Reservoir, Dexter Dam Tailrace, Lookout Dam Tailrace, and Lookout Point Head of Reservoir.

The RST's at Big Cliff Dam and Lookout Dam Tailrace started sampling on March 15th. On March 1st the Middle Fork Willamette River below Hills Creek Dam RST's were removed for the sampling season in conjunction with the end of RO spill and to prioritize the limited number of screw traps to other locations.

Below Dam sites that include both RO and PWR to monitor passage routes include South Fork McKenzie River below Cougar Dam and on the Middle Fork of the Willamette River in the Lookout Dam Tailrace. Below dam sites that include one RST to monitor passage include Big Cliff Dam, Green Peter Tailrace-Middle Santiam, the Middle Fork of the Willamette River below Dexter Dam and Fall Creek Dam Tailrace which is a tributary on the Middle Fork of the Willamette. At the Green Peter Dam Tailrace, the single RST is placed to sample fish passing through spillways, regulating outlets, and powerhouse outlets. The RST at Dexter Dam is placed to monitor fish passage through the spillways and powerhouse outlets. The RST in the Fall Creek Dam Tailrace is placed in a position to sample fish passing through the regulating outlet.

The RST on the North Santiam River below Big Cliff Dam was not sampled while fish passage measures were not being implemented from 16 February 2022 to 14 March 2022. Sampling resumed on 15 March 2022 in accordance with Task 2.2.

Above reservoir sites include Fall Creek Head of Reservoir, Lookout Point Head of Reservoir on the Middle Fork Willamette River, Foster Dam Head of Reservoir- South Santiam, and Cougar Dam Head of Reservoir on the South Fork McKenzie.

Sampling start dates are included in Table 2, and season total collection numbers are displayed in Table 3. The locations of the RST's are depicted in Figures 1 through 10.

Figure 1. Big Cliff RST Location

Figure 2. Green Peter Tailrace- Middle Santiam River RST Location

Figure 3. Foster Dam Head of Reservoir- South Santiam RST Location

Figure 4. Cougar Dam RST Locations

Figure 5. Cougar Dam Head of Reservoir RST Location

Figure 6. Fall Creek Dam Tailrace RST Location

Figure 7. Fall Creek Head of Reservoir RST Location

Figure 8. Dexter Dam RST Location

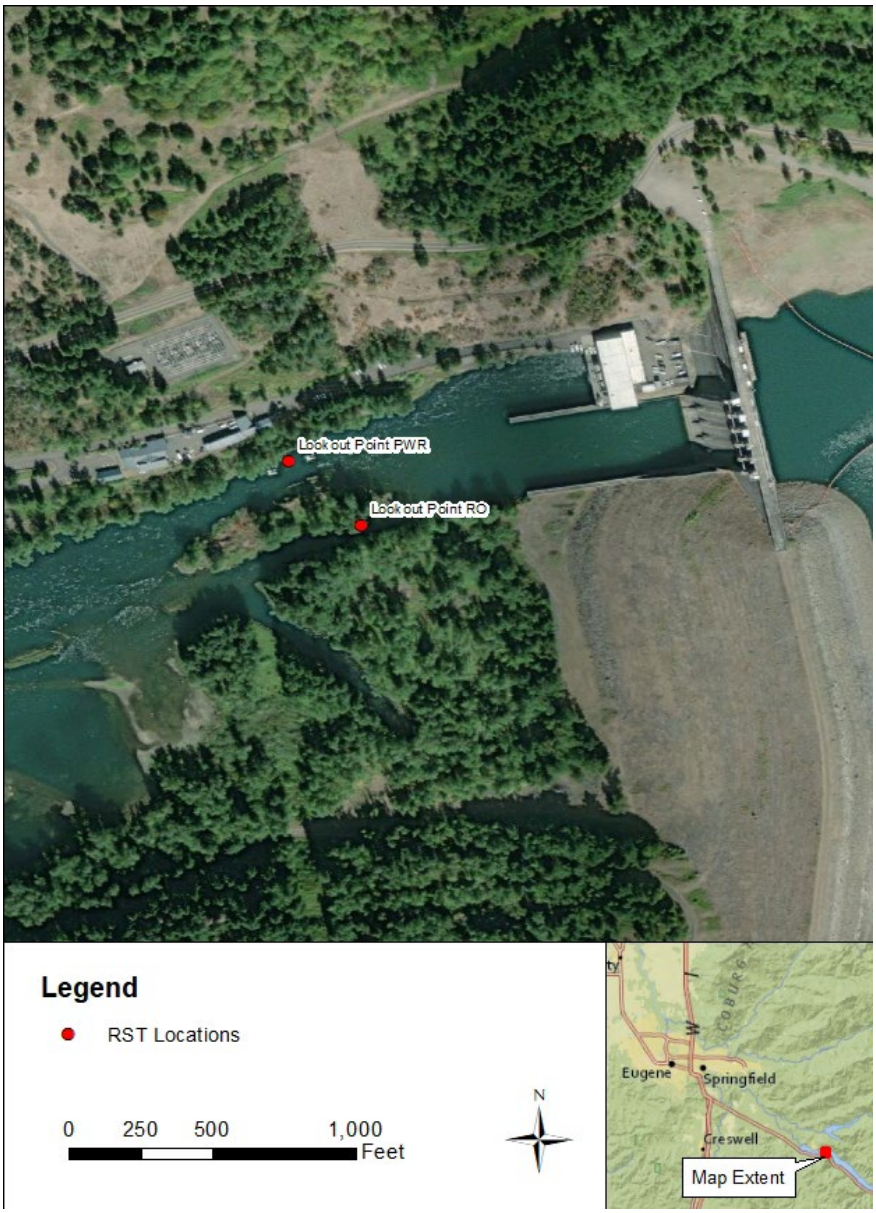


Figure 9. Lookout Point Dam Tailrace RST Location

Figure 10. Lookout Point Head of Reservoir RST Location

Table 2. Sampling Dates for Reporting Period

Site	Total Sampling Period Start	Current Reporting Period Start	Current Reporting Period End	Days Sampled This Period	Total Days Sampled
Big Cliff Dam	12/1/2021	5/01/2022	5/15/2022	6	127
Green Peter Tailrace- Middle Santiam River	3/2/2022	5/01/2022	5/15/2022	7	67
Foster Dam Head of Reservoir- South Santiam	3/16/2022	5/01/2022	5/15/2022	11	57
Cougar Dam PH	12/1/2021	5/01/2022	5/15/2022	15	166
Cougar Dam RO	12/1/2021	5/01/2022	5/15/2022	14	165
Cougar Dam Head of Reservoir	3/7/2022	5/01/2022	5/15/2022	12	60
Fall Creek Dam Tailrace*	3/15/2022	5/01/2022	5/15/2022	15	62
Fall Creek Head of Reservoir	1/13/2022	5/01/2022	5/15/2022	12	120
Dexter Dam Tailrace	3/7/2022	5/01/2022	5/15/2022	14	69
Lookout Point Dam	3/15/2022	5/01/2022	5/15/2022	11	58
Lookout Point Head of Reservoir	3/10/2022	5/01/2022	5/15/2022	10	72

*Fall Creek Dam Tailrace trap was being operated by the Corps until EAS began sampling the site on March 15th per Task 7.1

Table 3. Willamette Valley Rotary Screw Trap Monitoring Catch Summary

Site	Species	Catch (Reporting Period)	Recaptures (Reporting Period)	Total Catch	Total Recaptures
Big Cliff Dam	CHS	51	0	451	40
Big Cliff Dam	STW	2	0	10	0
Green Peter Tailrace- Middle Santiam	CHS	0	9	0	13
Green Peter Tailrace- Middle Santiam	STW	0	0	6	0
Foster Dam Head of Reservoir- South Santiam	CHS	7	0	61	0
Foster Dam Head of Reservoir- South Santiam	STW	13	0	84	1
Cougar Dam	CHS	262	0	1080	152
Cougar Dam Head of Reservoir	CHS	21	0	350	41
Fall Creek Dam Tailrace	CHS	0	0	0	0
Fall Creek Head of Reservoir	CHS	0	0	7	1
Dexter Dam Tailrace	CHS	14	43	16	45
Lookout Point Dam	CHS	19	0	21	2
Lookout Point_Head of Reservoir	CHS	1	0	57	72

North Santiam – Big Cliff Dam

The RST on the North Santiam River below Big Cliff Dam was not sampled while fish passage measures were not being implemented from 16 February 2022 to 14 March 2022. Sampling resumed on 15 March 2022 in accordance with Task 2.2. The RST had to be temporarily removed from 6 May 2022 to 13 May 22 due to high flows at the site that could have damaged the trap.

Target Species

This reporting period began on May 1 and ended on May 15. There was a total of 51 Chinook salmon (CHS) and 2 Winter Steelhead (STW) captured during the 15-day sampling period (Figure 11). Sampling duration was 40% for the RST. The trap was not sampling from the 3rd to the 13th due to high flows that necessitated removing the trap from the site. Table 4 provides life stage, length, and weight data for all Chinook salmon and Winter Steelhead that have been caught at the Big Cliff Dam site to-date and for the reporting period. Figure 12 shows length frequency data to-date.

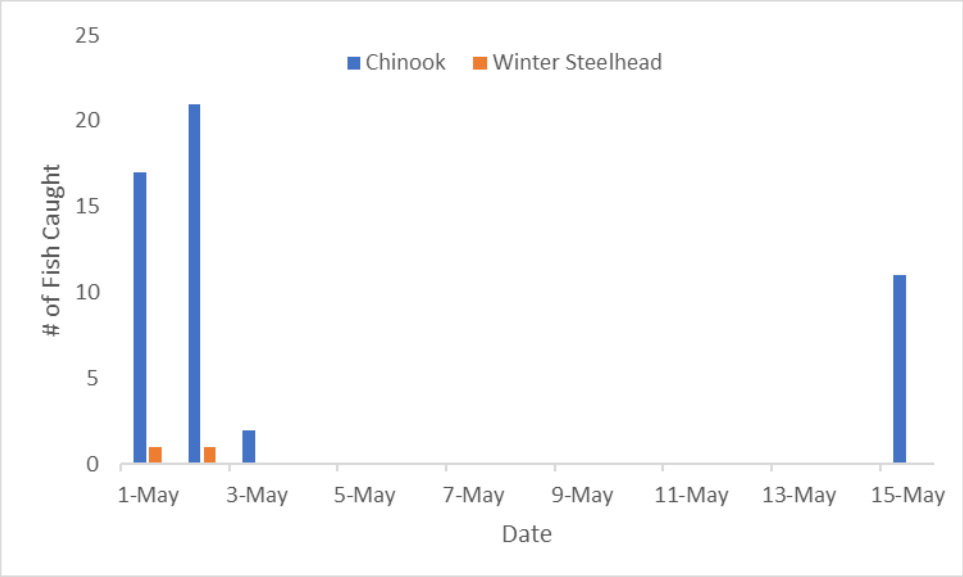


Figure 11. Chinook and Winter Steelhead Captured per day 05/01/2022 to 05/15/2022 (Big Cliff)

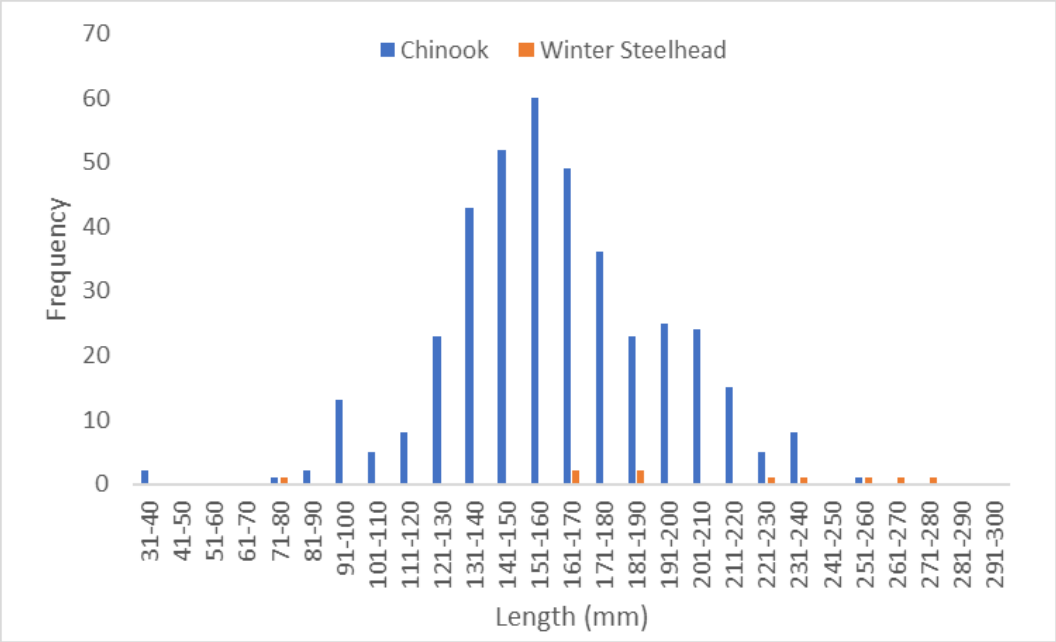


*Figure does not include fish without heads

Figure 12. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled Season To-Date (Big Cliff)

Trapping Efficiency

A total of 996 juvenile hatchery Chinook (parr) were bismarck brown dyed, adipose clipped and released on 12/22/2021 below Big Cliff Dam. A total of 39 fish were recaptured in the 8ft trap 12/23/2021, with 1 more fish captured in the 8ft trap 02/15/2022 for a total of 40 recaptures. Trapping efficiency was 4.01%.

Of the 40 fish recaptured, only the 1 fish that was captured on 2/15/2022 had injuries present. The 39 fish recaptured on 12/23/2021 had no injuries present. The injured fish had copepods on its fins and in the branchial cavity. Mt. Hood Environmental staff noted that fish appeared to be in good condition upon retrieval from the hatchery.

Big Cliff Dam	Release #	Recapture #	Capture Efficiency
8ft Trap	996	40	4.01% (40/996)

Table 4. Descriptive Statistics of Target Species Captured at Big Cliff Dam Season To-Date

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Big Cliff	PWR	CHS	Fry	2	32	33	32.5	N/A	N/A	N/A	
		CHS	Parr	19	78	130	101.2	6.1	20.1	11.9	
		CHS	Smolt	380	108	260	164.9	11.7	180.6	46.9	
		STW	Parr	1	75	75	75	5.2	5.2	5.2	
		STW	Smolt	9	161	280	218.3	38.4	230.5	104.8	

*Fish that were missing heads are not included in length and weight calculations.

May 1-15, 2022										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Big Cliff	PWR	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Smolt	51	108	234	155.0	12.5	128	42.1
		STW	Parr	1	75	75	75	5.2	5.2	5.2
		STW	Smolt	1	224	224	224	78.8	78.8	78.8

*Fish that were missing heads are not included in length and weight calculations (1 BO and 1 HO fish for reporting period).

24-Hour Post Collection Holding Trial

30 Spring Chinook and 1 Winter Steelhead were captured during the current reporting period and held for 24 hours. 3 Chinook (10.0%) and 0 Winter Steelhead (0%) died in holding.

Injuries and Copepod Infection

Partial descaling <20% was observed in 34 of the 51 Chinook captured (66.7%) and 15 displayed descaling >20% (29.4%). 48 displayed body injury (94.1%) and 9 Chinook had eye injury (17.6%). 36 Chinook had copepods present in the branchial cavity (70.6%) and 7 had copepods on fins (13.7%). 7 displayed gas bubble disease (14.0%) (four level 1, one level 2, one level 3, and one level 4).

Partial descaling <20% was observed in 0 of the 2 Winter Steelhead captured (0%) and 0 displayed descaling >20% (0%). 0 displayed body injury (0%) and 0 Winter Steelhead had eye injury (0%). 1 Winter Steelhead had copepods present in the branchial cavity (50.0%) and 0 had copepods on fins (0%).

Table 5. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon and Winter Steelhead for Sampling Period. (Big Cliff Dam).

Site	Species	# Fish Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Big Cliff Dam	Chinook	51	34	15	48	9	36	7	13
Big Cliff Dam	Winter Steelhead	2	0	0	0	0	1	0	0

Non-Target Species

4 non-targets were captured during this sampling period. A summary of to-date non-target species catch and mortality numbers are listed in Table 6.

Table 6. Summary of Non-target Species (Big Cliff Dam)

Species	PWR Capture	PWR Mortality	Season Total	Season Total Mortality
Bluegill	3	0	17	4
Brook Lamprey	0	0	0	0
Bullhead	0	0	1	0
Crappie	0	0	0	0
Longnose Dace	0	0	0	0
Kokanee	1	0	104	38
Red-Sided Shiner	0	0	0	0
Sculpin	0	0	0	0
Spotted Bass	0	0	0	0
Sucker	0	0	0	0
Whitefish	0	0	4	0
Cutthroat	0	0	3	0

O. mykiss (clipped)	0	0	1	0
Pumpkinseed	0	0	3	2
Unknown	0	0	2	0
Totals	**4**	**0**	**131**	**44**

Stream Statistics

Basic stream statistics at the Big Cliff Dam site were calculated from data downloaded from U.S. Geological Survey stream gage numbers 14181410 and 14181500. Gage height (feet) is the only metric provided at gage 14181410. Total dissolved gas (TDG) saturation data was received from gage 14181500, 1 rkm downstream of the trap. During the reporting period, daily maximum values for instantaneous gage height ranged from 1,111.7 feet to 1,118.5 feet (mean: 1,115.1 feet). Figure 13 shows instantaneous gage height.

Total dissolved gas saturation ranged from 102 to 135% during the reporting period (mean: 119.9%). Figure 14 shows total dissolved gas saturation.

Stream temperatures were recorded every 2 hours for the length of the report period at the RST (Figure 15). Temperature probes operated normally throughout this reporting period.

Flows through the Powerhouse and Spill during the reporting period averaged 3,800.9 and 2,407.9 cubic feet per second (cfs) (Figure 16). Catch per unit of effort (CPUE) data are summarized in Table 7. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 7. Summary of salmonid CPUE, Big Cliff Dam.

	Chinook	Winter Steelhead
Description	**(8 ft)**	**(8 ft)**
Catch	51	2
Effort (hrs)	118.3	118.3
CPUE (fish/hr)	0.431	0.017

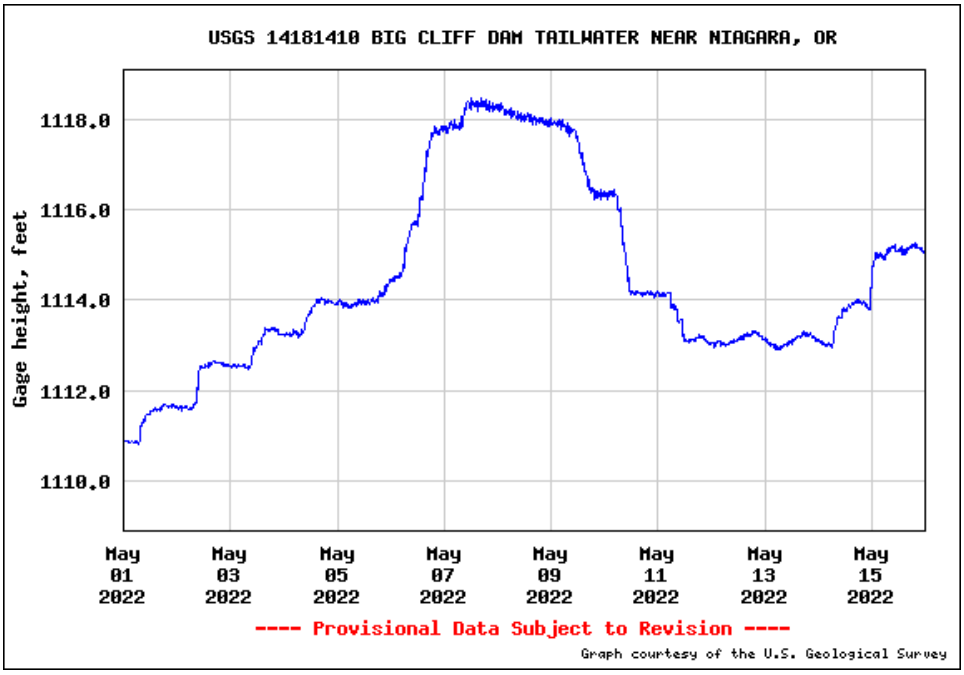


Figure 13. Gage height (ft); below Big Cliff Dam

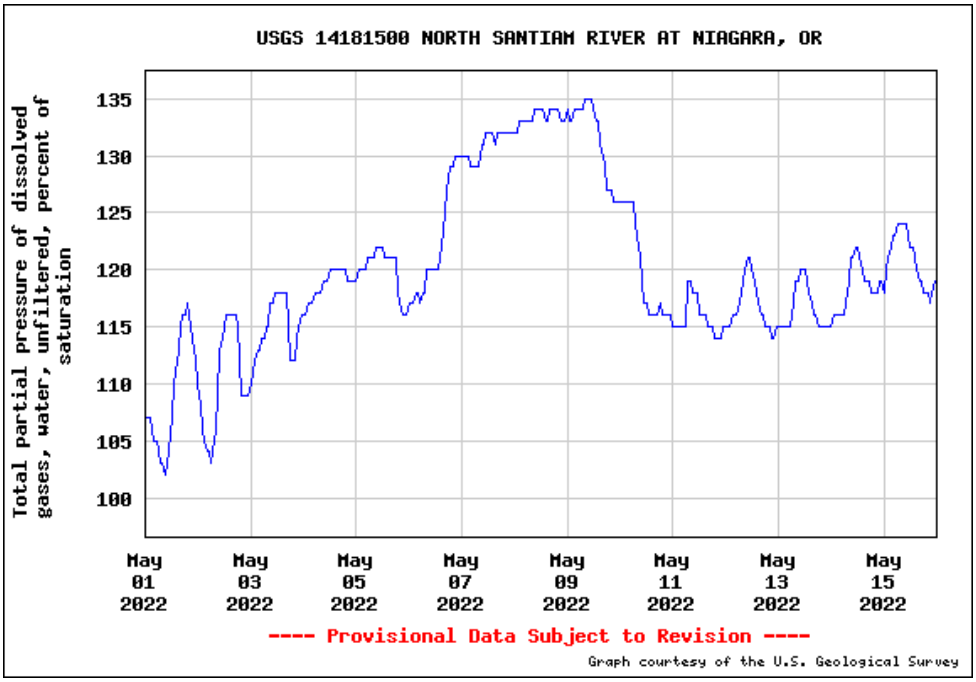


Figure 14. Total Dissolved Gas Saturation (%); below Big Cliff Dam

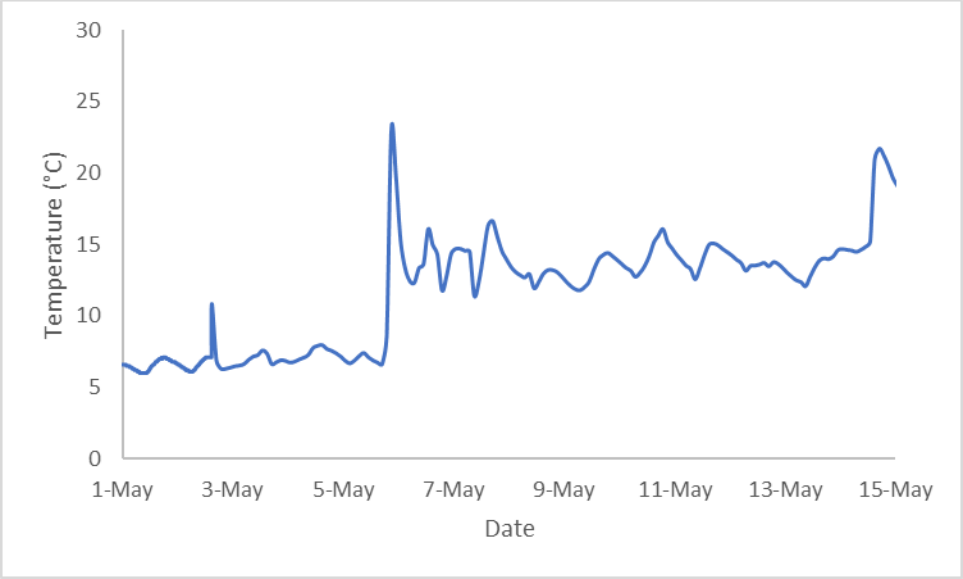


Figure 15. Temperature at RST (Big Cliff Dam)

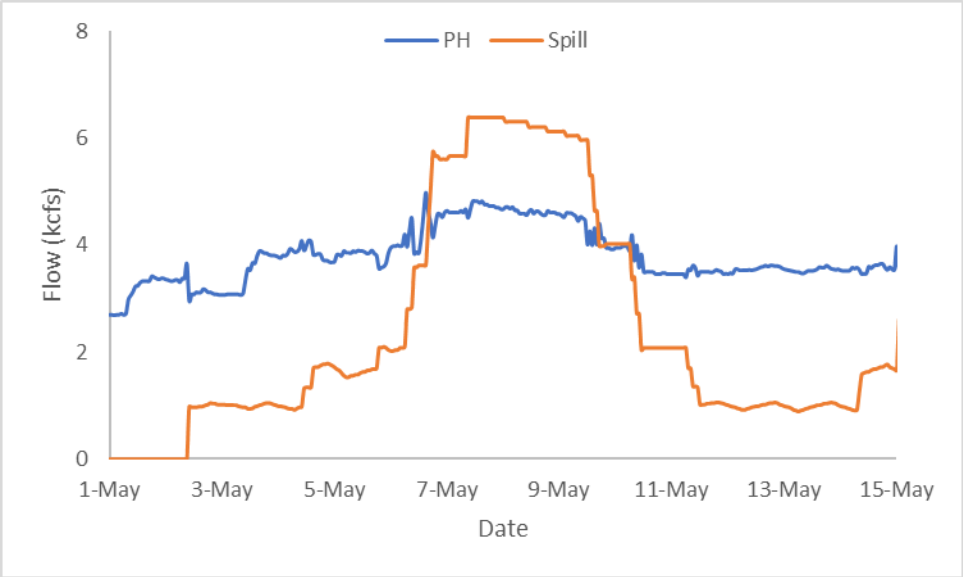
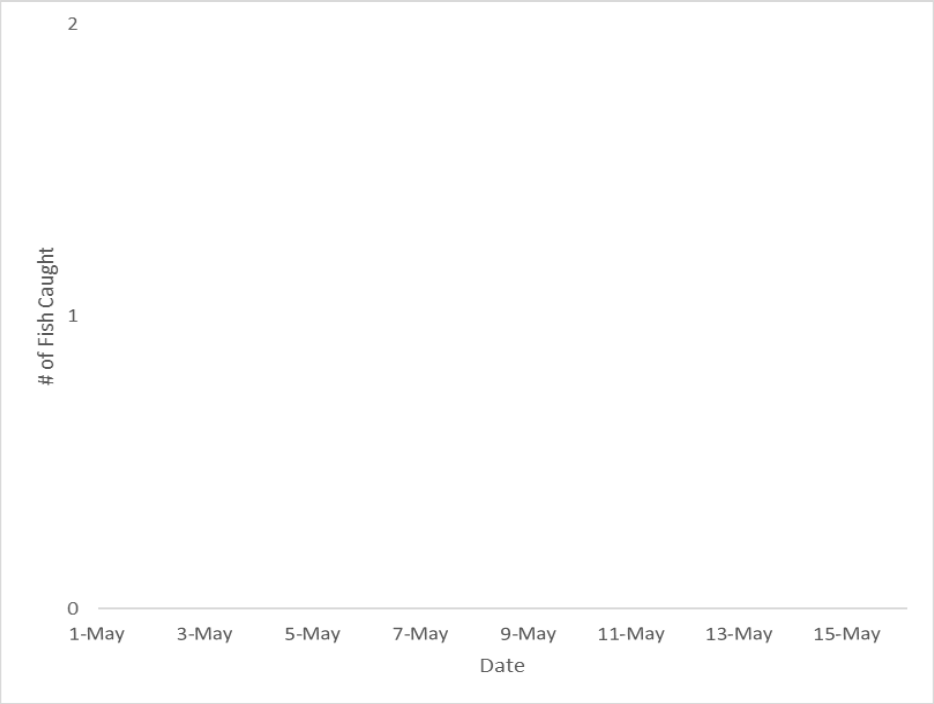


Figure 16. Hourly Flows PWR vs. RO (Big Cliff Dam)

Middle Fork Santiam– Green Peter Tailrace

Target Species

This reporting period began on May 1 and ended on May 15. No Chinook Salmon (CHS) or Winter Steelhead (STW) were captured during the 15-day sampling period (Figure 17). Sampling duration was 46% for the RST. The trap was raised to the non-sampling position on the 7th due to highline damage after flows were raised to ~4,000 cfs. The RST was removed on the 12th to prevent further damage from expected high flows. Table 8 provides life stage, length, and weight data for all target species that have been caught at the Green Peter Dam site to-date and for the reporting period. Figure 17 shows the daily capture numbers for Chinook and Winter Steelhead and Figure 18 shows length frequency data to-date.



*Recaptured fish for trapping efficiency trials not included.

Figure 17. Chinook and Winter Steelhead Captured Per Day 05/01/2022 to 05/15/2022 (Green Peter Tailrace- Middle Santiam)

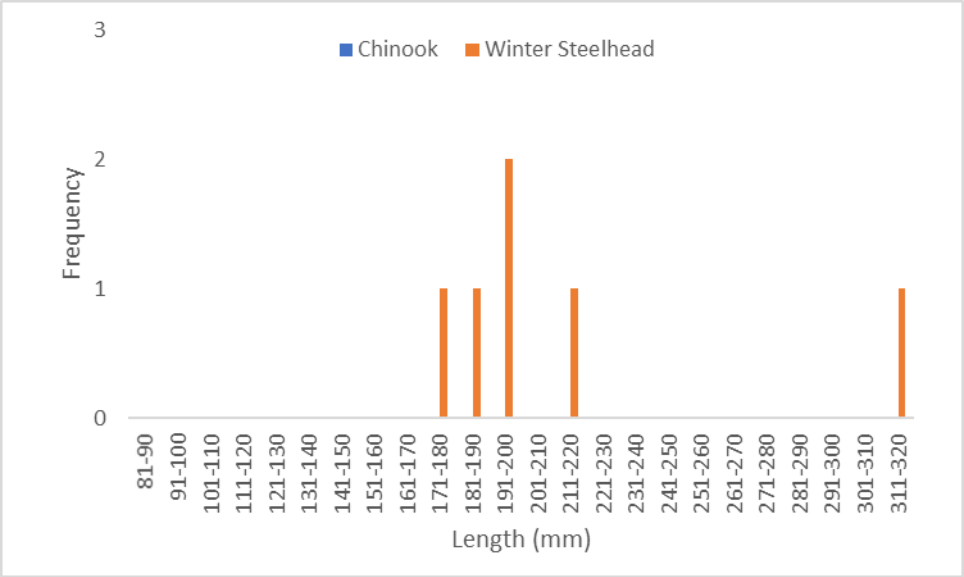


*Figure does not include fish without heads or fish used for trapping efficiency trials.

Figure 18. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled Season To-Date (Green Peter Tailrace- Middle Santiam River)

Trapping Efficiency

A total of 518 juvenile hatchery Chinook (parr) were bismarck brown dyed, adipose clipped and released on 4/30/2022 below Green Peter Dam. A total of 9 fish were recaptured in the 8ft trap on 5/1/2022. Trapping efficiency was 1.74%.

Of the 9 fish recaptured, only 1 fish that was captured had injuries present. The injured fish displayed fin damage. Mt. Hood Environmental staff noted that fish appeared to be in good condition upon retrieval from the hatchery.

Green Peter Dam Tailrace- Middle Santiam	Release #	Recapture #	Capture Efficiency
8ft Trap	518	9	1.74% (9/518)

Table 8. Descriptive Statistics of Target Species Captured at the Green Peter Tailrace-Middle Santiam River Season To-Date

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Green Peter Dam Tailrace-Middle Santiam	Spill	STW	Parr	0	0	0	0	0	0	0	
		STW	Smolt	6	175	320	213.7	46.2	316.1	107.1	

May 1-15, 2022											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Green Peter Dam Tailrace-Middle Santiam	Spill	STW	Parr	0	0	0	0	0	0	0	
		STW	Smolt	0	0	0	0	0	0	0	

*Fish that were missing heads are not included in length and weight calculations.

24-Hour Post Collection Holding Trial

No target species were captured during the current reporting period.

Injuries and Copepod Infection

No Spring Chinook were captured at Green Peter Dam; therefore, no injuries were reported for Spring Chinook. No Winter Steelhead were captured during this reporting period. A summary of injuries observed on Winter Steelhead during the reporting period is provided in Table 9, and target species injuries for the duration of the season are provided in Appendix A.

Table 9. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period. (Green Peter Tailrace- Middle Santiam River).

Site	Trap	# Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Green Peter	8 ft	0	0	0	0	0	0	0	0

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Collected DNA and Scale Samples

No target fish were captured for the reporting period and thus, no scale or DNA samples were collected.

Non-Target Species

A total of 30 non-target species fish were captured during the reporting period; the data is summarized below in Table 10. 1 Kokanee displayed Gas Bubble Disease (level 2).

Table 10. Summary of Non-target Species (Green Peter Tailrace- Middle Santiam River).

Species	Capture	Mortality	Season Total Capture	Season Total Mortality
Bluegill	20	10	86	59
Brook Lamprey	0	0	0	0
Bullhead	0	0	0	0
Crappie	0	0	0	0
Longnose Dace	0	0	0	0
Kokanee	10	7	125	61
Red-Sided Shiner	0	0	0	0
Sculpin	0	0	0	0
Smallmouth Bass	0	0	1	0
Sucker	0	0	2	2
Whitefish	0	0	0	0
Cutthroat	0	0	0	0
O. mykiss (clipped)	0	0	4	2
Totals	**30**	**17**	**188**	**107**

Stream Statistics

Basic stream statistics at the Green Peter Dam Tailrace- Middle Santiam site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14186110 and 14186200. Gage height (feet) is the only metric provided at gage 14186110. Total dissolved gas saturation data was received from gage number 14186200, 50 meters upstream of the trap. During the reporting period, daily maximum values for instantaneous gage height ranged from 692.3 feet to 706.1 feet (mean: 699.9 feet). Figure 18 shows instantaneous gage height.

Total dissolved gas saturation ranged from 102 to 122% (mean:105.6%) during the reporting period. Figure 20 shows the total dissolved gas saturation.

Stream temperatures were recorded every 2 hours for the length of the report period for the RST (Figure 21). Temperature probes operated normally throughout this reporting period.

Flows through the Powerhouse and Spillway during the reporting period averaged 2,404.5 and 514.4 cubic feet per second (cfs) respectively (Figure 22). Catch per unit of effort (CPUE) data are summarized in Table 11. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 11. Summary of salmonid CPUE, Green Peter Tailrace- Middle Santiam River.

	Chinook	Winter Steelhead
Description	8ft	8 ft
Catch	0	0
Effort (hrs)	167.3	167.3
CPUE (fish/hr)	0	0

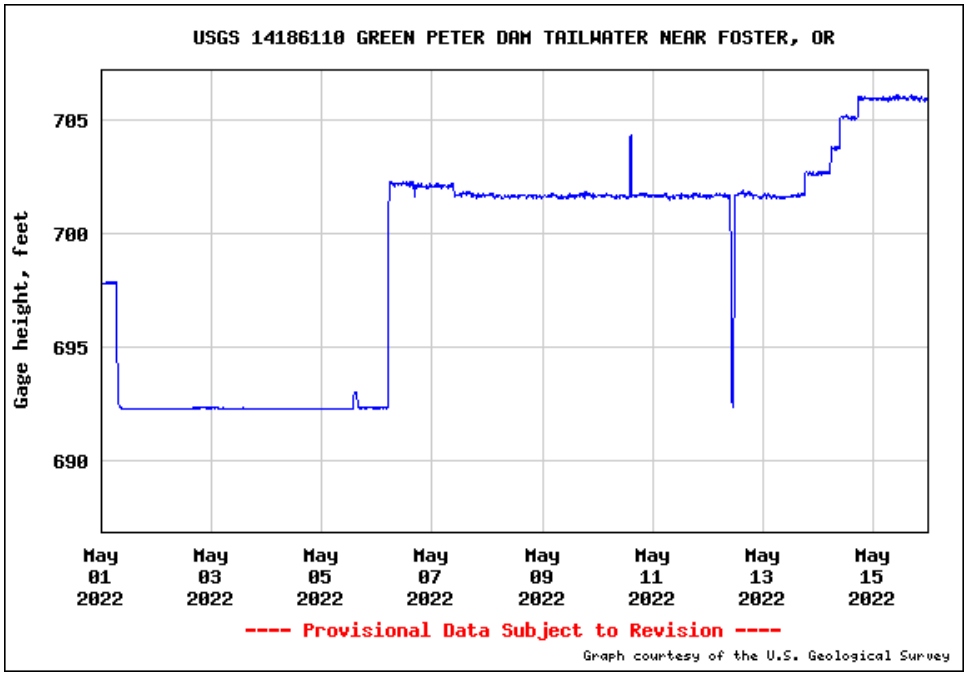


Figure 19. Gage Height (feet); below Green Peter Dam

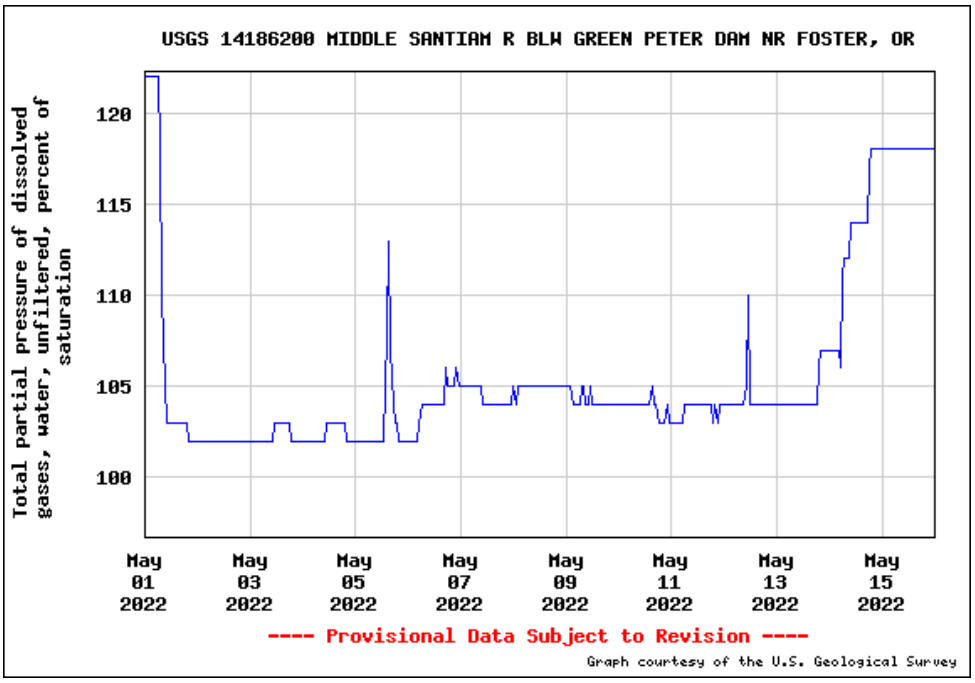
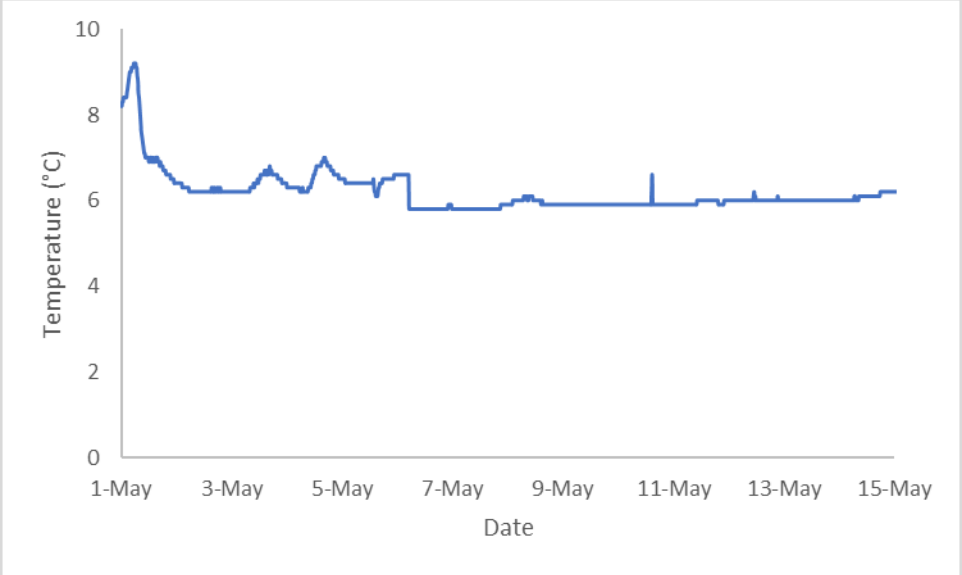


Figure 20. Total Dissolved Gas Saturation (%); below Green Peter Dam



Note: Hobo logger was removed with the trap during reporting period. Temperature supplemented with USGS stream gage number 14186200, at trap location.

Figure 21. Temperature at RST (Green Peter Tailrace- Middle Santiam River)

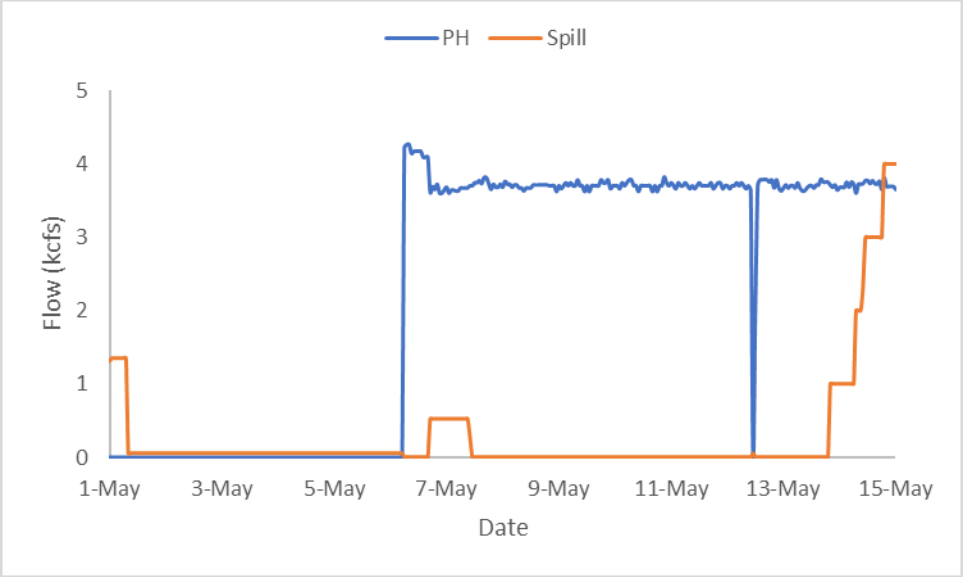


Figure 22. Hourly Flows PWR vs. Spill (Green Peter Dam)

South Fork Santiam– Foster Dam Head of Reservoir

Target Species

This reporting period began on May 1 and ended on May 15. There were a total of 7 Chinook salmon (CHS) and 13 Winter Steelhead captured (Figure 23) during the 15-day sampling period. Sampling duration was 73% for the RST. Table 12 provides life stage, length, and weight data for all Chinook Salmon and Winter Steelhead that have been caught at the Foster Dam Head of Reservoir- South Santiam site to-date and for the reporting period. Figure 23 shows the daily capture numbers for Chinook and Winter Steelhead and Figure 24 shows length frequency data to-date for both species.

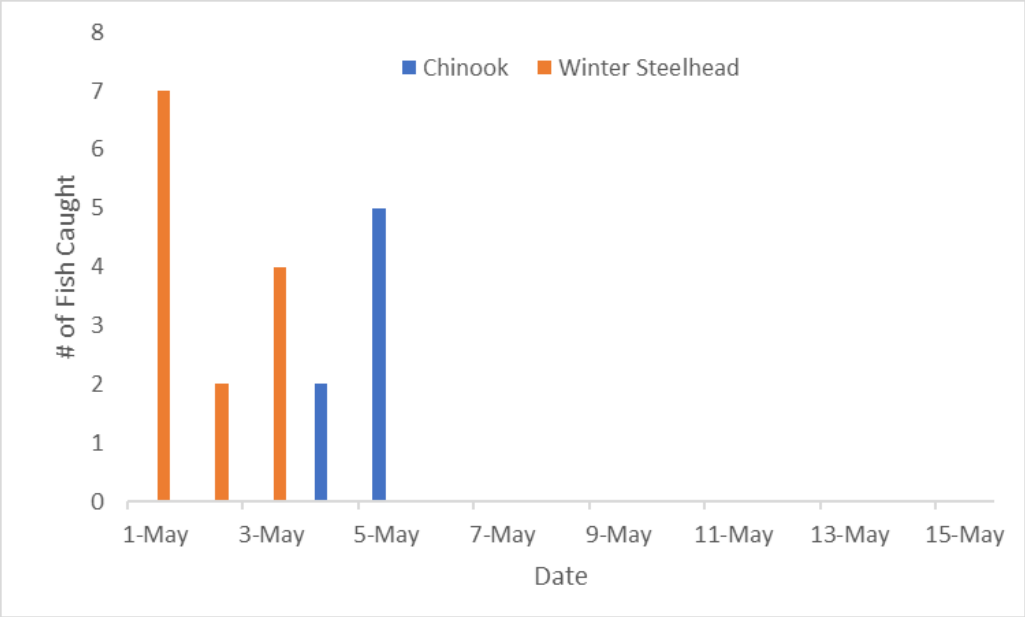


Figure 23. Chinook and Winter Steelhead Captured Per Day 05/01/2022 to 05/15/2022 (Foster Dam Head of Reservoir- South Santiam)

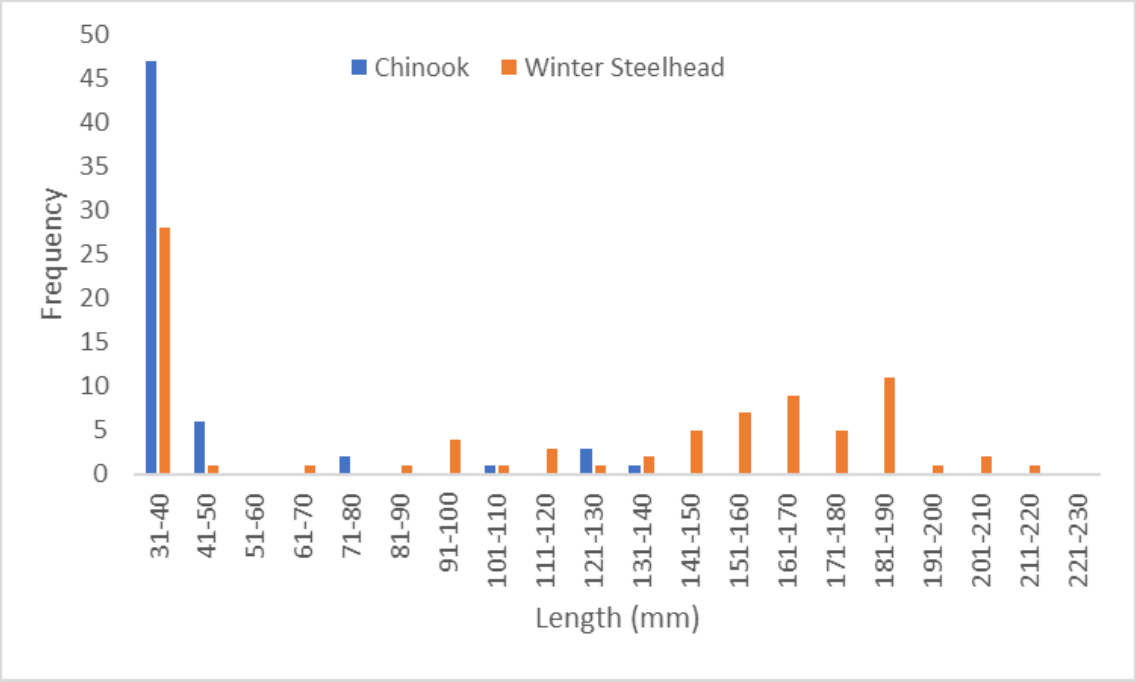


Figure 24. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled Season To-Date (Foster Dam Head of Reservoir- South Santiam)

Trapping Efficiency

10 Chinook and 56 Winter Steelhead have been caudal clipped and released upstream for the purpose of conducting run of river trapping efficiency trials. To date, one of the released Winter Steelhead has been recaptured. Currently, trapping efficiency for Winter Steelhead is 1.8%. Only fish large enough to be safely caudal clipped have been used for efficiency trials.

Table 12. Descriptive Statistics of Target Species Captured at the Foster Dam Head of Reservoir- South Santiam Site Season To-Date

To-Date										
Site	Trap	Species	Life stage	Collected	Length (mm)*		Weight (g)*			
					Min	Max	Mean	Min	Max	Mean
Foster Dam Head of Reservoir- South Santiam	5 ft	CHS	Fry	54	32	49	35.7	N/A	N/A	N/A
		CHS	Parr	4	73	127	97	3.1	24.7	11.7
		CHS	Smolt	3	120	138	129	19.6	27.5	23.5
		STW	Fry	29	31	46	35.0	N/A	N/A	N/A
		STW	Parr	13	65	183	118.5	2.4	63.6	22.6
		STW	Smolt	42	112	213	168.7	11.2	75.3	47.4
May 1-15, 2022										
Site	Trap	Species	Life stage	Collected	Length (mm)*		Weight (g)*			
					Min	Max	Mean	Min	Max	Mean
Foster Dam Head of Reservoir- South Santiam	5 ft	CHS	Fry	7	32	43	38.4	N/A	N/A	N/A
		CHS	Parr	0	0	0	0	0	0	0
		CHS	Smolt	0	0	0	0	0	0	0
		STW	Fry	4	33	36	34.5	N/A	N/A	N/A
		STW	Parr	1	65	65	65.0	2.4	2.4	2.4
		STW	Smolt	8	112	205	167.4	11.2	70.1	45.1

*Most fry are too small to collect accurate weight measurements in the field.

Injuries and Copepod Infection

Partial descaling <20% was observed in 0 of the 7 Chinook captured (0%) and 0 displayed body injury (0%). No Chinook had eye injuries or copepods present. Partial descaling <20% was observed on 0 of the 7 Winter Steelhead captured (0%). Body injuries were present on 2 Winter Steelhead (15.4%) and 0 displayed eye injury (0%). No copepods were present on any of the Winter Steelhead captured (0%). A summary of injuries observed during the reporting period are provided in Table 13, and for the duration of the season are provided in Appendix A.

Table 13. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon and Winter Steelhead for Sampling Period. (Foster Dam Head of Reservoir- South Santiam).

Site	Species	# Fish Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Foster Dam Head of Reservoir- South Santiam	Chinook	7	0	0	0	0	0	0	0
	Winter Steelhead	13	0	0	2	0	0	0	0

Collected DNA and Scale Samples

For the reporting period, scales and DNA were collected from 9 Winter Steelhead and no Spring Chinook. All other target fish were too small to sample (less than 45 mm fork length for DNA and less than 50 mm fork length for scales).

Non-Target Species

Two non-target species fish were captured during the reporting period; the data is summarized below in Table 14.

Table 14. Summary of Non-target Species (Foster Dam Head of Reservoir).

Species	PWR Capture	PWR Mortality	Season Total	Season Total Mortality
Bluegill	0	0	0	0
Brook Lamprey	0	0	0	0
Bullhead	0	0	0	0
Crappie	0	0	0	0
Longnose Dace	2	0	3	0
Kokanee	0	0	0	0
Red-Sided Shiner	0	0	0	0
Sculpin	0	0	0	0
Spotted Bass	0	0	0	0
Sucker	0	0	3	0
Whitefish	0	0	0	0
Cutthroat	0	0	28	0
O. mykiss	0	0	0	0
Pumpkinseed	0	0	0	0
Unknown	0	0	0	0
Totals	**2**	**0**	**32**	**0**

Stream Statistics

Basic stream statistics at the Foster Dam Head of Reservoir- South Santiam site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14185000. Discharge (cfs) and

Gage height (feet) are available at this gage. During the reporting period, daily maximum values for instantaneous discharge ranged from 1,870.0 cfs to 7,010.0 cfs (mean: 3,647.3 cfs). Figure 23 shows instantaneous discharge.

Stream temperatures were recorded every 2 hours for the length of the report period for the 5-foot RST (Figure 26). Temperature probes operated normally throughout this reporting period.

Catch per unit of effort (CPUE) data are summarized in Table 15. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 15. Summary of salmonid CPUE, Foster Dam Head of Reservoir- South Santiam.

	Chinook	Winter Steelhead
Description	**(5 ft)**	
Catch	7	13
Effort (hrs)	216.4	216.4
CPUE (fish/hr)	0.032	0.060

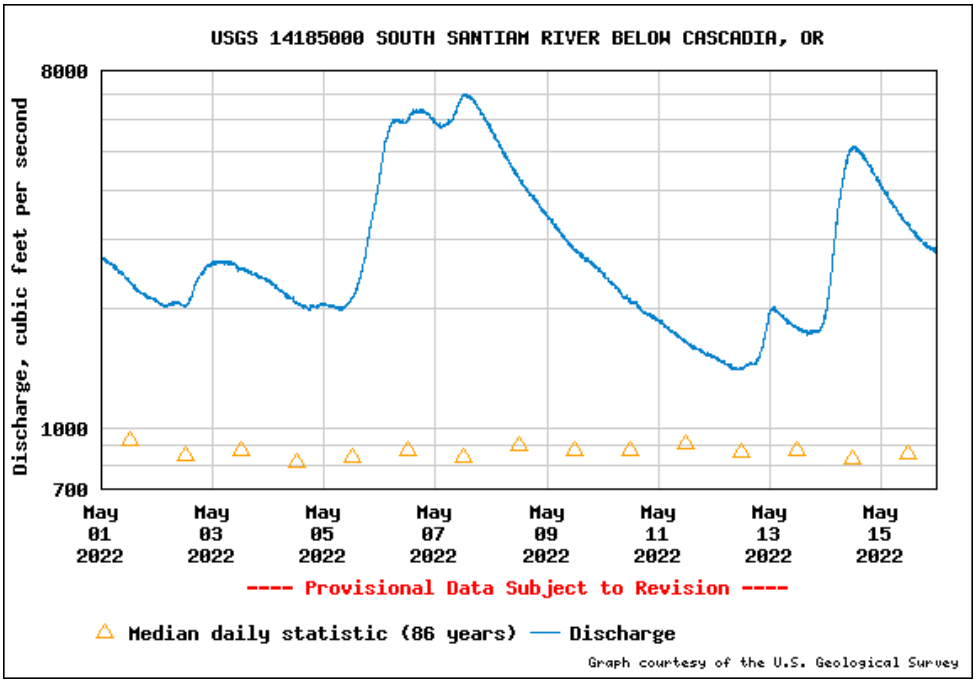


Figure 25. Discharge (cfs); Foster Dam Head of Reservoir – S. Santiam)

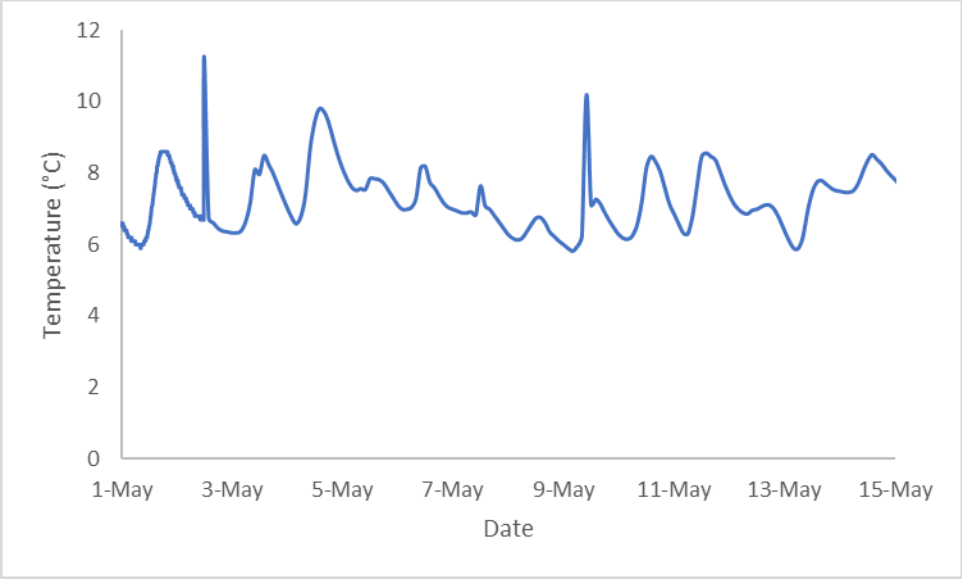
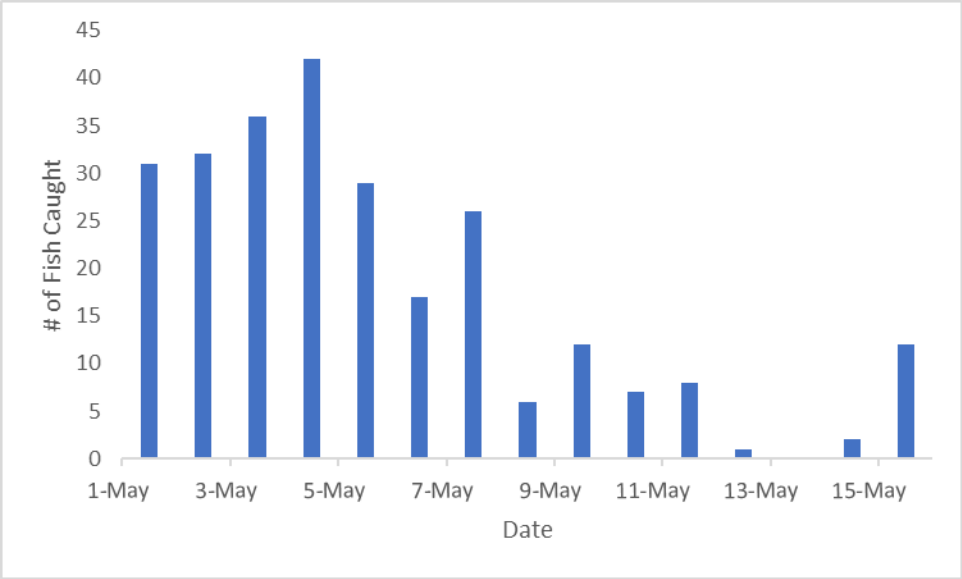


Figure 26. Temperature at RST (Foster Dam Head of Reservoir – S. Santiam)

South Fork McKenzie – Cougar Dam

Target Species

This reporting period began on May 1 and ended on May 15. There was a total of 262 Chinook Salmon (CHS) captured during the 15-day sampling period (Figure 27). Sampling duration was 100% for the Powerhouse RSTs and 93% for the RO RST. Table 16 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Cougar Dam site to-date and for the reporting period. Figure 27 shows the daily capture numbers for chinook and Figure 28 shows length frequency data to-date.



*Recaptured fish for trapping efficiency trials not included.

Figure 27. Chinook Captured Per Day 05/01/2022 to 05/15/2022 (Cougar Dam)

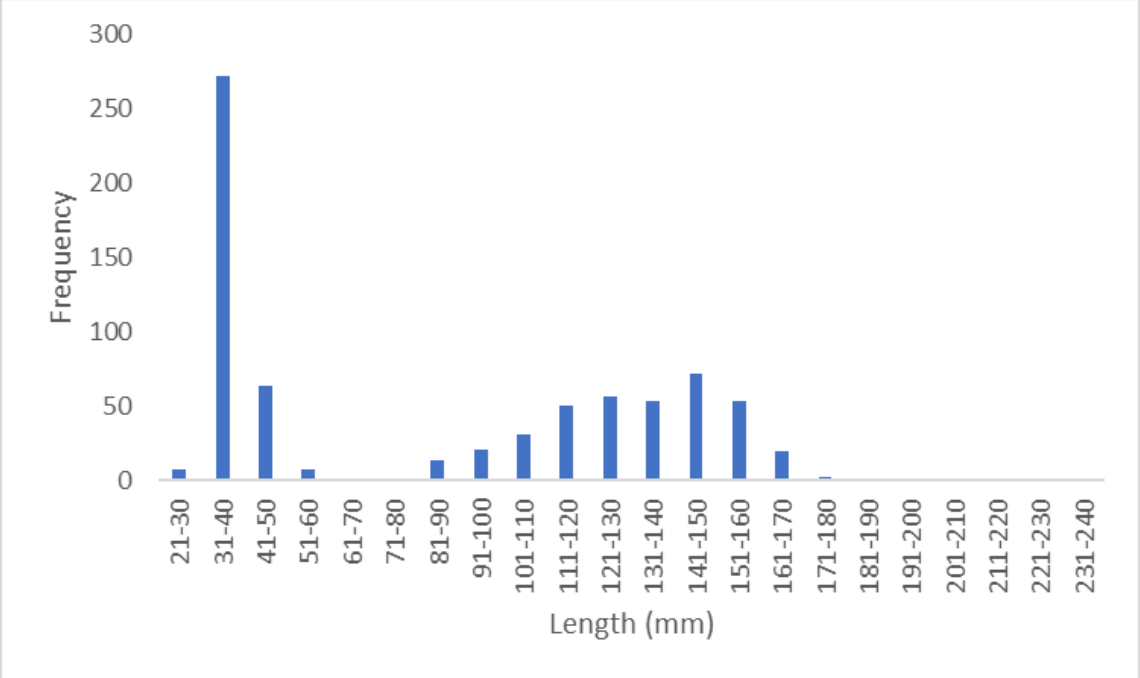


*Figure does not include fish without heads or fish used for trapping efficiency trials.

Figure 28. Length Frequency of Juvenile Chinook Sampled Season To-Date (Cougar Dam)

Trapping Efficiency

A total of 993 juvenile hatchery Chinook (sub-yearlings) were bismarck brown dyed, adipose clipped, left vent clipped and released on 05/15/2022. Traps were not checked until 05/16/2022. Efficiencies will be reported for this trial as part of the next reporting period.

A total of 735 juvenile hatchery Chinook (parr) were bismarck brown dyed, adipose clipped, left and right ventrally clipped and released on 04/20/2022 below Cougar Dam. 357 dyed, adipose, and left ventrally clipped fish were released below the PWR and 378 dyed, adipose, and right ventrally clipped fish were released below the RO to evaluate the efficiency of the screw traps at those locations. A total of 62 fish were recaptured in the 8ft PH traps and 21 in the 5ft RO trap during this reporting period. Route-specific trapping efficiency was 17.37% at the PH traps and 5.56% at the RO.

Of the 83 fish recaptured, 10 were dead and an additional 72 were injured. Injuries were descaling (67), eye hemorrhage (6), and fin damage (74). Mt. Hood Environmental staff noted that fish appeared to be in good condition upon retrieval from the hatchery with some descaling and fin damage as is expected in hatchery fish of this size.

Cougar Dam	Release #	Recapture #	Capture Efficiency
PH Route	357	62	17.37% (62/357)
RO Route	378	21	5.56% (21/378)

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Table 16. Descriptive Statistics of Target Species Captured at the Cougar Dam Season To-Date

To-Date										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam	RO	CHS	Fry	15	34	48	39.6	N/A	N/A	N/A
		CHS	Parr	129	56	164	108.2	1.2	41.1	14.6
		CHS	Smolt	210	92	230	140.0	8.8	86.1	29.1
Cougar Dam	PWR	CHS	Fry	331	27	47	37.5	N/A	N/A	N/A
		CHS	Parr	224	58	165	100.3	1.6	41.0	10.9
		CHS	Smolt	169	76	167	134.3	4.2	45.6	25.0

*Fish that were missing heads are not included in length and weight calculations.

May 1-15, 2022										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam	RO	CHS	Fry	2	43	44	43.5	N/A	N/A	N/A
		CHS	Parr	17	56	148	125.2	1.2	31.1	22.3
		CHS	Smolt	55	105	177	141.6	4.7	56.1	29.3
Cougar Dam	PWR	CHS	Fry	99	27	54	40.6	N/A	N/A	N/A
		CHS	Parr	10	58	119	97.4	1.6	22.1	12.0
		CHS	Smolt	79	94	165	132.7	8.9	45.6	23.9

*Fish that were missing heads are not included in length and weight calculations.

24-Hour Post Collection Holding Trial

A total of 134 Chinook captured in the RSTs, 91 fish from the PWR RST and 43 from the RO RST, were held for ~24 hours in holding tanks and then evaluated for survival rates. In total, 5 of the fish (3.7%) held during this period died during holding. 4 of the 91 PWR RST captured fish (4.4%) died during holding and 1 of the 43 RO RST captured fish (2.3%) died during holding.

Injuries and Copepod Infection

Partial descaling <20% was observed on 43 of 74 Chinook collected at the RO RST (58.1%), and descaling >20% was observed on 23 of 74 Chinook collected at the RO RST (31.1%). Of the 74 Chinook captured in the RO RST 49 displayed body injuries (66.2%) and 10 had eye injuries (13.5%). 41 of the RO RST Chinook had copepods present in the branchial cavity (55.4%) and 34 had copepods present on fins (45.9%). 9 RO RST Chinook displayed Gas Bubble Disease (12.2%) (four level 1, two level 2, two level 3, and one level 4). Partial descaling <20% was observed on 57 of the 188 Chinook collected at the PWR RST (30.3%). Descaling >20% was observed on 10 of the 188 Chinook collected at the PWR RST (5.3%). 43 PWR RST fish had bodily injury (22.8%) and 3 had eye injuries (1.6%). 47 fish had copepods present in the branchial cavity (25.0%) and 52 had copepods present on fins (27.7%). 2 fish displayed Gas Bubble Disease (level 1) (1.1%). There were 10 chinook mortalities collected in the RO RST (13.5%) and 13 in the PWR RST (6.9%). Data is summarized below in Table 17. A summary of injuries observed during the reporting period, and for the duration of the season are provided in Appendix A.

Table 17. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period. (Cougar Dam).

Site	Route	# CHS Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Cougar	RO	74	43	23	49	10	41	34	10
Cougar	PWR	188	57	10	43	3	47	52	13

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Non-Target Species

A total of 7 non-target species fish were captured during the reporting period; the data is summarized below in Table 18.

Table 18. Summary of Non-target Species (Cougar Dam).

Species	RO Capture	RO Mortality	PWR Capture	PWR Mortality	Season Total Capture	Season Total Mortality
Bluegill	0	0	0	0	0	0
Lamprey	0	0	0	0	1	0
Bullhead	0	0	0	0	0	0
Crappie	0	0	0	0	0	0
Dace	0	0	1	0	5	1
Kokanee	0	0	0	0	0	0
Red-Sided Shiner	0	0	0	0	0	0
Sculpin	0	0	2	0	26	0
Spotted Bass	0	0	0	0	0	0
Sucker	0	0	1	0	1	0
Whitefish	0	0	0	0	1	0
Cutthroat	0	0	0	0	28	1
O. mykiss	1	0	2	0	82	1
Bull Trout	0	0	0	0	1	0
Unknown	0	0	0	0	21	1
Totals	**1**	**0**	**6**	**0**	**159**	**4**

Stream Statistics

Basic stream statistics at the Cougar Dam site were calculated from data downloaded from U.S. Geological Survey stream gage numbers 14159410 and 14181500. Gage height (feet) is the only metric provided at gage 14159410. Total dissolved gas saturation data was received from gage 14181500, 500 meters downstream of the trap. During the reporting period, daily maximum values for instantaneous gage height ranged from 1,254.3 feet to 1,256.1 feet (mean: 1,254.9 feet). Figure 29 shows instantaneous gage height.

Total dissolved gas saturation ranged from 102 to 135% (mean: 119.9%). Figure 30 shows total dissolved gas saturation.

Stream temperatures were recorded every 2 hours for the length of the report period for the RO and PWR RST's (Figure 31 and 32 respectively). Temperature probes for the RO and PWR RST operated normally throughout this reporting period.

Flows through the Powerhouse and RO during the reporting period averaged 607.5 and 2,103.3 cubic feet per second (cfs) respectively (Figure 33). Catch per unit of effort (CPUE) data are summarized in Table 19. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 19. Summary of salmonid CPUE, Cougar Dam.

	Chinook	
Description	RO (5ft)	PWR(8ft)
Catch	74	188
Effort (hrs)	285.1	720.1
CPUE (fish/hr)	0.260	0.261

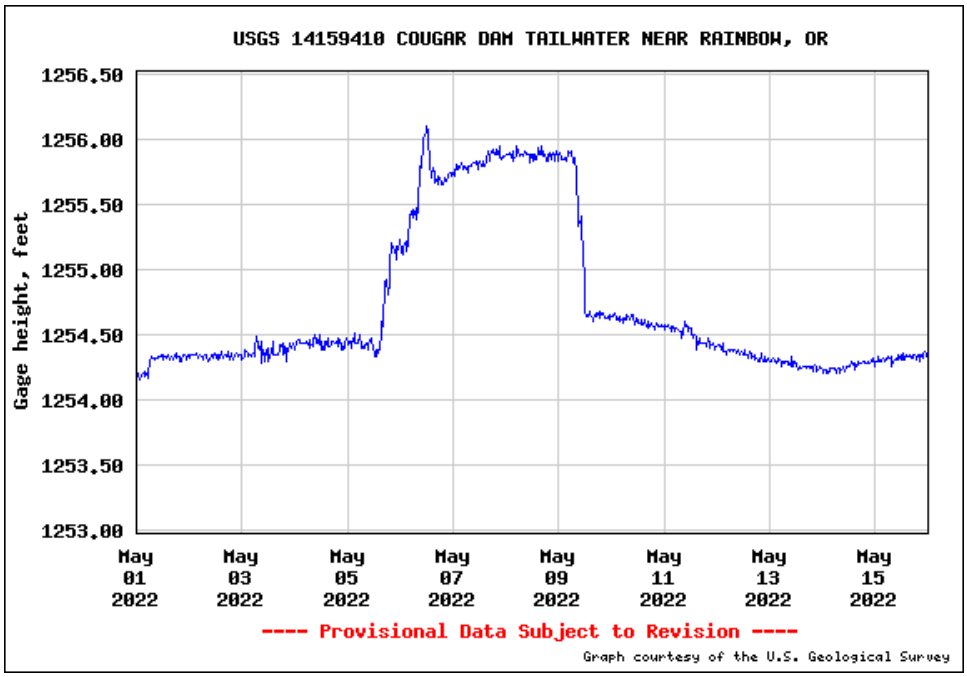


Figure 29. Gage Height (feet); below Cougar Dam, South Fork McKenzie River

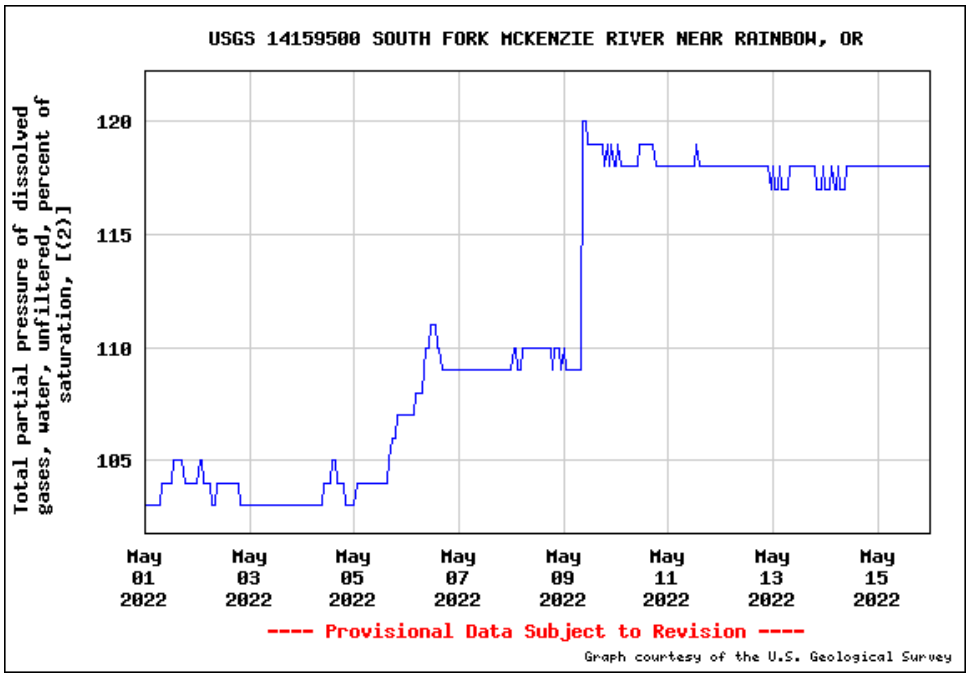


Figure 30. Total Dissolved Gas Saturation (%); below Cougar Dam, South Fork Mckenzie River

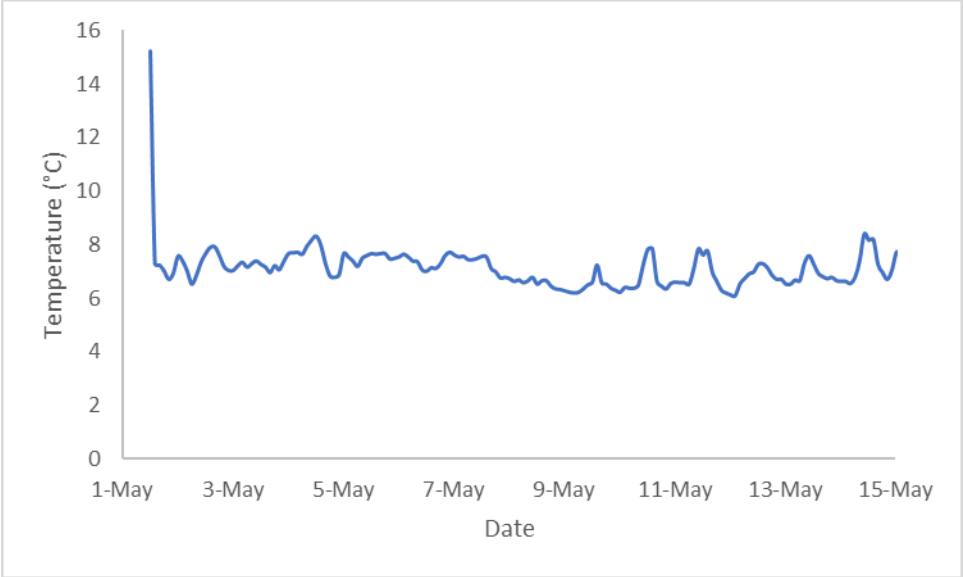


Figure 31. Temperature at RO RST (Cougar Dam)

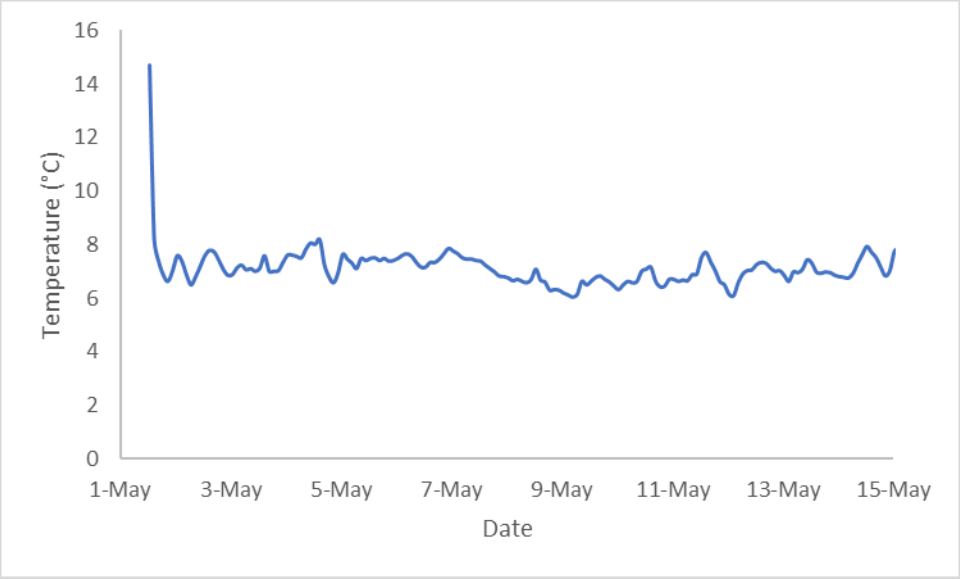


Figure 32. Temperature at PWR RST (Cougar Dam)

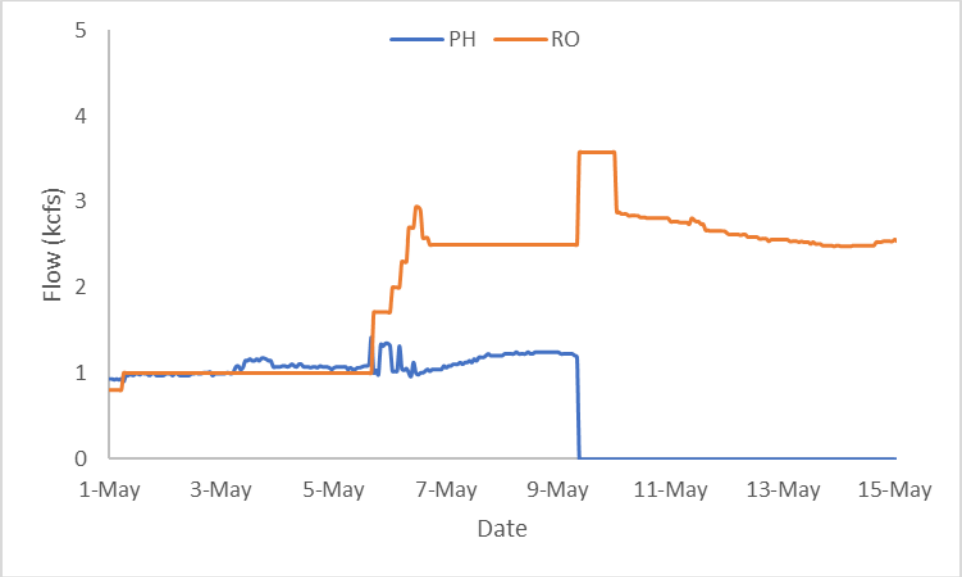


Figure 33. Hourly Flows PWR vs. RO (Cougar Dam)

South Fork of the McKenzie–Cougar Dam Head of Reservoir

Target Species

The reporting period began May 1 and ended May 15. 21 Chinook salmon were captured during the 15-day sampling period (Figure 34). The cone was raised into the non-sampling position on May 5th due to high flows and debris levels. Fishing resumed May 9th once conditions allowed for safe access and operation. Trap condition, river levels, and access were checked daily by RST crews during the sampling

outage. The trap was operated 80% of the reporting period. Table 20 provides life stage, length, and weight data for all Chinook salmon that have been caught at the site to-date and Figure 35 shows length frequency data to-date.

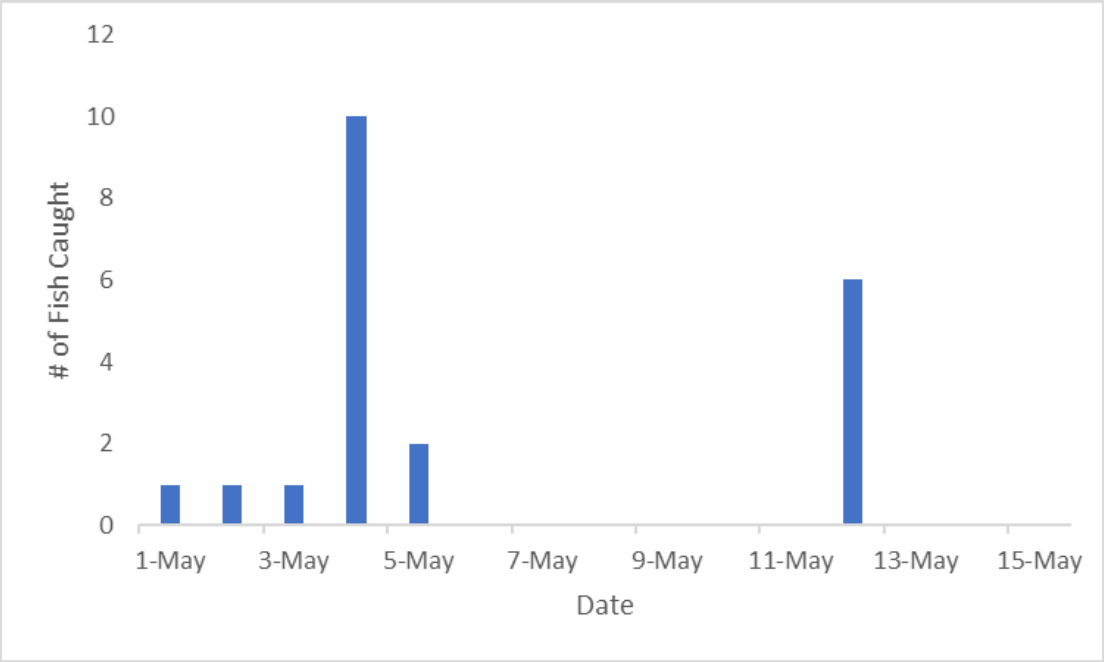


Figure 34. Chinook Captured Per Day 05/01/2022 to 05/15/2022 (Cougar Dam Head of Reservoir)

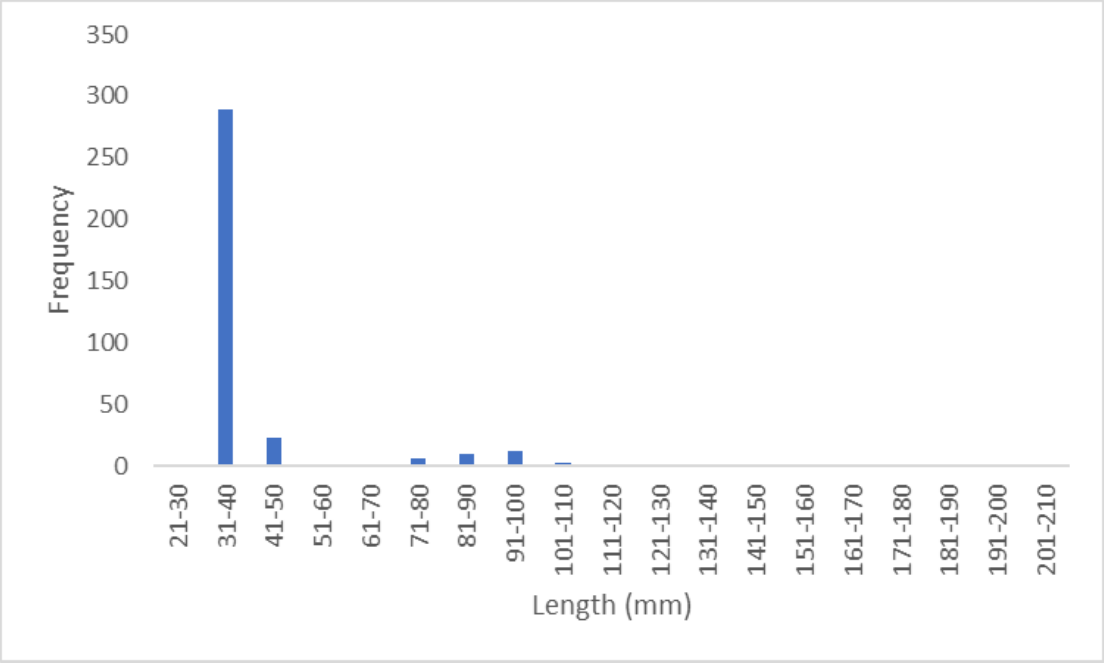


Figure 35. Length Frequency of Juvenile Chinook Sampled Season To-Date (Cougar Dam Head of Reservoir)

Table 20. Descriptive Statistics of Target Species Captured at Cougar Dam Head of Reservoir, Season To-Date and for the Reporting Period

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Cougar Dam Head of Reservoir	5 ft	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	36	58	150	90.3	2.3	11.2	7.4	
		CHS	Fry	314	28	49	36.4	N/A	N/A	N/A	

May 1-15, 2022											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Cougar Dam Head of Reservoir	5 ft	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	1	77	77	77	4.3	4.3	4.3	
		CHS	Fry	20	34	49	38.8	N/A	N/A	N/A	

***Most fry are too small to collect accurate weights and thus some metrics are not available for them.**

Trapping Efficiency

A total of 806 juvenile hatchery Chinook (smolt) were adipose clipped, left or right ventrally clipped and released on 03/18/2022 upstream of the Cougar Head of Reservoir trap site. A total of 41 fish were recaptured in the 5 ft trap between March 19th and March 25th. Trapping efficiency was 5.1%.

Of the 41 fish recaptured, 26 showed minor descaling and 32 had fin damage. Mt. Hood Environmental staff noted that fish appeared to be in good condition upon retrieval from the hatchery, only noting descaling and fin damage which is common in hatchery raised fish.

Cougar Dam Head of Reservoir	Release #	Recapture #	Capture Efficiency
5ft trap	806	41	5.1% (41/806)

Injuries and Copepod Infection

21 Chinook were captured for the reporting period. Of the fish captured, partial descaling <20% was observed on 0 fish (0%), 0 had copepods (0%), and 4 had bodily injury (19.0%). There was 1 mortality for

this reporting period (4.8%). Injury data for the reporting period is summarized in Table 21. To date injury data can be found in Appendix A.

Table 21. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period. (Cougar Dam Head of Reservoir)

Site	# CHS Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Cougar Dam Head of Reservoir	21	0	0	4	0	0	0	1

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Collected DNA and Scale Samples

Scales and DNA were not collected from 21 Chinook captured (0%). One fish met the threshold requirements for scales and DNA but the scale card was misplaced in the field. The rest of the captured fish were under the minimum fork length threshold and samples were not collected (less than 45 mm fork length for DNA and less than 50 mm fork length for scales).

Non-Target Species

A total of 41 non-target fish were captured at the Cougar Dam Head of Reservoir RST during the reporting period; the data is summarized below in Table 22.

Table 22. Summary of Non-target Species (Cougar Dam Head of Reservoir)

Species	5ft Capture	5ft Mortality	Season Total	Season Total Mortality
Bluegill	0	0	0	0
Lamprey	0	0	0	0
Bullhead	0	0	0	0
Bull Trout	1	0	1	0
Crappie	0	0	0	0
Cutthroat Trout	2	0	39	1
Longnose Dace	1	0	3	0
Speckled Dace	0	0	1	0
Red-Sided Shiner	0	0	0	0
Sculpin	1	1	2	1
Spotted Bass	0	0	0	0
Sucker	0	0	0	0
Whitefish	0	0	0	0
O. mykiss	44	0	221	1
Unknown	0	0	1	0
Totals	**49**	**1**	**268**	**3**

Stream Statistics

Basic stream statistics at the site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14159200. During the reporting period, daily maximum values for instantaneous discharge ranged from 1,380.0 cfs to 3,980.0 cfs (mean: 2,186.7 cfs). Figure 36 shows instantaneous discharge.

Stream temperature was recorded every two hours with a temperature probe at the trap. The temperature probe operated normally during this period. Due to the restricted access above Cougar Dam from heavy snow, data from the temperature probe was not downloaded (Figure 37).

Catch per unit of effort (CPUE) data are summarized in Table 23. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 23. Summary of Chinook CPUE, Cougar Dam Head of Reservoir

	Chinook
Description	**5 ft**
Catch	21
Effort (hrs)	241.5
CPUE (fish/hr)	0.087

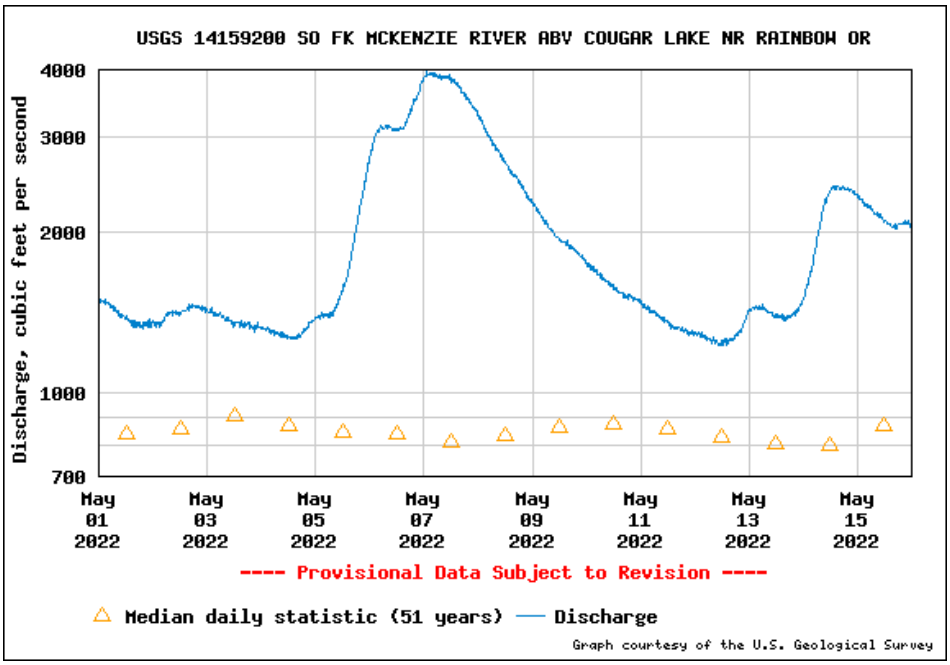


Figure 36. Gage Height (feet); South Fork McKenzie above Cougar Dam

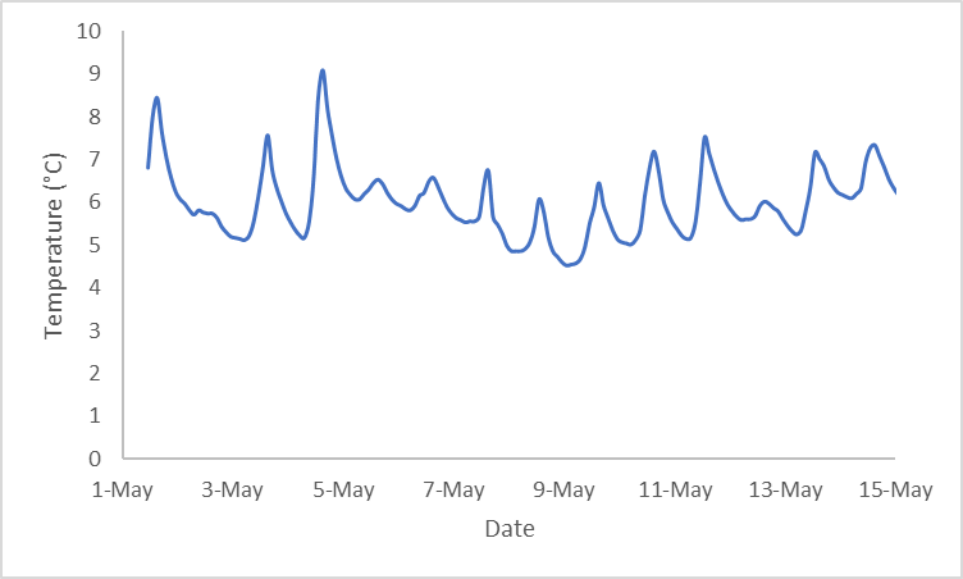


Figure 37. Temperature at RST (Cougar Dam Head of Reservoir)

Middle Fork Willamette – Fall Creek Dam Tailrace

Target Species

The reporting period began May 1 and ended May 15. No Chinook salmon were captured during the 15-day sampling period (Figure 38). The trap was operated 100% of the reporting period. Table 24 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Fall Creek Dam Tailrace site to-date and Figure 39 shows length frequency data to-date.

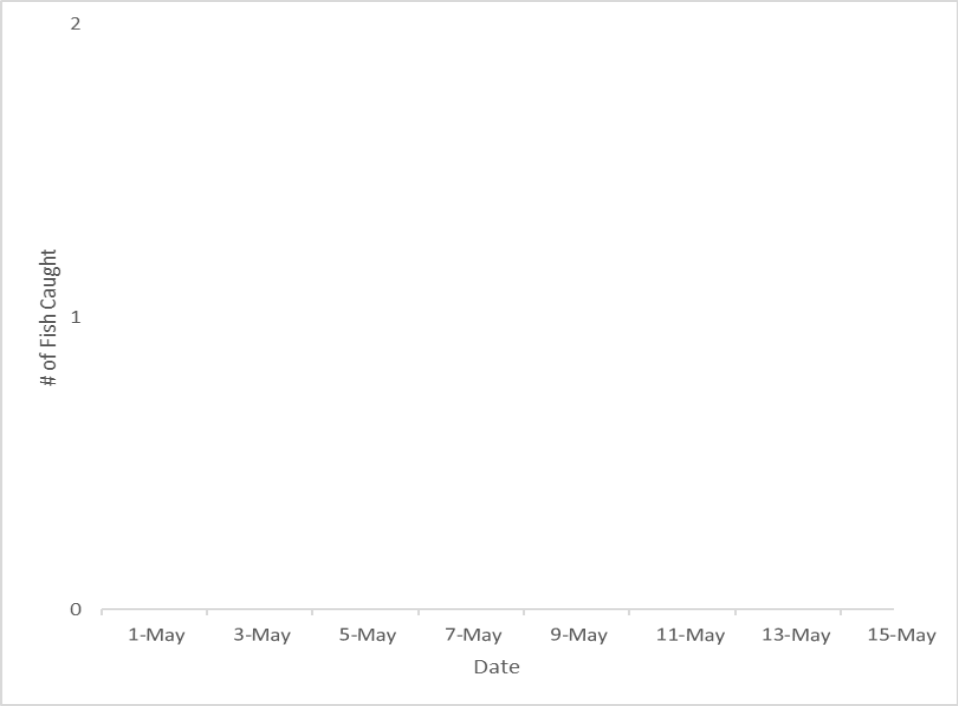


Figure 38. Chinook Captured Per Day 05/01/2022 to 05/15/2022 (Fall Creek Dam Tailrace)

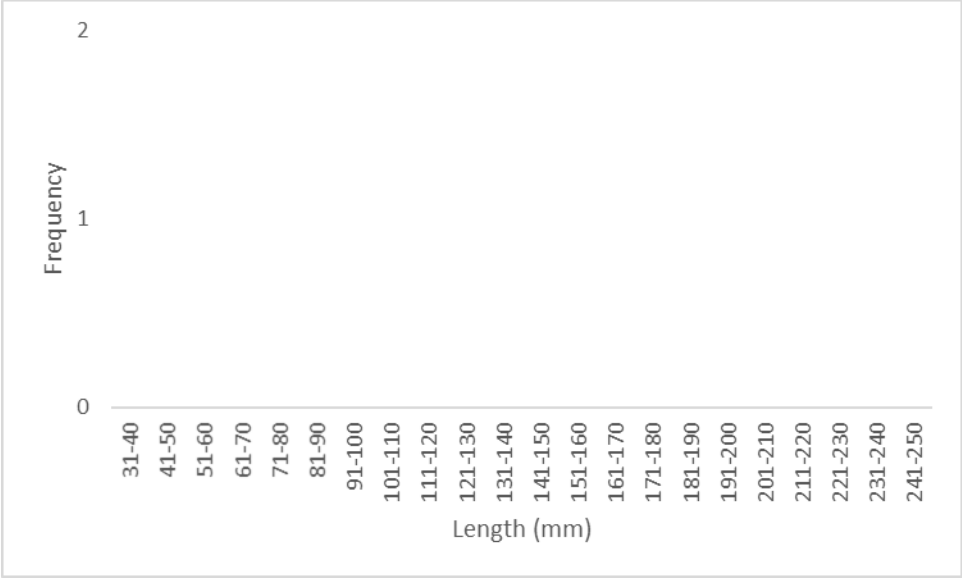


Figure 39. Length Frequency of Juvenile Chinook Sampled Season To-Date (Fall Creek Dam Tailrace)

Table 24. Descriptive Statistics of Target Species Captured at Fall Creek Dam Tailrace, Season To-Date and for the Reporting Period

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Fall Creek Dam	RO	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	0	0	0	0	0	0	0	

April 16-30,2022											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Fall Creek Dam	RO	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	0	0	0	0	0	0	0	

Injuries and Copepod Infection

No Chinook were captured during this reporting period. The data is summarized in Table 25. To date injury data is listed in Appendix A.

Table 25. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period. (Fall Creek)

Site	# CHS Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Fall Creek Dam	0	0	0	0	0	0	0	0

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Trapping Efficiency

Trapping efficiency trials have not been conducted at the Fall Creek Dam Tailrace site to date.

Non-Target Species

No non-target fish were captured at the Fall Creek Dam Tailrace site during the reporting period; the data is summarized below in Table 26.

Table 26. Summary of Non-target Species (Fall Creek Dam Tailrace)

Species	8ft Capture	8ft Mortality	Season Total	Season Total Mortality
Bluegill	0	0	0	0
Lamprey	0	0	0	0
Bullhead	0	0	0	0
Bull Trout	0	0	0	0
Crappie	0	0	0	0
Cutthroat Trout	0	0	4	0
Dace	0	0	86	0
Red-Sided Shiner	0	0	3	0
Sculpin	0	0	0	0
Spotted Bass	0	0	0	0
Sucker	0	0	3	0
Whitefish	0	0	0	0
O. mykiss	0	0	5	1
Totals	**0**	**0**	**101**	**1**

Stream Statistics

Basic stream statistics at the site were calculated from data downloaded from U.S. Geological Survey stream gage numbers 14151000 and 1415000. Instantaneous discharge (cfs) data was collected from gage 1415100. Dissolved oxygen (mg/L) concentration data was received from gage 1415000, 1.2 rkms downstream of the trap. During the reporting period, daily maximum values for instantaneous discharge ranged from 92.6 cfs to 238.0 cfs (mean: 149.8 cfs). Figure 40 shows instantaneous discharge.

Dissolved oxygen concentrations ranged from 11.3 to 12.5 mg/L (mean: 11.8 mg/L) during the reporting period. Figure 41 shows dissolved oxygen concentrations.

Stream temperatures were recorded using temperature probes for the Fall Creek Dam Tailrace RST site during this reporting period. The temperature probe operated normally during this period (Figure 42).

Flows In and Out of reservoir during the reporting period averaged 2,124.1 cfs and 139.2 cfs respectively (Figure 43).

Catch per unit of effort (CPUE) data are summarized in Table 27. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B

Table 27. Summary of Chinook CPUE, Fall Creek Dam Tailrace

Description	Chinook (8 ft)
Catch	0
Effort (hrs)	355.6
CPUE (fish/hr)	0

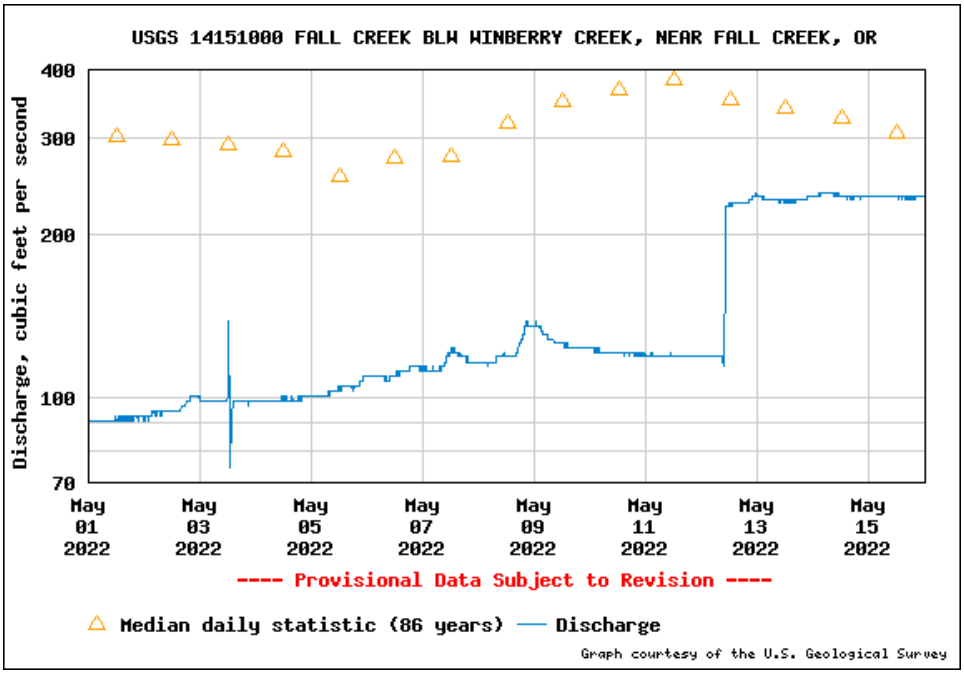


Figure 40. Discharge (cfs); Fall Creek Below Winberry Creek, Near Fall Creek, OR

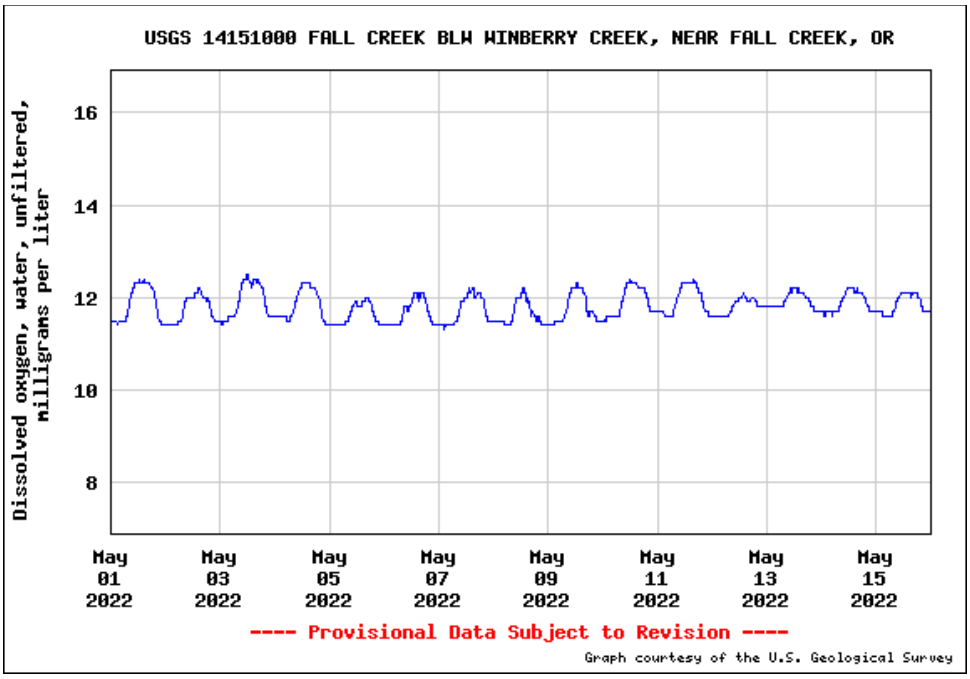


Figure 41. Dissolved Oxygen (mg/L); Fall Creek below Winberry Creek, Near Fall Creek, OR

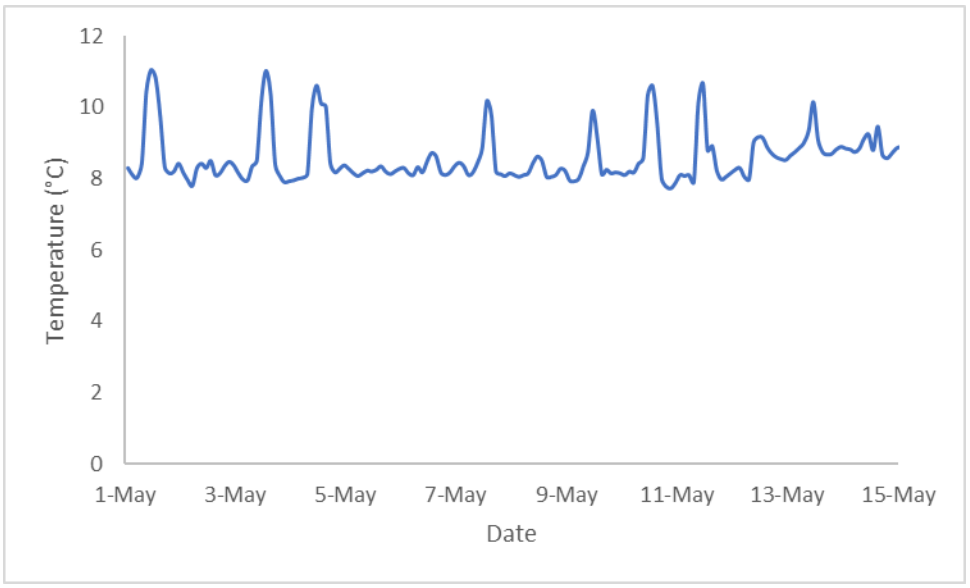


Figure 42. Temperature at RST (Fall Creek Dam Tailrace)

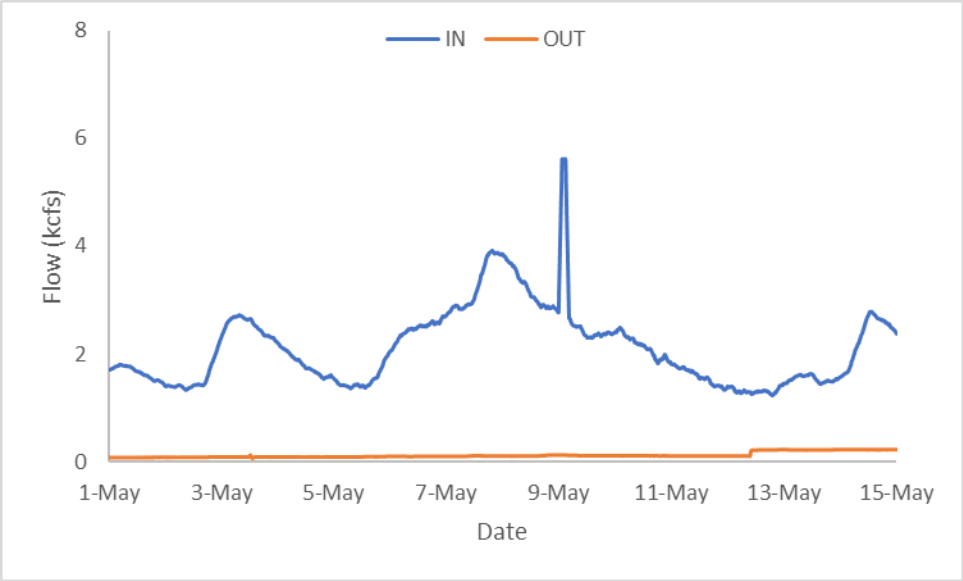


Figure 43. Hourly Flows PWR vs. RO (Fall Creek Tailrace)

Middle Fork Willamette – Fall Creek Head of Reservoir

Target Species

The reporting period began May 1 and ended May 15. No Chinook salmon was captured during the 15-day sampling period (Figure 44). The RST was put into the non-sampling position on the 5th due to high flows and debris loads. Sampling resumed on the 9th once debris load and flows returned to a safe level for operation and access. The trap was operated 80% of the reporting period. Table 28 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Fall Creek Head of Reservoir site to-date and Figure 45 shows length frequency data to-date.

Figure 44. Chinook Captured Per Day 05/01/2022 to 05/15/2022 (Fall Creek Head of Reservoir)

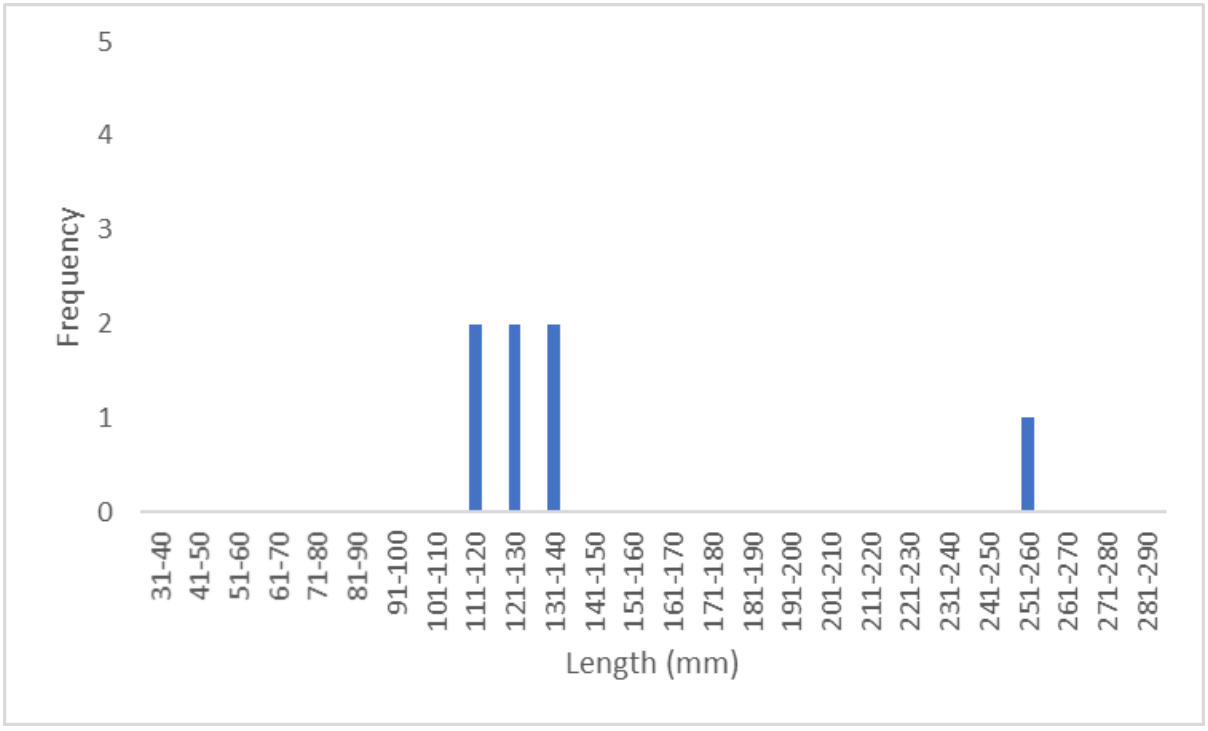


Figure 45. Length Frequency of Juvenile Chinook Sampled Season To-Date (Fall Creek Head of Reservoir)

Table 28. Descriptive Statistics of Target Species Captured at Fall Creek Head of Reservoir, Season To-Date and for the Reporting Period

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Fall Creek Head of Reservoir	8 ft	CHS	Smolt	5	127	255	157.2	21.5	108.5	214.3	
		CHS	Parr	2	119	120	119.5	16.1	19.8	18.0	

April 16-30,2022										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Fall Creek Head of Reservoir	8 ft	CHS	Smolt	0	0	0	0	0	0	0
		CHS	Parr	0	0	0	0	0	0	0

Injuries and Copepod Infection

No Chinook were captured during this reporting period. To date injury data can be found in Appendix A.

Table 29. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period. (Fall Creek Head of Reservoir)

Site	# CHS Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Fall Creek Head of Reservoir	0	0	0	0	0	0	0	0

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Trapping Efficiency

0 Chinook were caudal clipped and released upstream to conduct a run of river trapping efficiency trial during this period. 7 fish have been released for efficiency testing to date. 1 fish was recaptured during a previous reporting period (released March 18 and recaptured March 22) for an efficiency of 14.3%.

Collected DNA and Scale Samples

No Chinook were captured during this reporting period.

Non-Target Species

A total of 91 non-target fish were captured at the Fall Creek Head of Reservoir site during the reporting period; the data is summarized below in Table 30. A spawned-out Winter Steelhead carcass was caught in the trap on 5/14/2022. The fish was not clipped but had a USACE Floy tag #058.

Table 30. Summary of Non-target Species (Fall Creek Head of Reservoir)

Species	8ft Capture	8ft Mortality	Season Total	Season Total Mortality
Bluegill	0	0	0	0
Lamprey	79	0	281	2
Bullhead	0	0	0	0
Bull Trout	0	0	0	0
Crappie	0	0	0	0
Cutthroat Trout	1	0	80	0
Longnose Dace	3	0	20	0
Speckled Dace	0	0	3	0
Red-Sided Shiner	0	0	1	0
Sculpin	0	0	2	1
Spotted Bass	0	0	0	0
Sucker	0	0	3	0
Whitefish	0	0	0	0
O. mykiss	8	2	352	10
O. mykiss (clipped)	0	0	79	0
Totals	**91**	**2**	**821**	**13**

Stream Statistics

Basic stream statistics at the Fall Creek site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14150290. During the reporting period, daily maximum values for instantaneous gage height ranged from 5.1feet to 6.7 feet (mean: 5.9 feet). Figure 46 shows instantaneous gage height.

Stream temperatures were recorded every 2 hours for the Fall Creek RST (Figure 47). Temperature probes for the Fall Creek RST operated normally throughout this reporting period.

Catch per unit of effort (CPUE) data are summarized in Table 31. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 31. Summary of Chinook CPUE, Fall Creek Head of Reservoir

	Chinook
Description	**8 ft**
Catch	0

Effort (hrs)	241.4
CPUE (fish/hr)	0

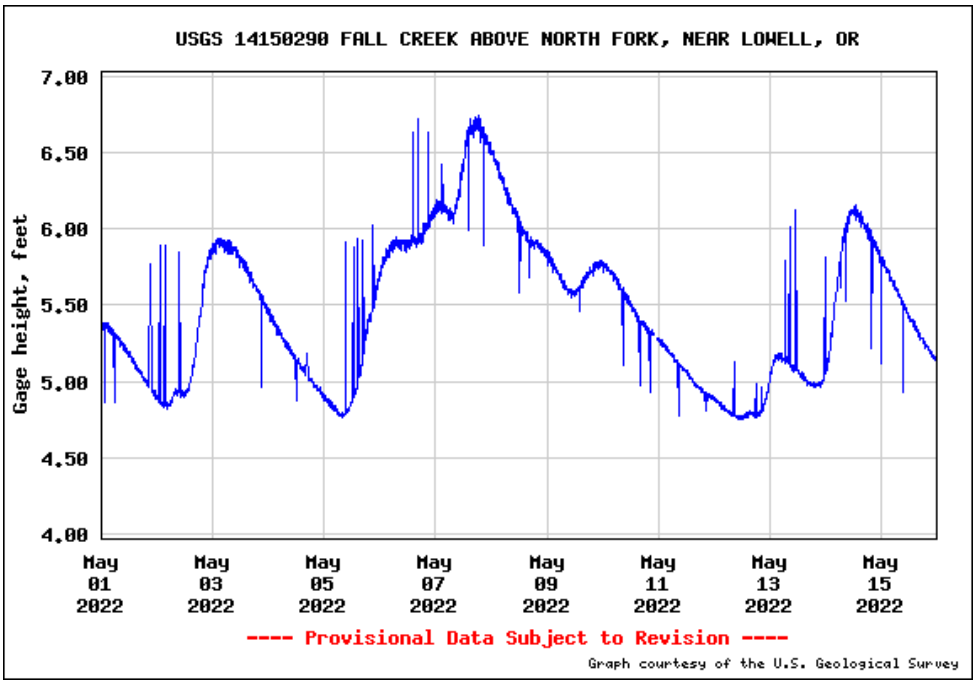
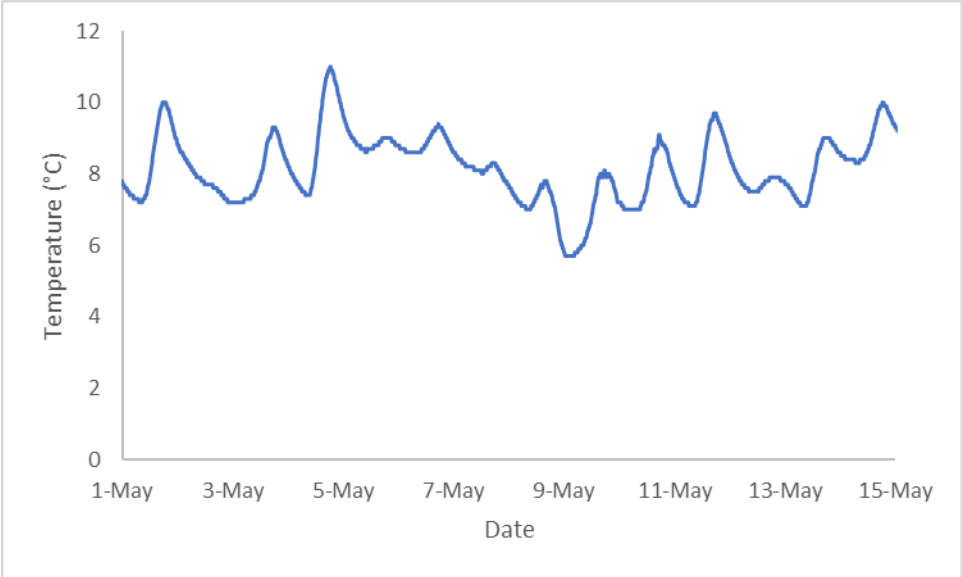


Figure 46. Gage Height (feet); Fall Creek Above North Fork, Near Lowell OR



Note: Hobo logger was missing when crew members attempted to download.

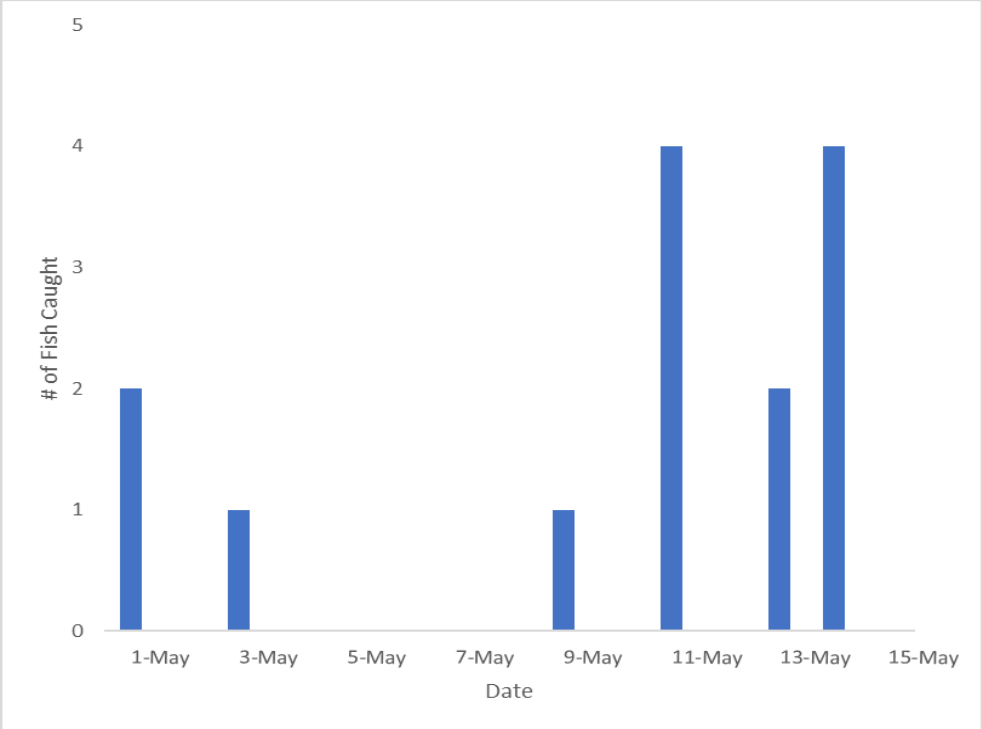
Temperature data supplemented with USGS gage site number 14150290, 1.2 rkm downstream.

Figure 47. Temperature at RST (Fall Creek Head of Reservoir)

Middle Fork Willamette– Dexter Dam

Target Species

This reporting period began on May 1 and ended on May 15. There were 14 Chinook salmon (CHS) captured during the 15-day sampling period (Figure 48). The cone was raised into the non-sampling position on the 5th due to anticipated high flows. Sampling resumed on the 7th after dam operators modified spill allowing for safe sampling and access. Sampling duration was 93% for the 5 ft RST. Table 32 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Dexter Dam site to-date and for the reporting period. Figure 44 shows the daily capture numbers for Chinook and Figure 49 shows length frequency data to-date.



*Recaptured fish for trapping efficiency trials not included.

Figure 48. Chinook Captured Per Day 05/01/2022 to 05/15/2022 (Dexter Dam)

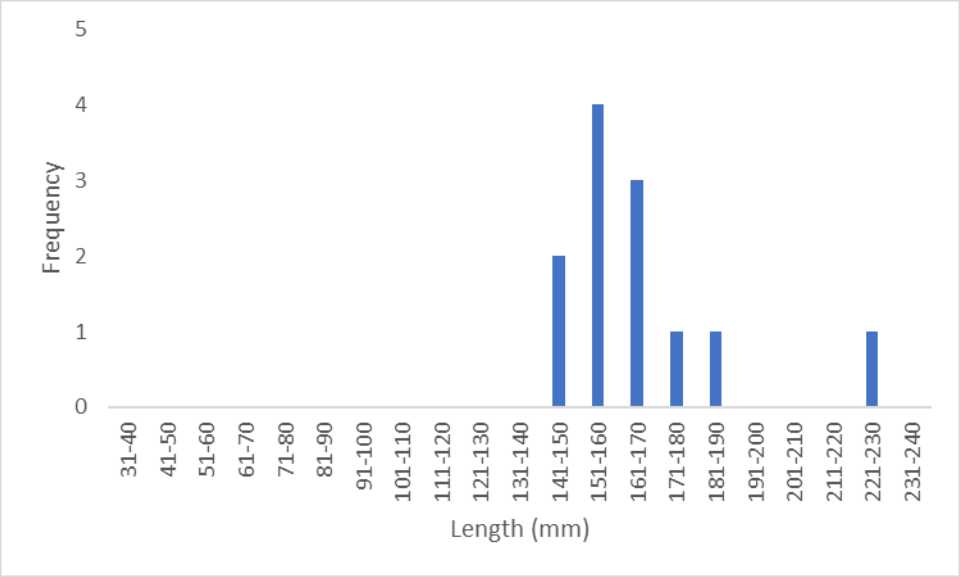


*Figure does not include fish without heads or fish used for trapping efficiency trials.

Figure 49. Length Frequency of Juvenile Chinook Sampled Season To-Date (Dexter Dam)

Table 32. Descriptive Statistics of Target Species Captured at the Dexter Dam RST Season To-Date

To-Date											
Site	Trap	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Dexter Dam	5 ft	CHS	Parr	0	0	0	0	0	0	0	
		CHS	Smolt	16	142	224	170.7	27.8	118.4	47.3	

April 16-30, 2022											
Site	Trap	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Dexter Dam	5 ft	CHS	Parr	0	0	0	0	0	0	0	
		CHS	Smolt	14	142	224	170.1	27.8	118.4	49.7	

*Fish that were missing heads are not included in length and weight calculations.

Trapping Efficiency

A total of 1000 juvenile hatchery Chinook (parr) were bismarck brown dyed, adipose clipped, upper caudal clipped and released on 05/04/2022 below Dexter Dam. Fish were released in small groups into different locations in the spillway flow to evaluate the traps efficiency capturing fish passing through spill. 43 fish were recaptured in the 5-foot RST for an efficiency of 4.3%.

Mt. Hood Environmental staff noted that fish appeared to be in good condition upon retrieval from the hatchery.

Dexter Dam	Release #	Recapture #	Capture Efficiency
Spill	1000	43	4.3% (43/1000)
Powerhouse	N/A	N/A	N/A

24-Hour Post Collection Holding Trial

11 Chinook captured were held for 24 hours. 1 fish died in holding (9.0%) during this reporting period.

Injuries and Copepod Infection

14 Chinook were captured during this reporting period. Partial descaling <20% was observed in 10 of the 14 Chinook captured (71.4%) and 4 displayed descaling >20% (28.6%). 11 displayed body injury (78.6%) and 3 Chinook had eye injury (21.4%). 0 Chinook had copepods present in the branchial cavity (0%) and 1 had copepods on fins (7.1%). 3 displayed gas bubble disease (21.4%) (one level 1, two level 2). There were 3 mortalities this reporting period (21.4%). Injuries are displayed in Table 33. To date injury data can be found in Appendix A.

Table 33. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period. (Dexter Dam).

Site	Route	# CHS Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Dexter Dam	PWR	14	10	4	11	3	0	1	3

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Non-Target Species

A total of 50 non-target species fish were captured during the reporting period; the data is summarized below in Table 34. Dexter Fish Facility releases adipose clipped Chinook near our trapping site. Adipose clipped Chinook caught in our trap are being counted as non-target fish to provide better clarity on data concerning run of river Chinook. 2 Sculpin captured during this period displayed gas bubble disease (1 level 2 and 1 level 4).

Table 34. Summary of Non-target Species (Dexter Dam).

Species	Capture	Mortality	Season Total	Season Total Mortality
Bluegill	0	0	1	0
Brook Lamprey	0	0	0	0
Bullhead	0	0	0	0
Crappie	2	0	7	2
Longnose Dace	8	0	25	2

Speckled Dace	0	0	1	0
Kokanee	0	0	0	0
Red-Sided Shiner	0	0	0	0
Sculpin	23	1	157	6
Spotted Bass	0	0	0	0
Sucker	1	0	2	0
Whitefish	0	0	0	0
Cutthroat	0	0	2	0
O. mykiss	3	0	8	0
O. mykiss (clipped)	9	0	12	0
Chinook (AD Clipped)	4	0	18	0
Totals	**50**	**1**	**233**	**9**

Stream Statistics

Basic stream statistics at the Dexter Dam site were calculated from data downloaded from the U.S. Geological Survey stream gage numbers 14149510 and 14150000. Gage height (feet) is the only metric provided at gage 14149510. Total dissolved gas saturation data was received from gage 14150000, 4.75 rkms downstream of the trap. During the reporting period, daily maximum values for instantaneous gage height ranged from 638.8 feet to 641.2 feet (mean: 639.6 feet). Figure 50 shows instantaneous gage height.

Total dissolved gas saturation ranged from 108 to 117% (mean: 113.4%) during the reporting period. Figure 51 shows total dissolved gas saturation.

Stream temperatures were recorded every two hours using a temperature probe at the Dexter Dam RST site during this reporting period. Temperature probes operated normally, and the data is shown below in figure 52.

Flows through the Powerhouse and Spill during the reporting period averaged 0 and 5,707.6 cubic feet per second (cfs) respectively (Figure 53). Catch per unit of effort (CPUE) data are summarized in Table 35. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 35. Summary of salmonid CPUE, Dexter Dam.

	Chinook
Description	**8 ft**
Catch	14
Effort (hrs)	319.7
CPUE (fish/hr)	0.044

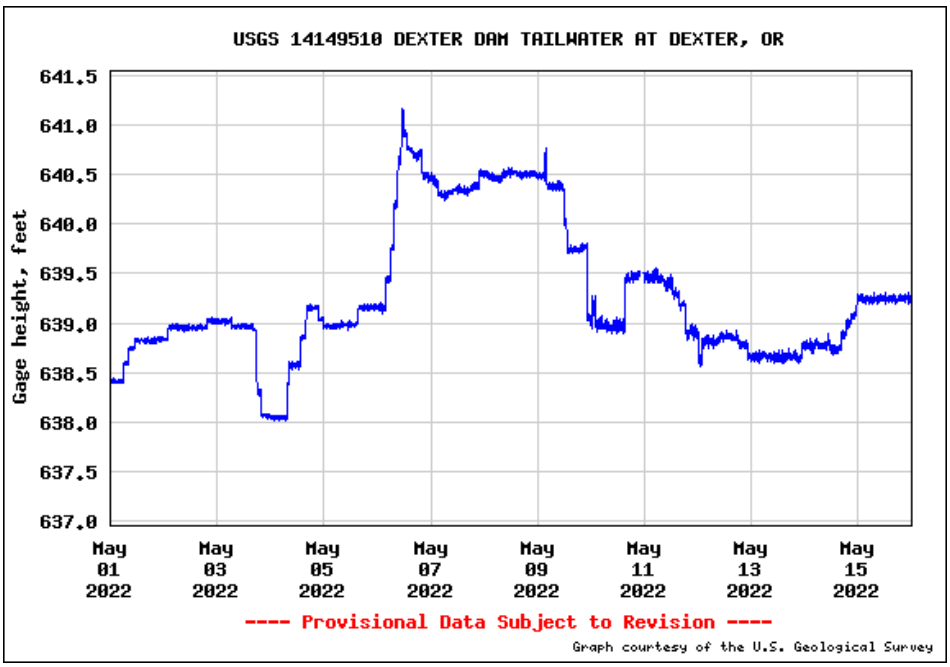


Figure 50. Gage Height (feet); below Dexter Dam, Middle Fork Willamette

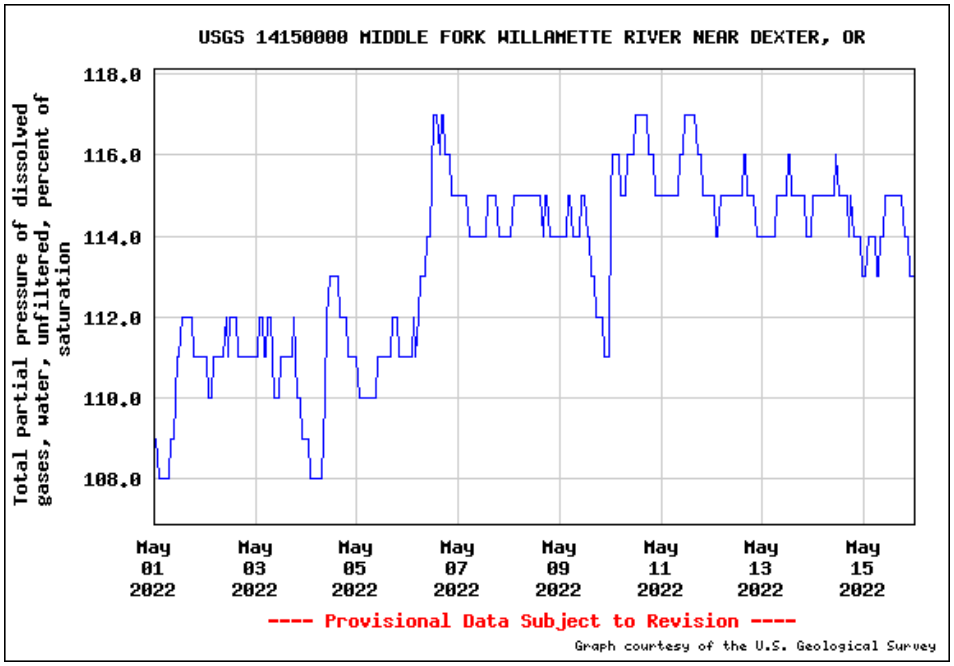


Figure 51. Total Dissolved Gas Saturation (%); Middle Fork Willamette River, Near Dexter, OR

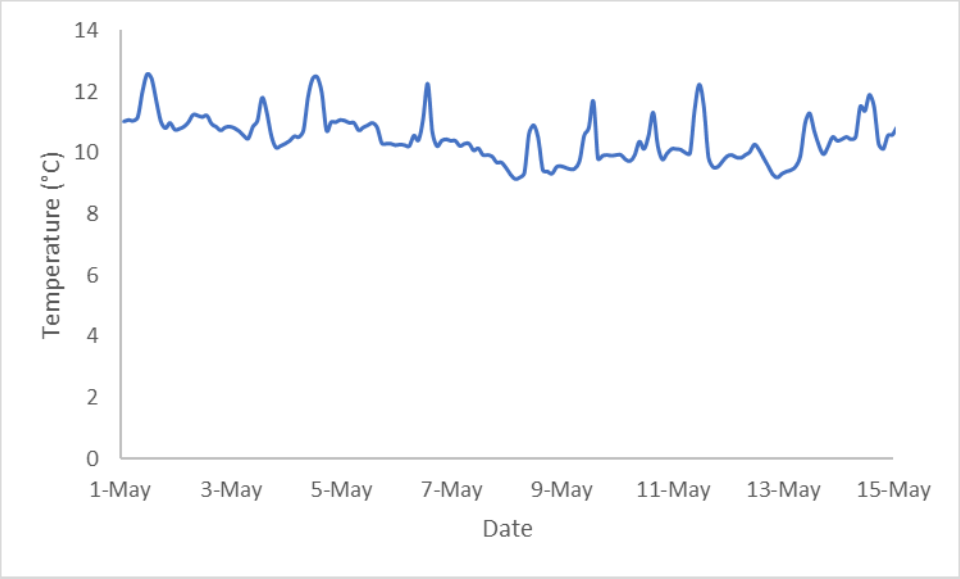


Figure 52. Temperature at RST (Dexter Dam)

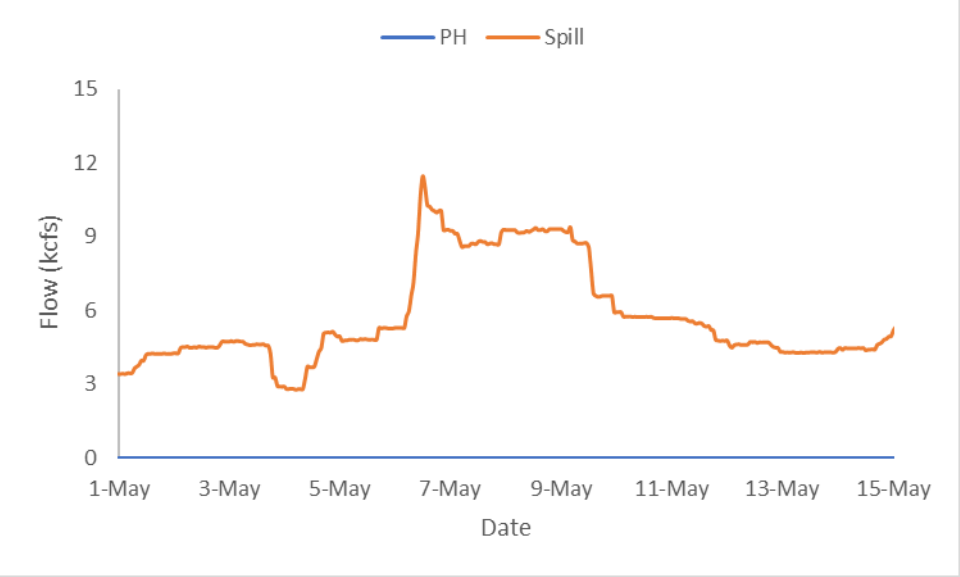


Figure 53. Hourly Flows PWR vs. Spill (Dexter Dam)

Middle Fork Willamette – Lookout Dam Tailrace

Target Species

The reporting period began May 1 and ended May 15. 19 Chinook salmon were captured during the 15-day sampling period (Figure 54). The RSTs were put into a non-sampling position on the 5th due to high flows and access concerns. Sampling resumed on the 10th once flows allowed for safe access and operation. The traps were operated 73% of the reporting period. Table 36 provides life stage, length, and

weight data for all Chinook salmon that have been caught at the Lookout Point Dam Tailrace site to-date and Figure 55 shows length frequency data to-date.

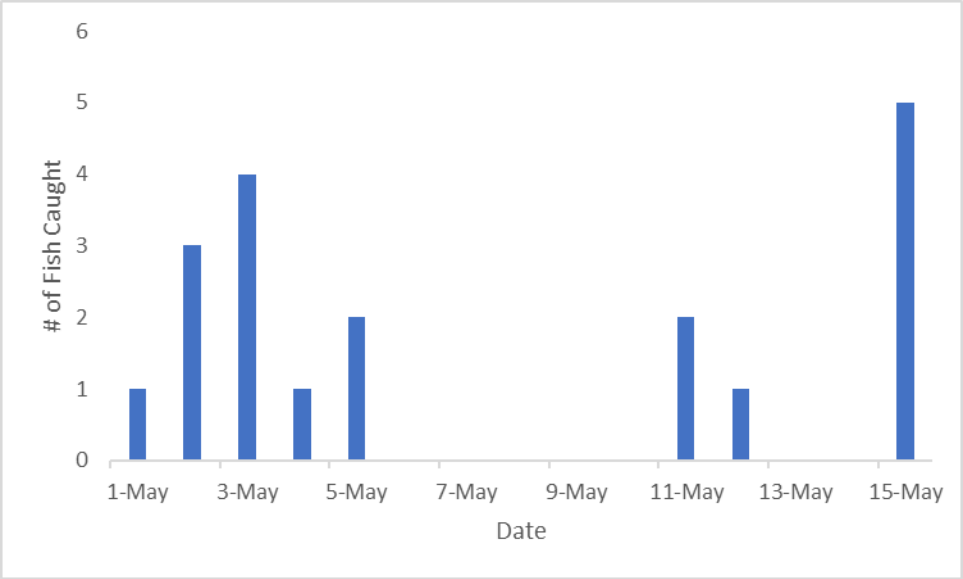


Figure 54. Chinook Captured Per Day 05/01/2022 to 05/15/2022 (Lookout Point Dam Tailrace)

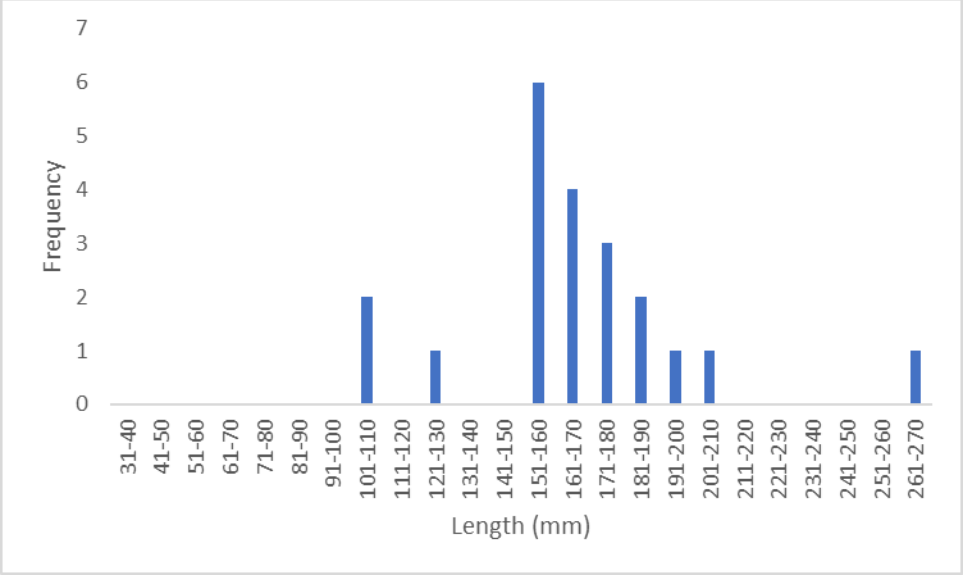


Figure 55. Length Frequency of Juvenile Chinook Sampled Season To-Date (Lookout Point Dam Tailrace)

Table 36. Descriptive Statistics of Target Species Captured at Lookout Point Dam Tailrace, Season To-Date and for the Reporting Period

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Lookout Point Dam	PH 1	CHS	Smolt	10	154	266	183.4	44.5	108.9	70.6	
		CHS	Parr	1	107	107	107	5.3	5.3	5.3	
		CHS	Fry	0	0	0	0	0	0	0	
	PH 2	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	0	0	0	0	0	0	0	
		CHS	Fry	0	0	0	0	0	0	0	
	Spill	CHS	Smolt	9	124	194	161.2	19.7	63.0	47.1	
		CHS	Parr	1	104	104	104	13.5	13.5	13.5	
		CHS	Fry	0	0	0	0	0	0	0	

May 1-15, 2022											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Lookout Point Dam	PH 1	CHS	Smolt	9	154	266	180.4	44.5	101.0	65.1	
		CHS	Parr	1	107	107	107	5.3	5.3	5.3	
		CHS	Fry	0	0	0	0	0	0	0	
	PH 2	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	0	0	0	0	0	0	0	
		CHS	Fry	0	0	0	0	0	0	0	
	Spill	CHS	Smolt	9	124	194	161.2	19.7	63.0	47.1	
		CHS	Parr	0	0	0	0	0	0	0	
		CHS	Fry	0	0	0	0	0	0	0	

*Some fry are too small to accurately weigh and are omitted from the above tables.

24-Hour Post Collection Holding Trial

A total of 8 Chinook captured in the RSTs was held during this reporting period. 1 fish was held from the PWR RST and 7 fish were held from the Spill RST. No hold fish died from the PWR RST (0%). 2 of the 7 fish from Spill RST died during holding (28.6%).

Trapping Efficiency

A total of 1,013 juvenile hatchery Chinook (parr) were bismarck brown dyed and adipose clipped, right ventral fin clipped and released on 04/13/2022 below Lookout Point Dam. Fish were released in small groups directly into powerhouse flow at 17:00 to 19:00. 2 fish were recaptured in the PH 1 RST for an efficiency of 0.2%. 1 Lookout Point Dam trap efficiency fish was captured downstream in the Dexter RST on 4/15/2022.

Mt. Hood Environmental staff noted that fish appeared to be in good condition upon retrieval from the hatchery but did note some descaling and fin damage present as is common among hatchery fish of this age.

Lookout Dam	Release #	Recapture #	Capture Efficiency
Powerhouse	1,013	2	0.2% (2/1,013)

Injuries and Copepod Infection

9 Chinook were captured in the Spill Channel RST. Partial descaling <20% was observed on 4 of 9 Chinook collected at the Spill RST (44.4%), and descaling >20% was observed on 1 of 9 Chinook collected at the Spill RST (11.1%). Of the 9 Chinook captured in the Spill RST 6 displayed body injuries (66.7%) and 1 had eye injuries (11.1%). 0 of the Spill RST Chinook had copepods present in the branchial cavity 0%) and 1 fish had copepods present on fins (11.1%). 3 Spill RST Chinook displayed Gas Bubble Disease (33.3%) (level 1).

10 Chinook were captured in the Powerhouse channel RST. Partial descaling <20% was observed on 1 of the 10 Chinook collected at the PWR RST (10.0%). Descaling >20% was observed on 7 of the 10 Chinook collected at the PWR RST (70.0%). 2 PWR RST fish had bodily injury (20.0%) and 3 had eye injuries (30.0%). 4 fish had copepods present in the branchial cavity (40.0%) and 1 had copepods present on fins (10.0%). No fish displayed Gas Bubble Disease (0%). There were no chinook mortalities collected in the Spill RST (0%) and 6 in the PWR RST (60.0%). Injuries are displayed in Table 37. To date injury data can be found in Appendix A.

Table 37. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period (Lookout Point Dam Tailrace).

Site	Route	# CHS Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Lookout Point Dam Tailrace	PWR	1	0	1	1	1	1	0	1
	Spill	1	0	1	0	0	0	0	0

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Non-Target Species

14 non-target species were captured during the reporting period; the data is summarized below in Table 38.

Table 38. Summary of Non-target Species (Lookout Point Dam Tailrace).

Species	PWR Capture	PWR Mortality	Spill Capture	Spill Mortality	Season Total	Season Total Mortality
Bluegill	0	0	0	0	1	0
Lamprey	0	0	0	0	0	0
Bullhead	0	0	0	0	1	0
Bull Trout	0	0	0	0	0	0
Crappie	1	0	1	0	4	1
Cutthroat Trout	0	0	1	0	1	0
Longnose Dace	0	0	0	0	0	0
Red-Sided Shiner	0	0	0	0	0	0
Sculpin	0	0	2	0	3	0
Smallmouth Bass	0	0	0	0	37	10
Sucker	5	2	1	0	8	3
Whitefish	0	0	0	0	0	0
O. mykiss	0	0	1	0	1	0
O. mykiss (clipped)	1	1	0	0	1	1
Chinook (clipped)	0	0	1	0	3	0
Totals	**7**	**3**	**7**	**0**	**60**	**15**

Stream Statistics

Basic stream statistics at Lookout Dam Tailrace site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14149010. Total dissolved gas saturation or dissolved oxygen concentration measurements are not available at this stream gage site, or any nearby stream gages. Gage height (feet) is the only metric provided at this gage. During the reporting period, daily maximum values for instantaneous gage height ranged from 692.6 feet to 695.5 feet (mean: 693.7 feet). Figure 56 shows instantaneous gage height.

Stream temperatures were recorded using both temperature probes and daily with handheld thermometers for the Lookout Dam Tailrace RST site during this reporting period. Temperature was taken during daily site visits and was used to formulate figure data for PWR and Spill until the 28th when probes were deployed (figures 57 and 58).

Flows through the Powerhouse and Spill during the reporting period averaged 554.1 and 4,630.3 cubic feet per second (cfs) respectively (Figure 59). Catch per unit of effort (CPUE) data are summarized in Table 39. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 39. Summary of Chinook CPUE at Lookout Point Dam Tailrace.

	Chinook		
Description	**PH 1**	**PH 2**	**Spill**
Catch	10	0	9
Effort (hrs)	244.2	244.0	243.5
CPUE (fish/hr)	0.041	0	0.037

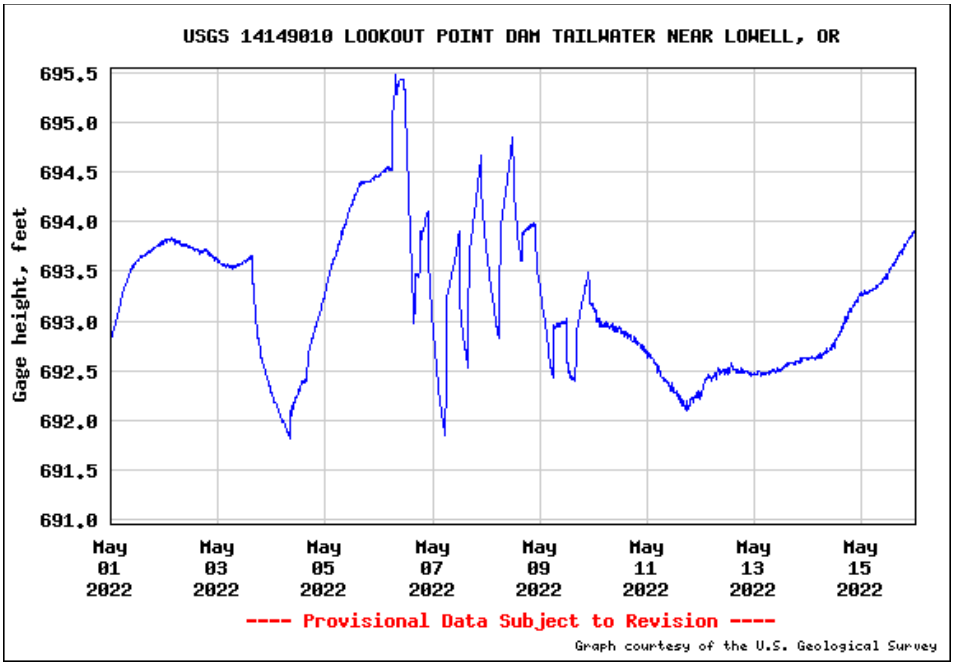


Figure 56. Gage Height (feet); below Lookout Dam

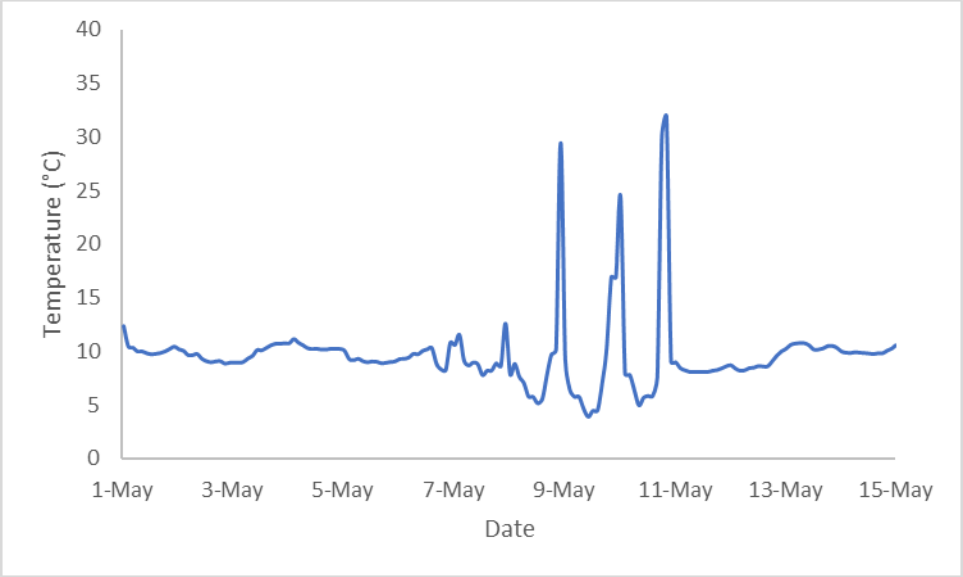


Figure 57. Temperature at RST (Lookout Dam PWR)

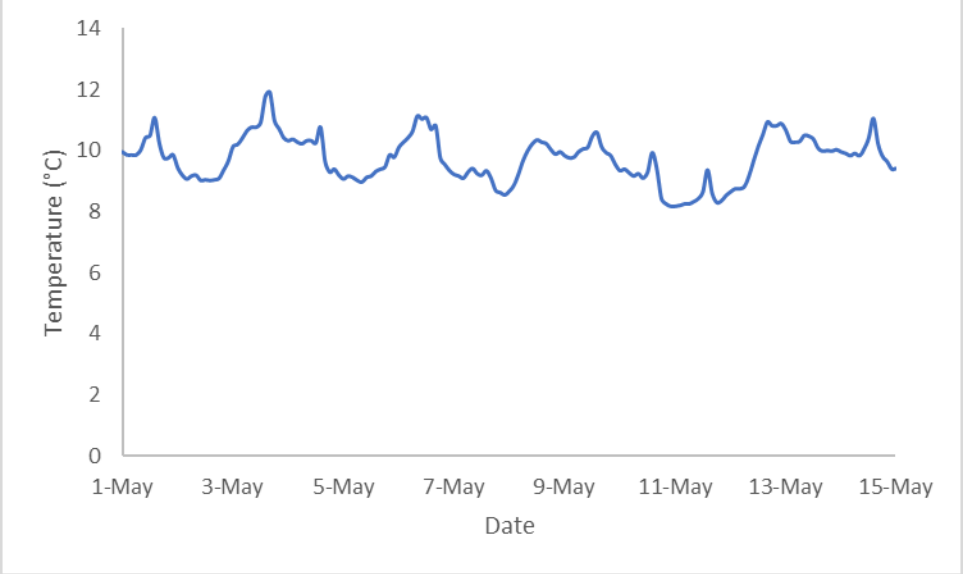


Figure 58. Temperature at RST (Lookout Dam Spill)

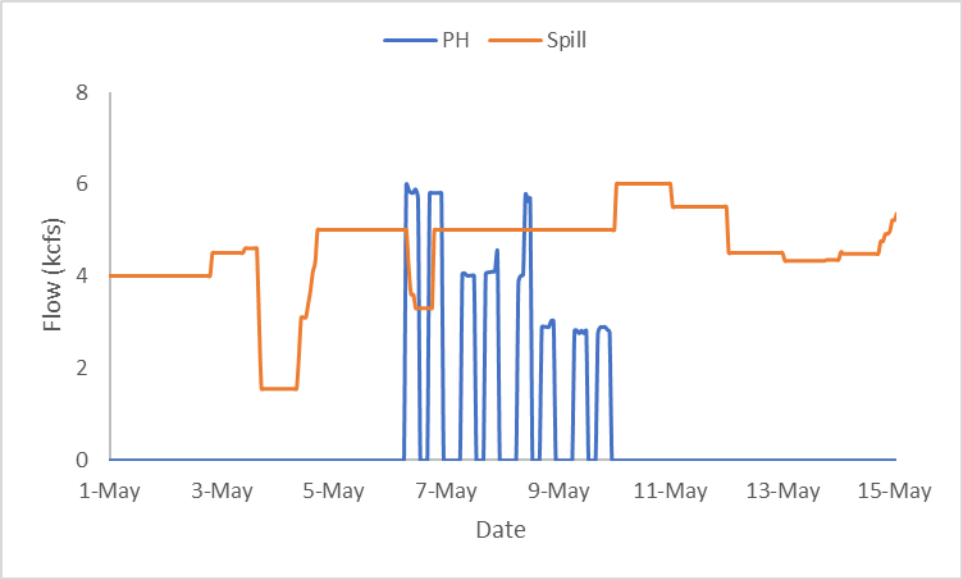


Figure 59. Hourly Flows PWR vs. Spill (Lookout Dam Tailrace)

Middle Fork Willamette – Lookout Point Head of Reservoir

Target Species

The reporting period began May 1 and ended May 15. 1 Chinook salmon were captured during the 15-day sampling period (Figure 60). The trap was put into the non-sampling position from the 5th to the 10th and the 14th to the end of the reporting period due to high flows and debris load causing trap safety concerns. The trap was operated 66% of the reporting period. Table 40 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Middle Fork Willamette Above Lookout Point site to-date and Figure 61 shows length frequency data to-date.

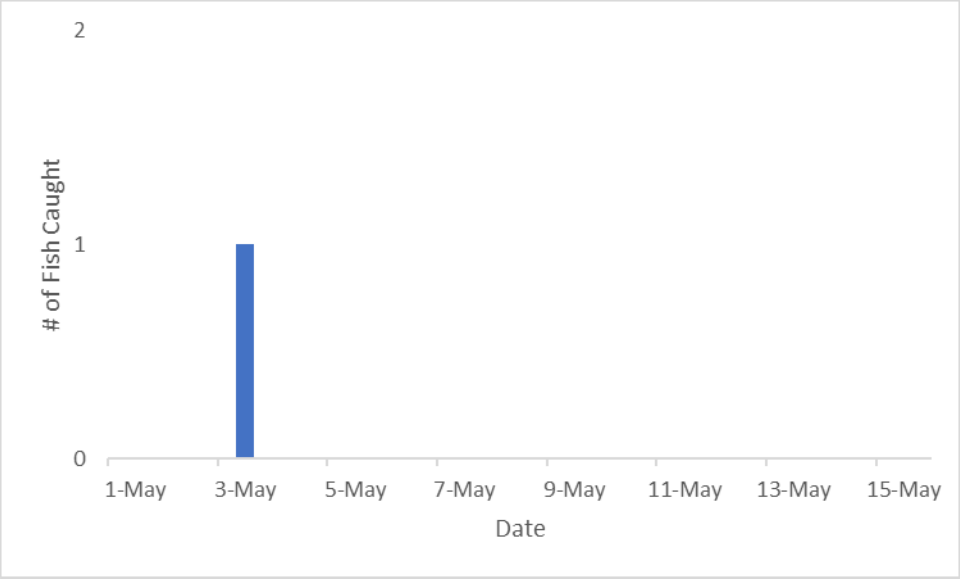


Figure 60. Chinook Captured Per Day 05/01/2022 to 05/15/2022 (Lookout Point Head of Reservoir)

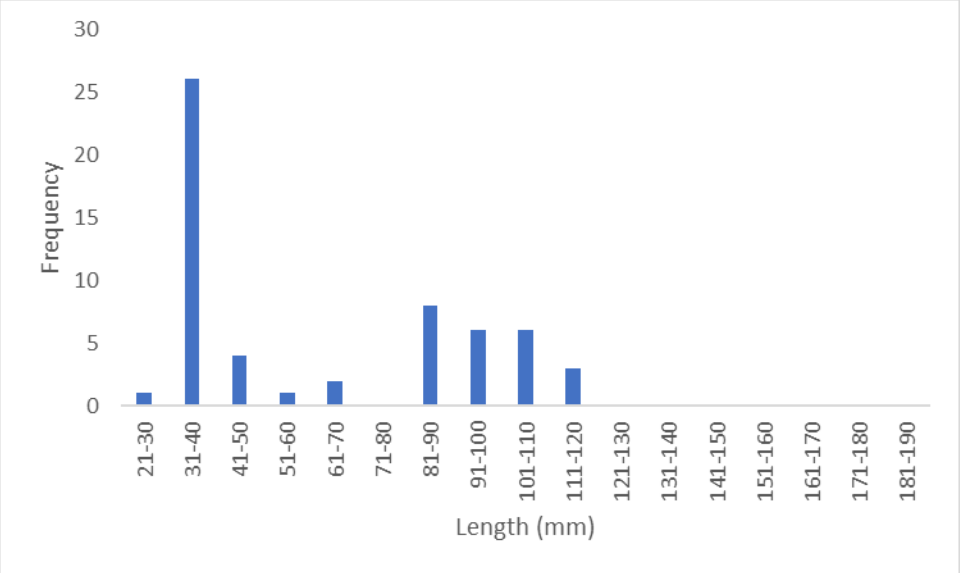


Figure 61. Length Frequency of Juvenile Chinook Sampled Season To-Date (Lookout Point Head of Reservoir)

Table 40. Descriptive Statistics of Target Species Captured at Lookout Point Head of Reservoir, Season To-Date and for the Reporting Period

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Lookout Point Head of Reservoir	5 ft	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	26	51	115	93.0	1.5	119.8	8.5	
		CHS	Fry	31	28	49	35.7	N/A	N/A	N/A	
May 1-15, 2022											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Lookout Point Head of Reservoir	5 ft	CHS	Smolt	0	0	0	0	0	0	0	
		CHS	Parr	1	63	63	63	3.0	3.0	3.0	
		CHS	Fry	0	0	0	0	N/A	N/A	N/A	

*Some fry are too small to accurately weigh and are omitted from the above tables.

Trapping Efficiency

Two trapping efficiency trials have been conducted to date, one on April 5th and one on April 14th.

A total of 993 juvenile hatchery Chinook (parr) were bismarck brown dyed and adipose clipped and released on 04/05/2022 above the Lookout Point Head of Reservoir trap. Fish were released in small groups to evaluate the traps efficiency capturing fish migrating downstream. 53 fish were recaptured in the 5-foot RST for an efficiency of 5.3%.

A total of 989 juvenile hatchery Chinook (parr) were bismarck brown dyed and adipose clipped and released on 04/14/2022 above the Lookout Point Head of Reservoir trap. Fish were released in small groups to evaluate the traps efficiency capturing fish migrating downstream. 19 fish were recaptured in the 5-foot RST for an efficiency of 1.9%.

Of the 53 fish recaptured from the April 5th release, 6 were dead and the rest were injured. Injuries were descaling and fin damage. Of the 19 fish recaptured from the April 14th release, all 19 were injured. Injuries were descaling and fin damage. Mt. Hood Environmental staff noted that fish appeared to be in good condition upon retrieval from the hatchery but did note some descaling and fin damage present as is common among hatchery fish of this age.

Lookout Point Head of Reservoir	Release #	Recapture #	Capture Efficiency
04/05/2022	993	53	5.3% (53/993)
04/14/2022	989	19	1.9% (19/989)

Injuries and Copepod Infection

One Chinook was captured during this reporting period. This fish did not have any external injuries. Injury data for the reporting period is shown in table 41. To date data can be found in Appendix A.

Table 41. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period (Lookout Point Head of Reservoir).

Site	# CHS Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Lookout Point Head of Reservoir	1	0	0	0	0	0	0	0

*DSC=Descaled, COP=Copepods, B.C.=Branchial Cavity

Collected DNA and Scale Samples

Scales and DNA were collected for the one Chinook captured for the reporting period (100%).

Non-Target Species

13 non-target species were captured during the reporting period; the data is summarized below in Table 42.

Table 42. Summary of Non-target Species (Lookout Point Head of Reservoir).

Species	8ft Capture	8ft Mortality	Season Total	Season Total Mortality
Bluegill	0	0	1	0
Lamprey	0	0	0	0
Bullhead	0	0	0	0
Bull Trout	0	0	0	0
Crappie	0	0	0	0
Cutthroat Trout	0	0	5	0
Longnose Dace	0	0	3	0
Red-Sided Shiner	1	0	2	0
Sculpin	0	0	1	1
Smallmouth Bass	3	0	4	0
Sucker	3	1	7	1
Whitefish	0	0	0	0
O. mykiss	5	0	33	1
O. mykiss (clipped)	1	0	2	0
Totals	**13**	**1**	**58**	**3**

Stream Statistics

Basic stream statistics for the Lookout Point Head of Reservoir RST site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14148000. During the reporting period, daily maximum values for instantaneous discharge ranged from 4,090.0 cfs to 10,100.0 cfs (mean: 6,307.3 cfs). Figure 62 shows instantaneous discharge.

Stream temperatures were recorded every two hours using a temperature probe at the Lookout Point Head of Reservoir RST site during this reporting period. The probe operated normally during this period. (Figure 63)

Flows into Lookout Point Reservoir averaged 5,281.3 cfs (Figure 64). Catch per unit of effort (CPUE) data are summarized in Table 43. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 43. Summary of Chinook CPUE at Lookout Point Head of Reservoir.

	Chinook
Description	5 ft
Catch	1
Effort (hrs)	216.4
CPUE (fish/hr)	0.005

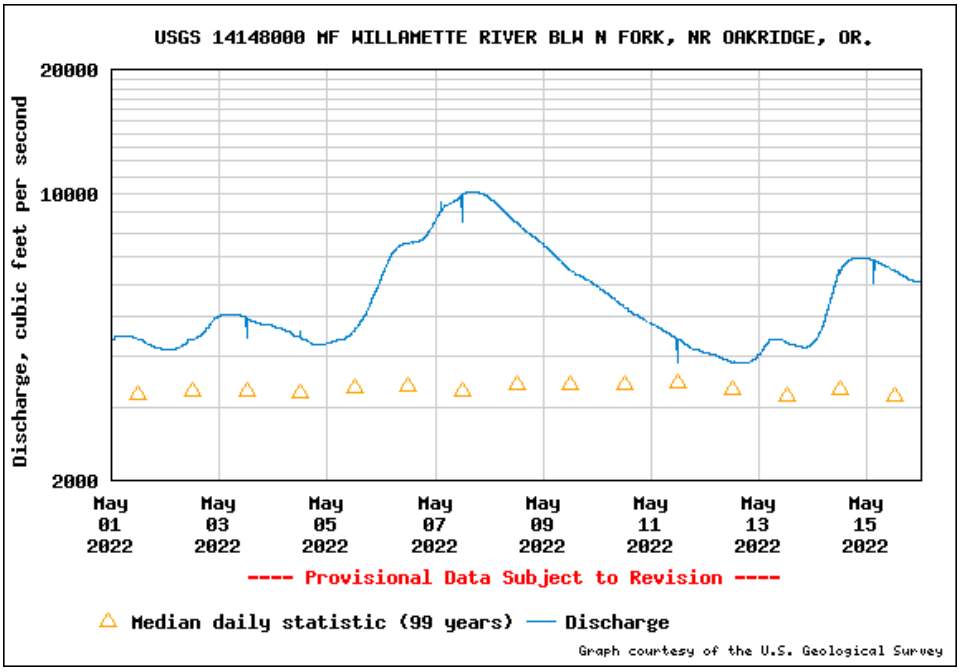
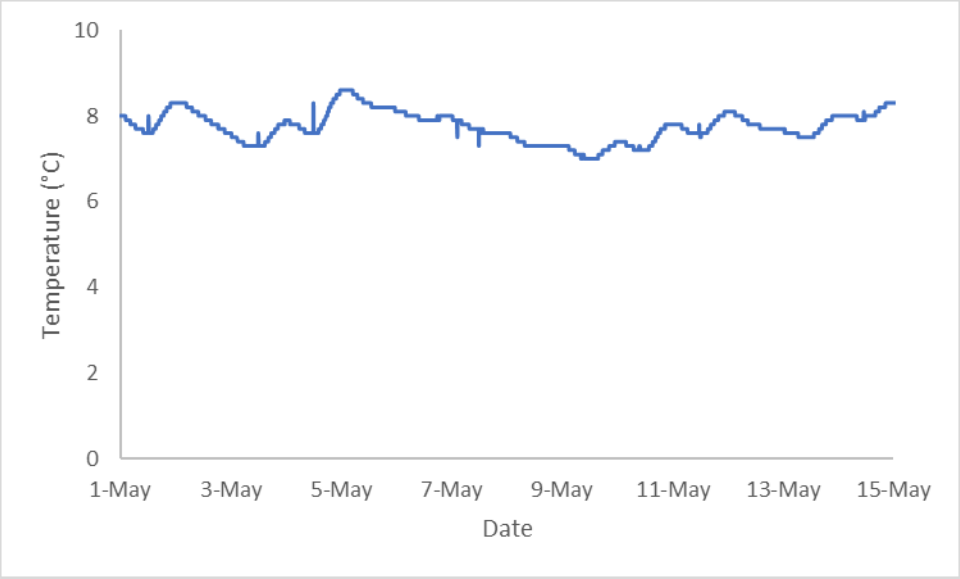


Figure 62. Discharge (cfs); above Lookout Point Reservoir, Below Oakridge, OR



Note: Hobo logger was ripped off trap during reporting period. Temperature supplemented with USGS stream gage number 14148000, 5.4 rkms downstream.

Figure 63. Temperature at RST (Lookout Point Head of Reservoir)

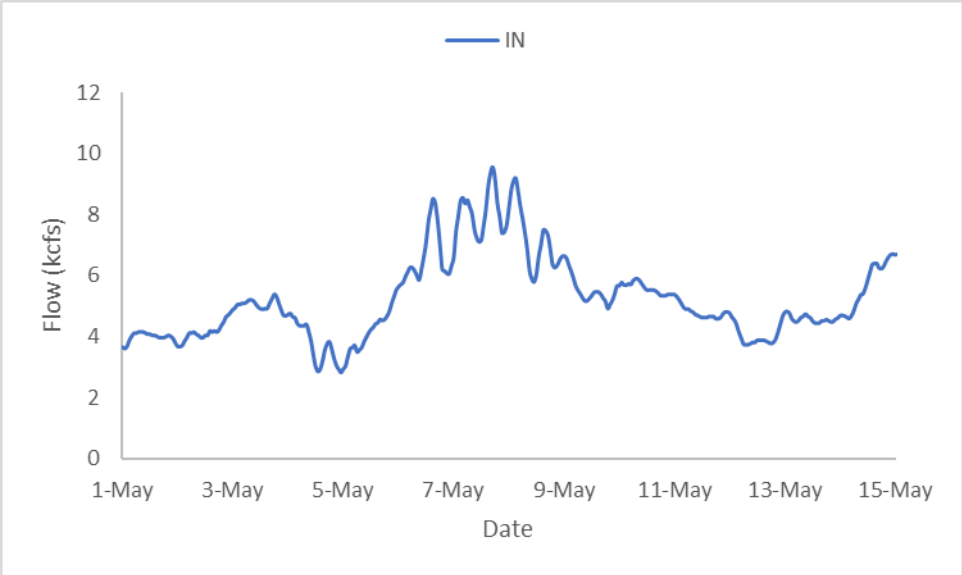


Figure 64. Hourly Flows (Lookout Point Head of Reservoir site)

Issues Encountered

A significant rain event coupled with many reservoirs near full pull or needing to maintain specific pool elevations resulted in very high flows at most sites that resulted in sampling outages. High flows at Big Cliff necessitated removing the trap on May 6th and reinstalling it on May 13th. High flows also resulted in damage to the highline at the Green Peter Dam Tailrace- Middle Santiam site. The RST was removed until the highline can be repaired.

Upcoming USACE Support Services

Following repairs to the highline at Green Peter Tailrace- Middle Santiam, crane support will be needed to reinstall the RST.

Appendix A

Chinook (CHS)

Injuries During Reporting Period (5-01-2022 to 5-15-2022)																							
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	51		34		9			38	15		41	1	1	1	1		1		11	10	1	2	7
8 ft	51		34		9			38	15		41	1	1	1	1		1		11	10	1	2	7
Smolt	50		34		9			38	15		41	1	1		1		1		11	10	1	2	7
Unknown	1													1									
Foster Dam HOR	7																						
5 ft	7																						
Fry	7																						
Cougar Dam	262	2	100	2	13	3		124	33	1	69		1		5	1	9	5	20	9	7	2	11
RO	74		42	2	9	1		52	23	1	40				1	1	4	1	12	4	2	1	9
Parr	17		10		1			12	6		11						1	1	3	2			
Smolt	55		32	2	7	1		40	17	1	28				1	1	3		9	2	2	1	9
Fry	2				1						1												
PH	188	2	58		4	2		72	10		29		1		4		5	4	8	5	5	1	2
Parr	10		3		1			6	3		6				1		1	1	4	2	1		
Smolt	79		54		1	2		66	5		23		1		2		4	3	4	2	4		2
Fry	99	2	1		2				2						1					1		1	
Cougar Dam HOR	21		1								3								1	1	1		
5 ft	21		1								3								1	1	1		
Parr	1		1																		1		
Fry	20										3								1	1			
Dexter Dam Tailrace	14		10		3			2	4		10						3	1	1	2	2		3
5 ft	14		10		3			2	4		10						3	1	1	2	2		3
Smolt	14		10		3			2	4		10						3	1	1	2	2		3
Lookout Dam Tailrace	19		5	1	4			5	9		12				2	1	4		3	1	2		3
PH 1	10		1	1	3			4	7		8				2	1	3		3				
Parr	1																						
Smolt	9		1	1	3			4	7		8				2	1	3		3				
Spill	9		4		1			1	2		4						1			1	2		3
Smolt	9		4		1			1	2		4						1			1	2		3
Lookout Point HOR	1																						
5 ft	1																						
Parr	1																						

Chinook (CHS)

Injuries to-date																							
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	402		219	1	54	2		347	116	1	217	5	9	2	20	5	36	13	53	38	15	7	11
8 ft	402		219	1	54	2		347	116	1	217	5	9	2	20	5	36	13	53	38	15	7	11
Parr	19		5			1		13	1		3					2			1				
Smolt	379		214	1	54	1		334	115	1	214	5	9		20	3	36	13	52	38	15	6	11
Unknown	2													2								1	
Fry	2																						
Fall Creek HOR	7		3					2			1												
8 ft	7		3					2			1												
Parr	2		2					1			1												
Smolt	5		1					1															
Cougar Dam	1080	3	435	2	78	5	3	453	113	3	242	2	4	2	17	2	30	20	63	36	20	6	22
RO	354		199	2	57	2	3	235	73	3	142	2			6	2	18	9	40	22	9	3	20
Parr	129		68		23			74	22		43				1		5	2	9	7			6
Smolt	210		131	2	32	2	3	161	50	3	98	2			5	2	12	7	30	14	9	3	14
Fry	15				2				1		1						1		1	1			
PH	726	3	236		21	3		218	40		100		4	2	11		12	11	23	14	11	3	2
Parr	224		123		11	1		91	17		50		1		5		3	3	9	5	5		
Smolt	169		112		6	2		127	19		46		3		5		7	4	11	6	6		2
Fry	331	3	1		4				4		4				1		2	4	3	3		3	
Unkown	2													2									
Cougar Dam HOR	350		22					3			10								4	3	1		
5 ft	350		22					3			10								4	3	1		
Parr	36		21					3			6										1		
Fry	314		1								4								4	3			
Fall Creek HOR	7		3					2			1												
8 ft	7		3					2			1												
Parr	2		2					1			1												
Smolt	5		1					1															
Dexter Dam Tailrace	16		12		3			2	4		11						3	1	1	2	2		3
5 ft	16		12		3			2	4		11						3	1	1	2	2		3
Smolt	16		12		3			2	4		11						3	1	1	2	2		3
Lookout Dam Tailrace	21		5	1	5			6	11		12				2	1	5		3	1	2		3
PH 1	11		1	1	4			5	8		8				2	1	4		3				
Parr	1																						
Smolt	10		1	1	4			5	8		8				2	1	4		3				
Spill	10		4		1			1	3		4						1			1	2		3
Parr	1								1														
Smolt	9		4		1			1	2		4						1			1	2		3
Lookout Point HOR	57		13					1			5						1						
5 ft	57		13					1			5						1						
Parr	26		13					1			5						1						
Fry	31																						

Steelhead (O. mykiss)

Injuries During Reporting Period (5-01-2022 to 5-15-2022)																								
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	2							1															
8 ft	2							1															
Parr	1																						
Smolt	1							1															
Foster Dam HOR	13		1								2												
5 ft	13		1								2												
Adult	7		1								2												
Parr	1																						
Smolt	1																						
Fry	4																						

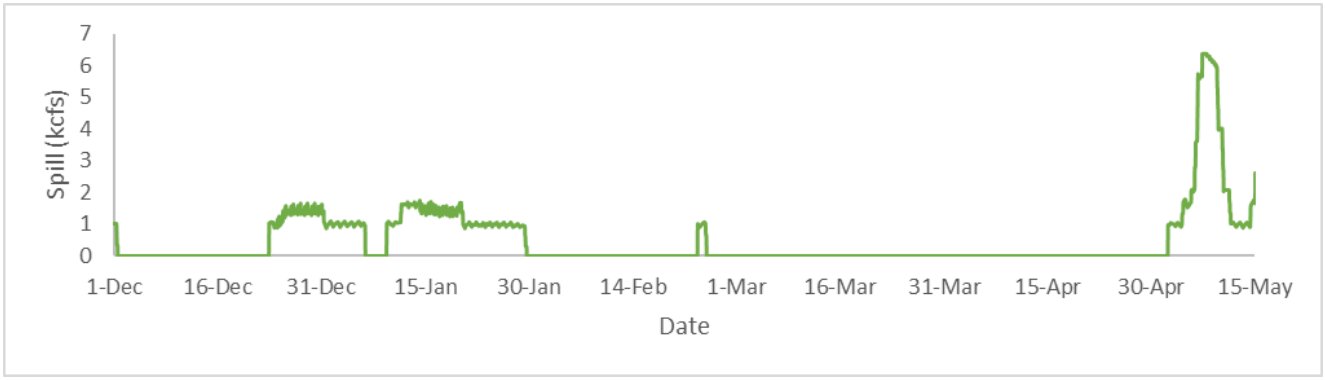
Steelhead (O. mykiss)

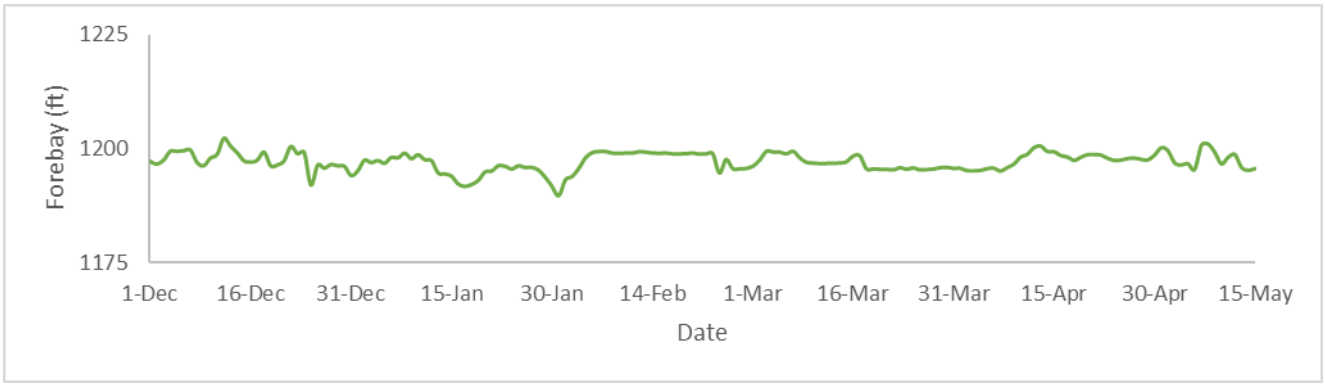
Injuries to-date																								
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	10		6					7	2		4						2		2	2			
8 ft	10		6					7	2		4						2		2	2			
Parr	1																						
Smolt	9		6					7	2		4						2		2	2			
Green Peter Tailrace	6		3		1			1	2		4						4		1	1			5
8 ft	6		3		1			1	2		4						4		1	1			5
Smolt	6		3		1			1	2		4						4		1	1			5
Foster Dam HOR	84		23					1			10							1					
5 ft	84		23					1			10							1					
Adult	7		1								2												
Parr	13		5					1			1												
Smolt	35		17								7							1					
Fry	29																						

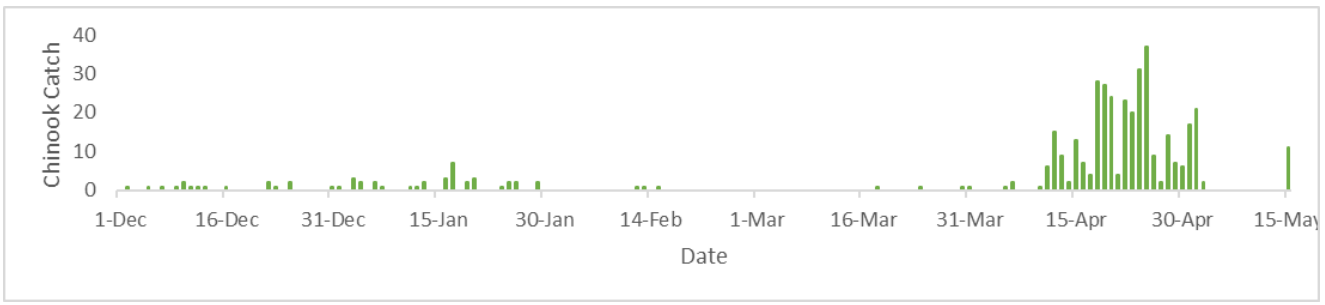
Injury Code	Description of Injury/Condition
NXI	Live fish with no external injuries
MUNK	Mortality with no external injuries
DS<2	Descaling <20%
BLO	Bloated
EYB	Bloody Eye (hemorrhage)
BVT	Bleeding from Vent
FVB	Fin Blood Vessels Broken
GBD	Gas Bubble Disease (fin ray/eye inclusions)
POP	Pop Eye (eye popping out of head)
HIN	Head Injury
OPD	Opercle Damage
TEA	Body Injury (tears, scrapes, mechanical damage)
BRU	Bruising (any part of the body)
HBP	Hole Behind Pectoral Fin
DS>2	Descaling > 20%
HO	Head Only
BO	Body Only
HBO	Head Barely Connected
FID	Fin Damage
PRD	Predation Marks (vert. claw or teeth marks)
COP	Copepods (on gills or fins)
BKD	BKD (distended abdomen)
FUN	Fungus

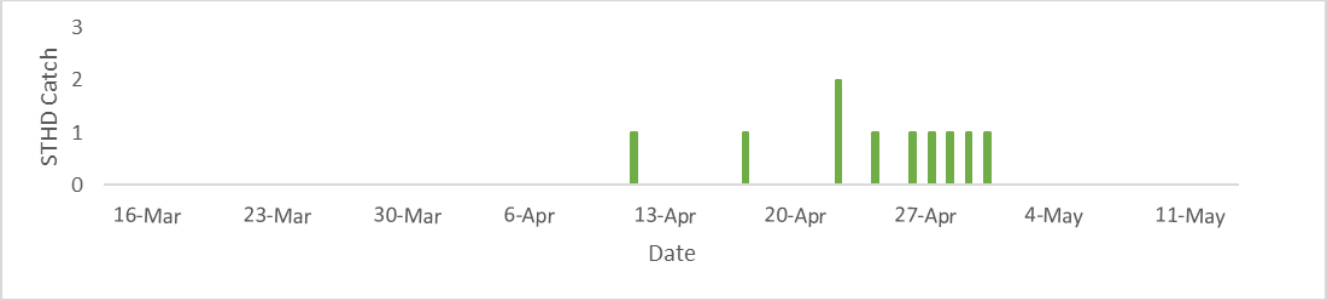
Appendix B

Big Cliff Dam Operational and Capture Data Since Start of Monitoring

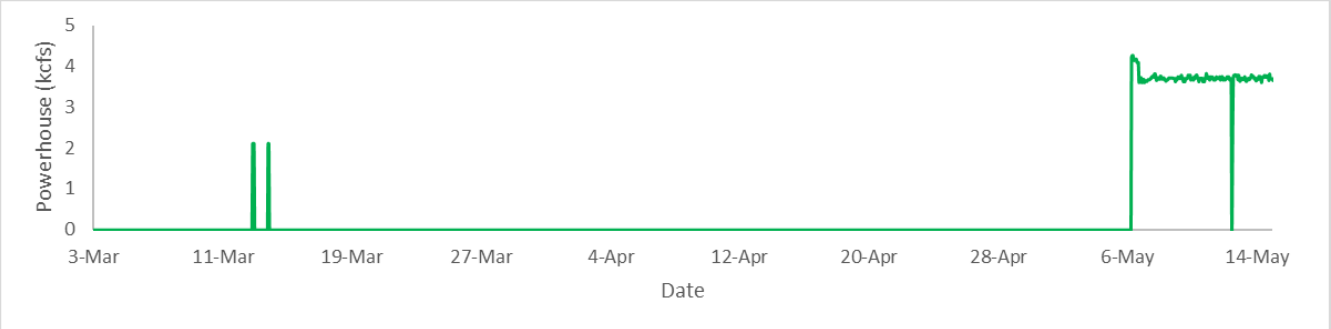


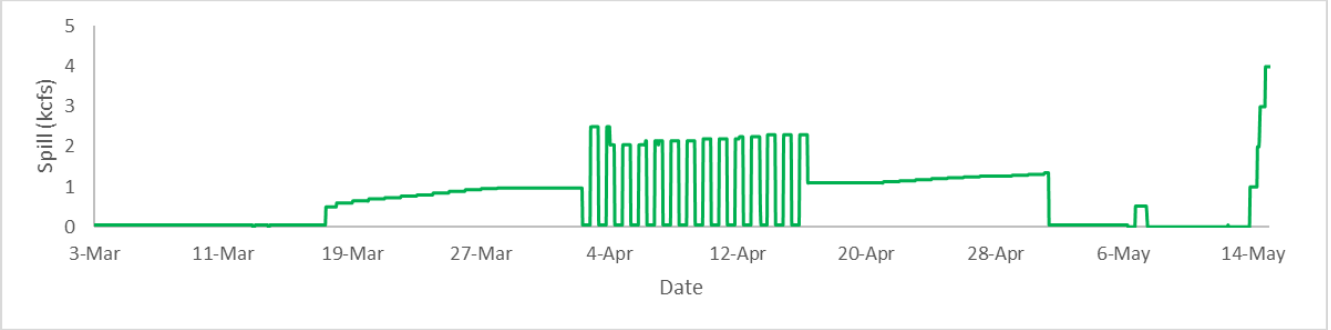


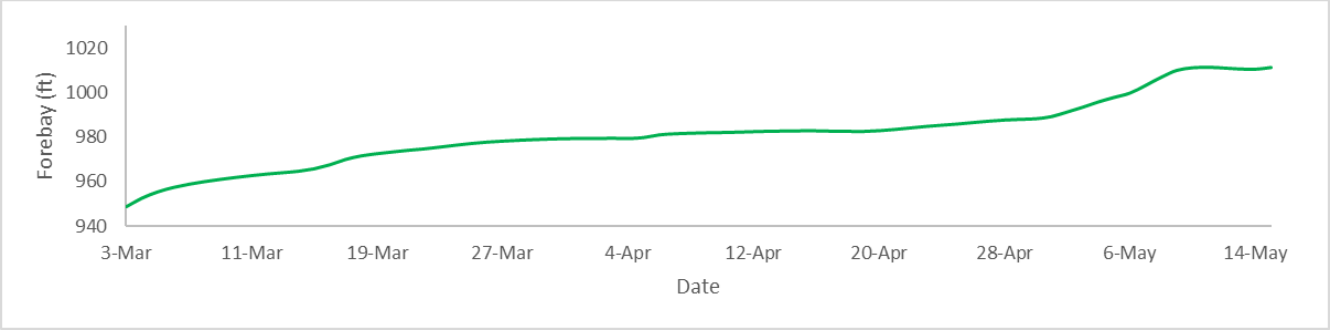


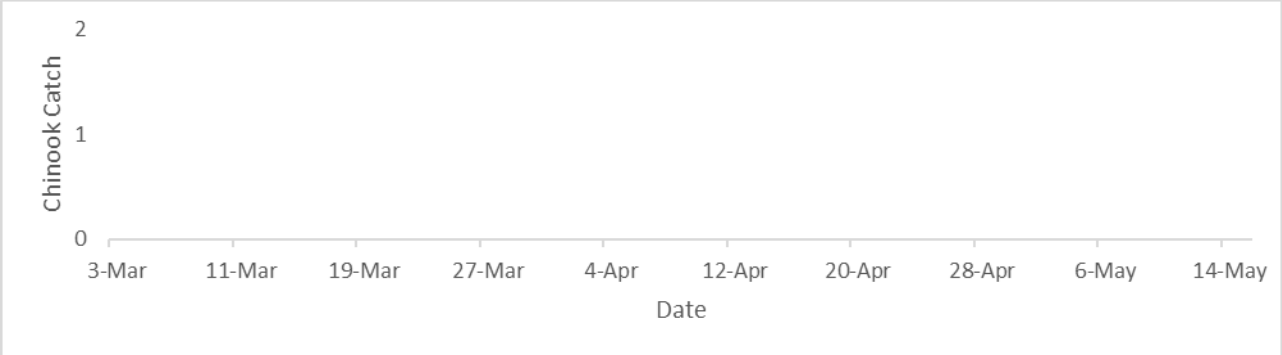


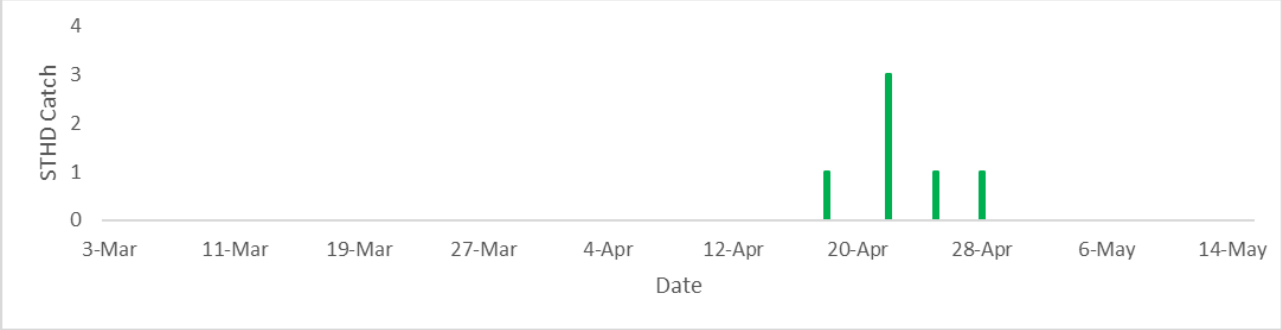
Green Peter Dam Operational and Green Peter Tailrace- Middle Santiam River Capture Data Since Start of Monitoring



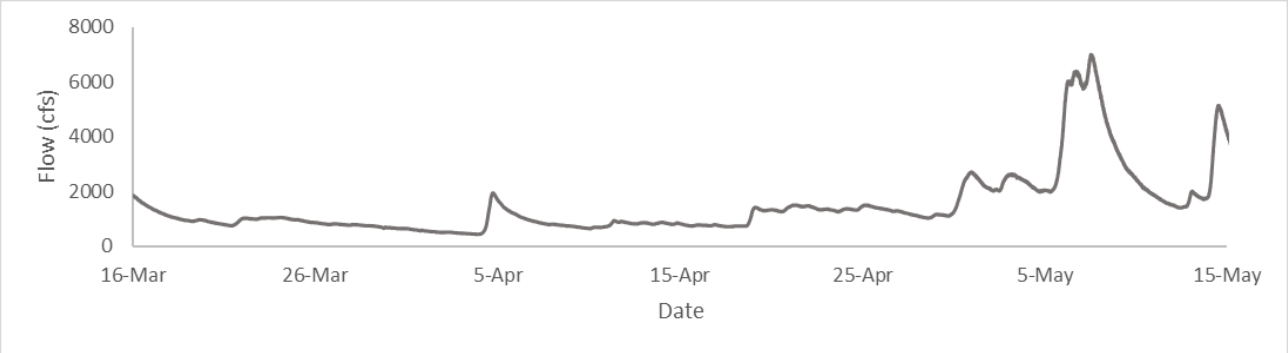




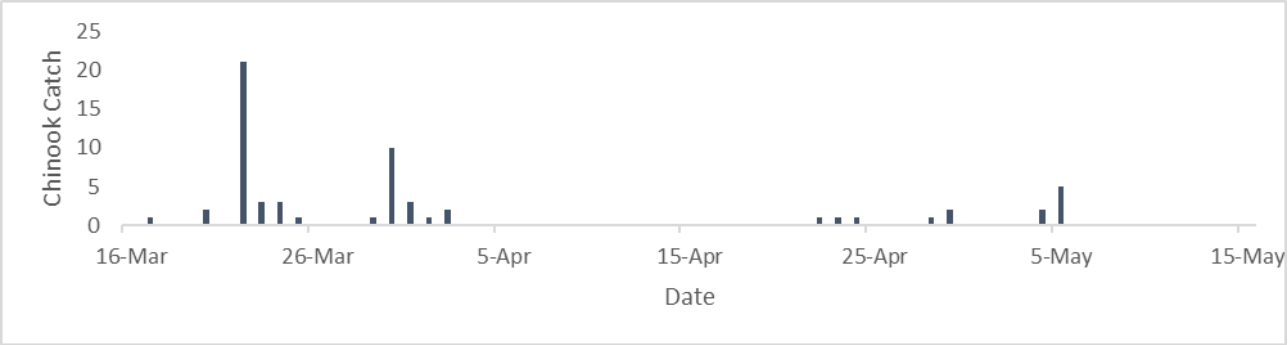


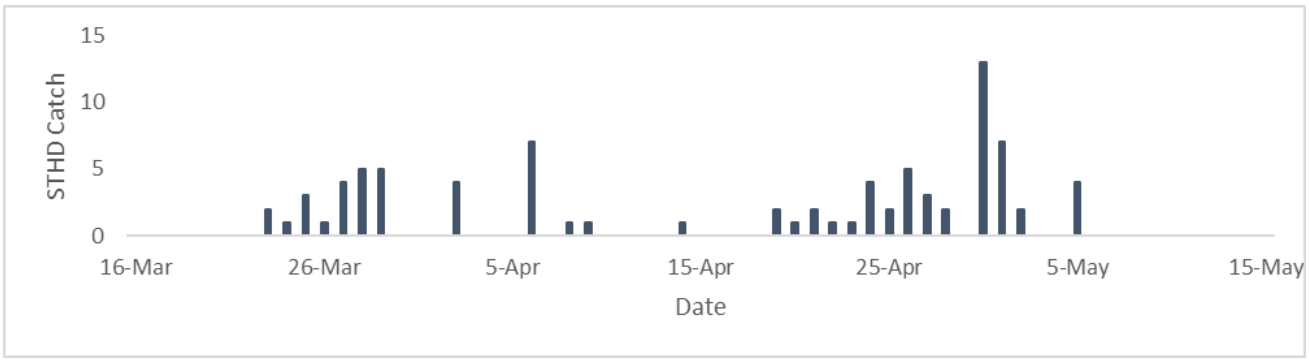


South Santiam River Above Foster Dam Discharge and Foster Dam Head of Reservoir Capture Data

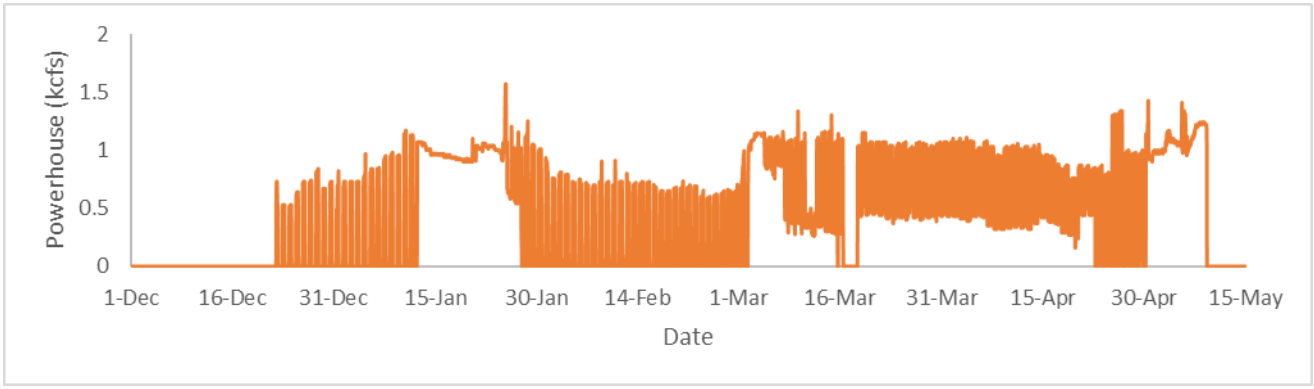


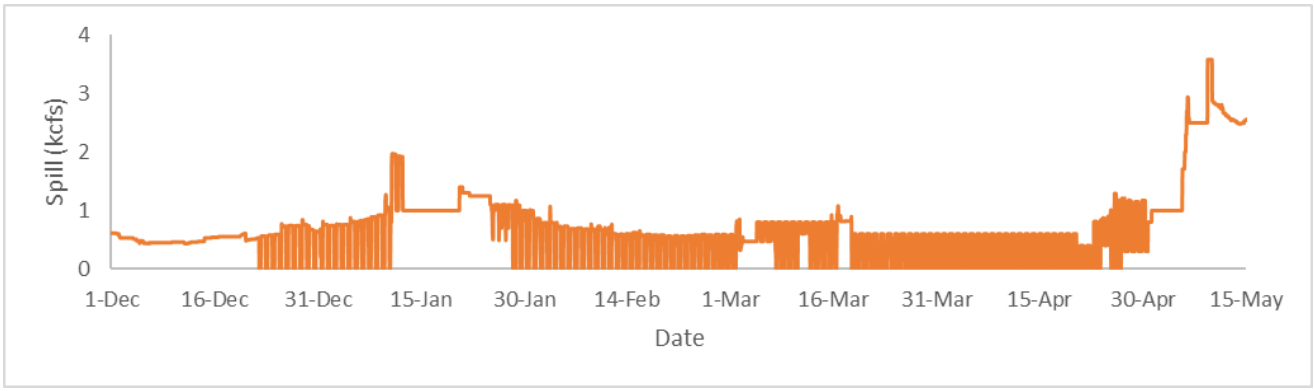
Note: Discharge data was taken from USGS gage site number 14185000, 250 meters upstream.

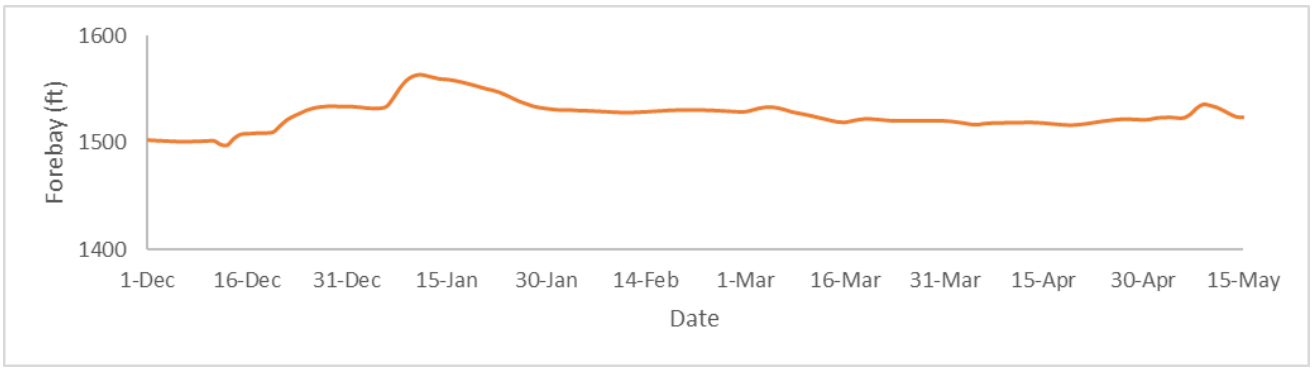


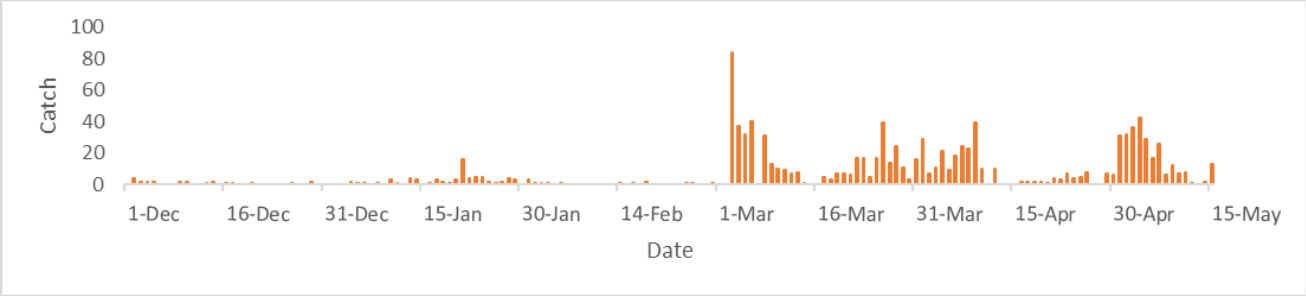


Cougar Dam Operational and Capture Data Since Start of Monitoring

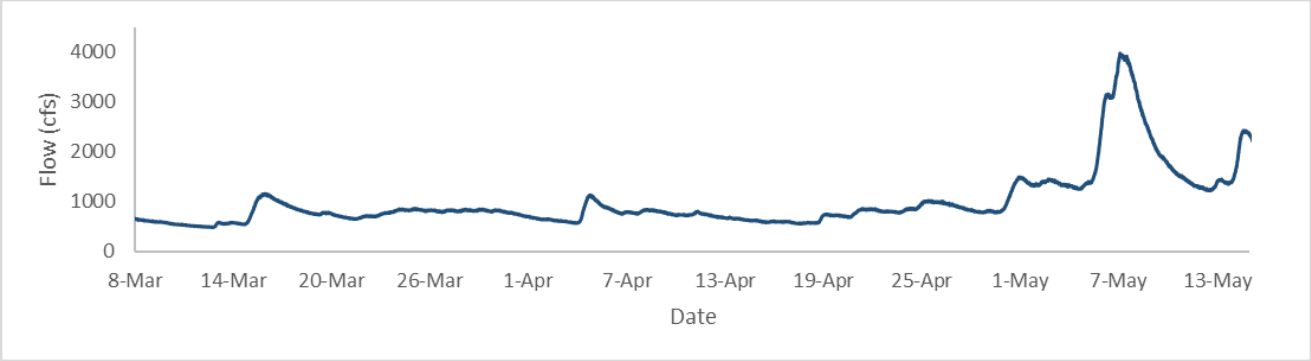




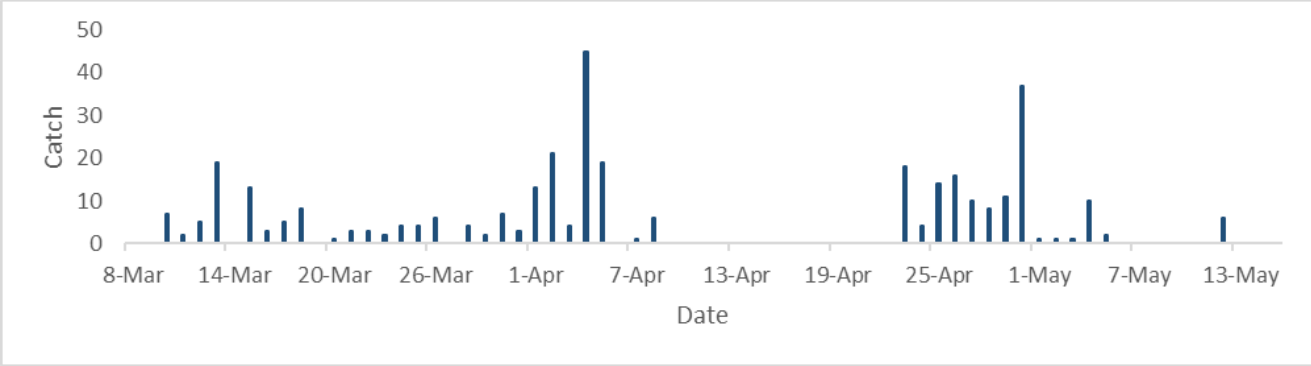




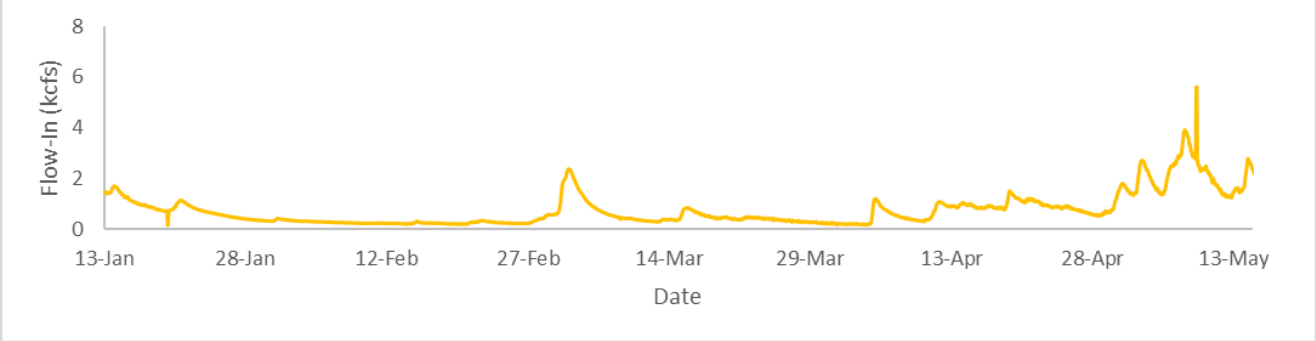
South Fork McKenzie above Cougar Dam Discharge and Cougar Dam Head of Reservoir Capture Data Since Start of Monitoring

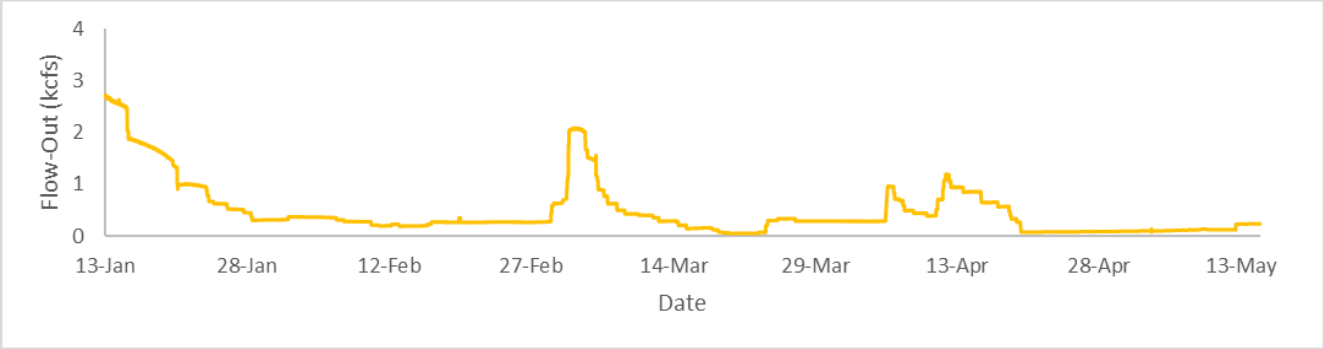


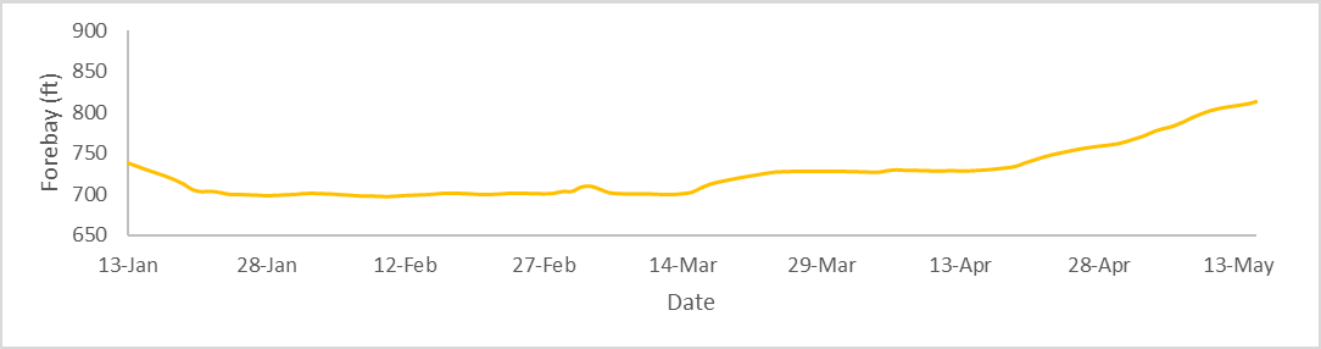
Note: Discharge data was taken from USGS gage site number 14159200, 250 meters upstream.



Fall Creek Dam Operational and Capture Data Since Start of Monitoring

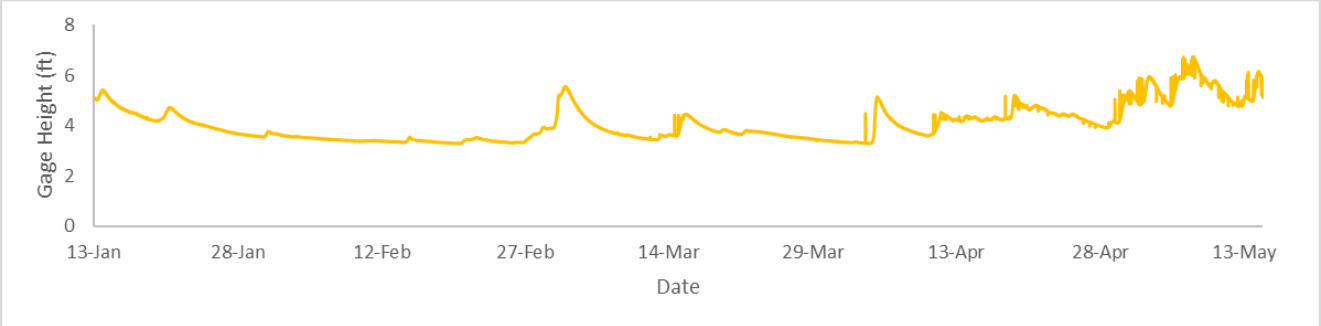




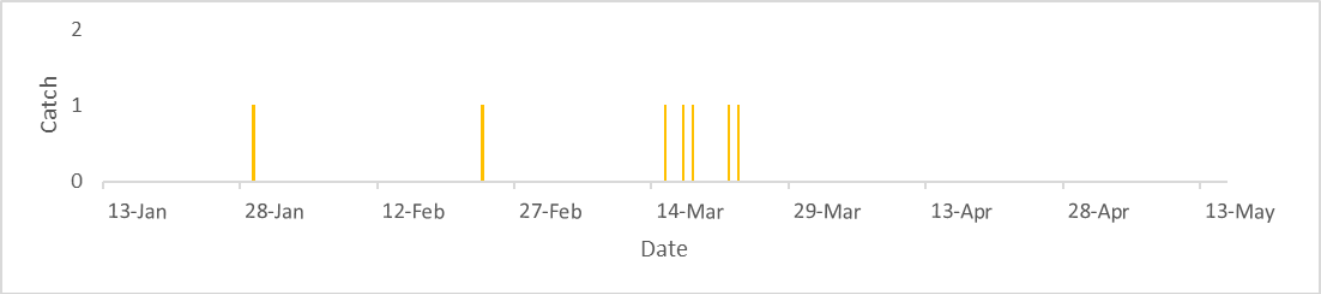


Note: Operational data was being tracked for Fall Creek Head of Reservoir site prior to initiation of Fall Creek Dam monitoring.

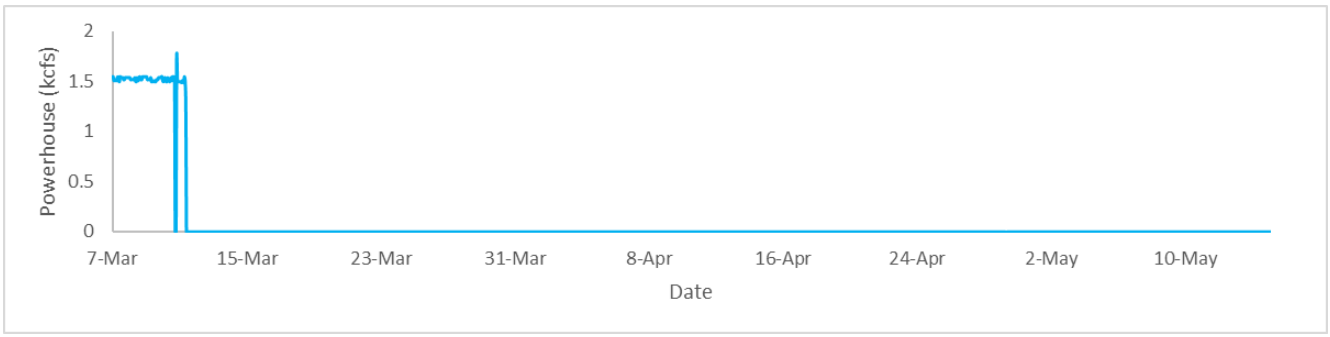
Fall Creek Head of Reservoir Operational and Capture Data Since Start of Monitoring

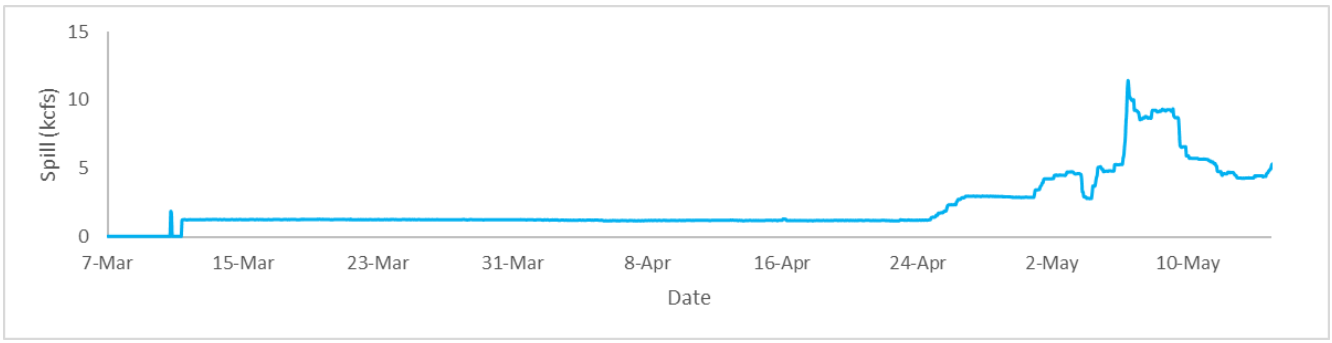


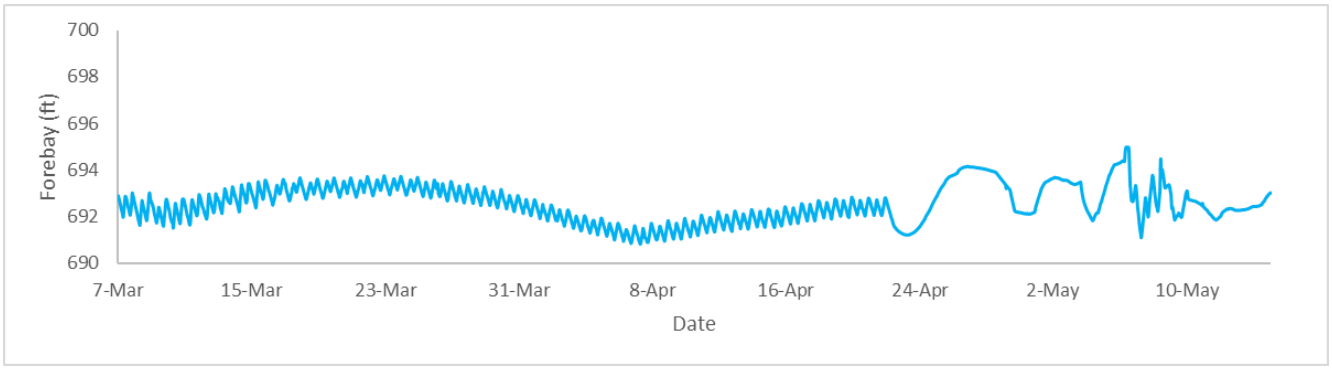
Note: Gage height data was taken from USGS stream gage number 14150290, 1.2 rkms downstream.

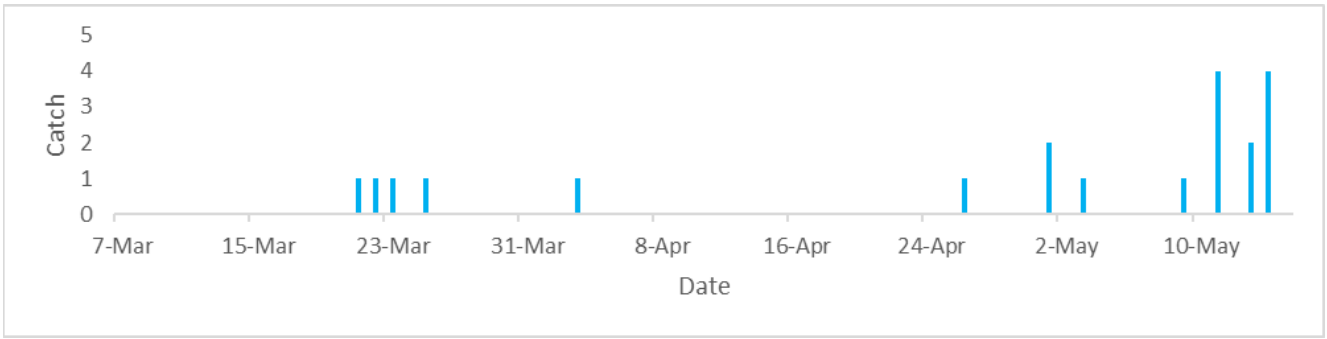


Dexter Dam Operational and Capture Data Since Start of Monitoring

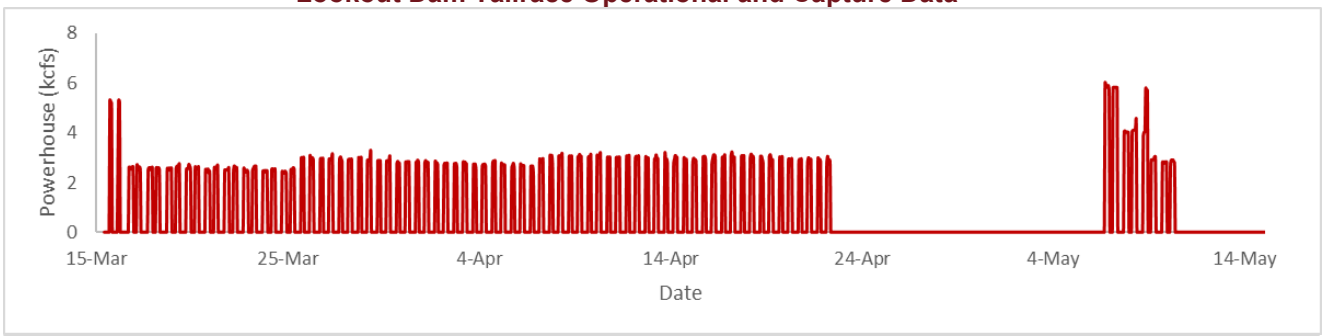


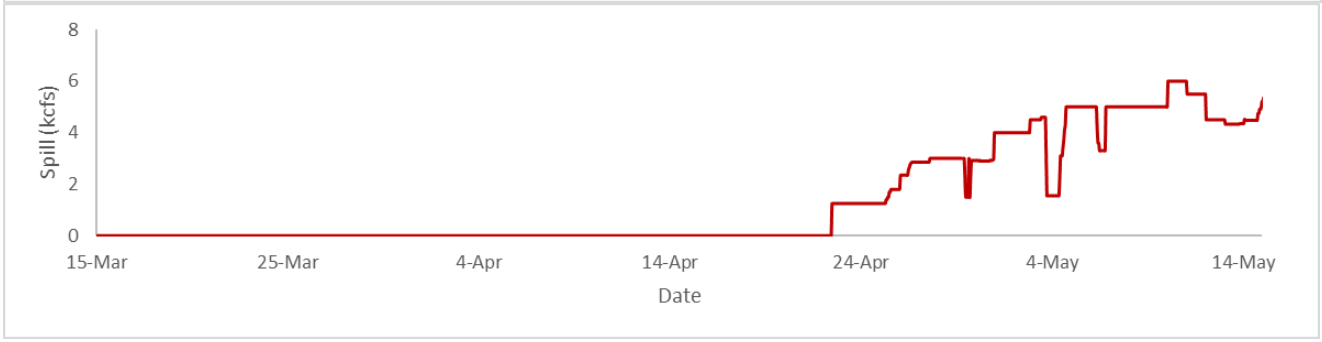


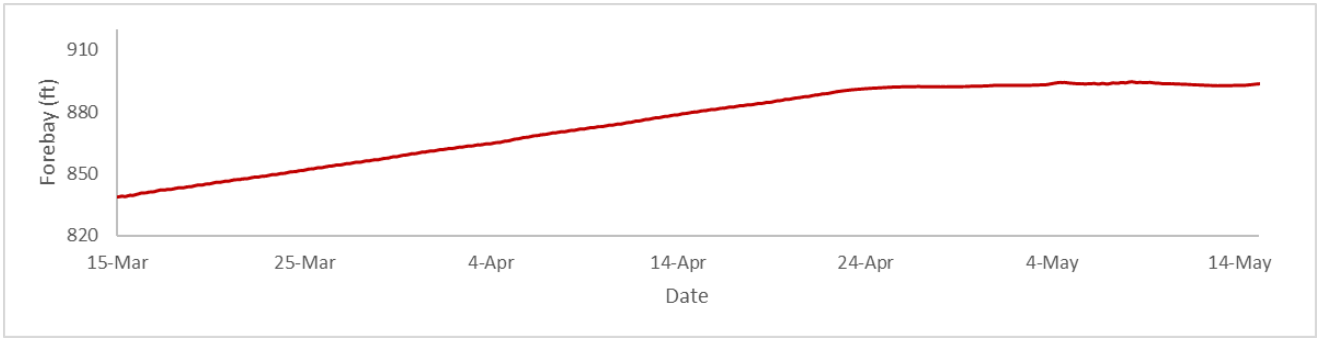




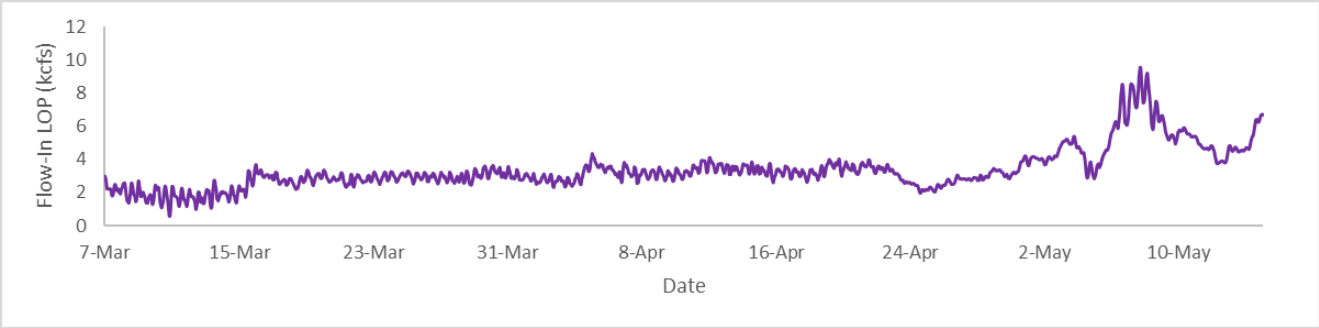
Lookout Dam Tailrace Operational and Capture Data

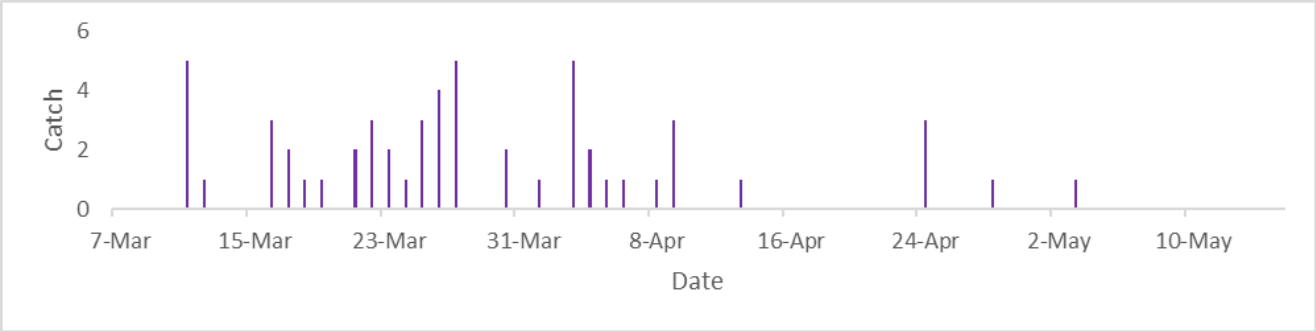




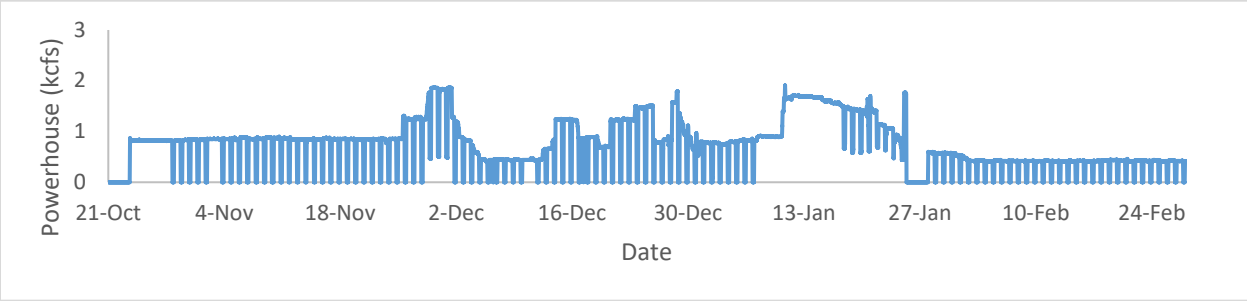


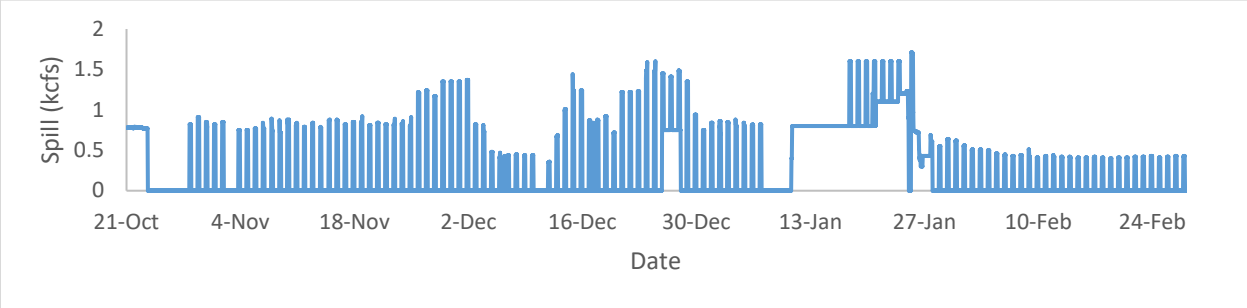
Lookout Point Head of Reservoir Operational and Capture Data Since Start of Monitoring

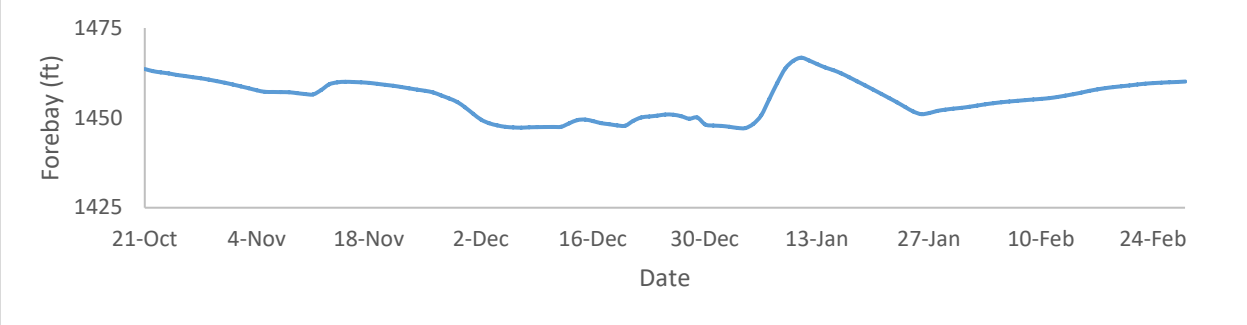


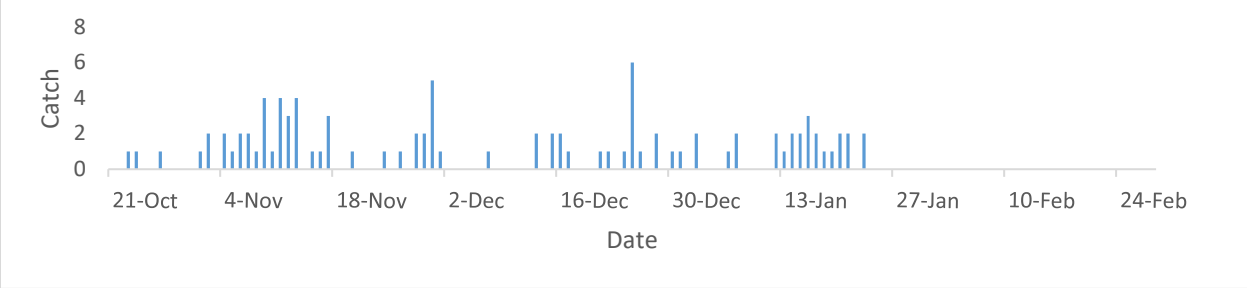


Hills Creek Dam Operational and Capture Data Since Start of Monitoring









Appendix C

Hills Creek Trapping Efficiency 1/6/2022

Hills Creek Dam	Release #	Recapture #	Capture Efficiency
PH Route	596	20	3.36% (20/596)
RO Trap	RO Route- 605	13	2.15% (13/605)
	PH Route- 592	5	0.84% (5/592)

*Live fish captured at the PH trap are released just downstream of the PH trap, upstream of the RO trap and therefore retained in the capture efficiency estimates for the RO Trap if they arrive in the lower trap.
*Any dead fish captured at the PH trap are excluded from the RO trap capture efficiency estimate as they are not alive at time of re-release.

Cougar Dam Trapping Efficiency (01/19/22)

Cougar Dam	Release #	Recapture #	Capture Efficiency
PH Route	405	40	9.88% (40/405)
RO Route	410	28	6.83% (28/410)

Dexter Dam Tailrace Trapping Efficiency (03/23/2022)

Dexter Dam	Release #	Recapture #	Capture Efficiency
Spill	988	2	0.2% (2/988)
Powerhouse	N/A	N/A	N/A

Green Peter Dam Tailrace- Middle Santiam Trapping Efficiency (03/29/22)

Green Peter Dam Tailrace- Middle Santiam	Release #	Recapture #	Capture Efficiency
8ft Trap	643	4	0.62% (4/643)

Appendix D

Summary of Project PIT Tagged Fish for Reporting Period

Site	Trap	# of PIT Tagged Fish
Big Cliff Dam	8 foot	161
Foster Dam Head of Reservoir- South Santiam	5 foot	25
Cougar Dam	PWR	4
Cougar Dam	RO	34
Green Peter Tailrace- Middle Santiam	8 foot	1
Dexter Dam Tailrace	5 foot	1
Lookout Point Head of Reservoir	5 foot	2
Lookout Dam Tailrace	Spill	1

To Date Summary of Captured Fish Containing PIT Tags

Site	Date	Trap	Species	PIT Tag #
Cougar Dam	4/7/2022	RO	Chinook	3DD.003BD59645
Cougar Dam	3/3/2022	PH	Chinook	3DD.003DA4DC74
Cougar Dam	3/4/2022	PH	Chinook	3DD.003E14CA70
Cougar Dam	3/4/2022	PH	Chinook	384.36F2B2C5D2
Cougar Dam	3/5/2022	PH	Chinook	3DD.003E14CC20
Cougar Dam	3/8/2022	PH	Chinook	3DD.003E14CD8D
Cougar Dam	3/6/2022	RO	Chinook	3DD.003E14C9D6
Cougar Dam	1/8/2022	RO	Chinook	3DD.0077780789
Cougar Dam	1/14/2022	RO	Chinook	384.36F2B2C55F

List of EAS PIT Tagged Fish for Reporting Period with site, tagging date, trap, species, and PIT Tag #

Site	Date	Trap	Species	Pit Tag #
Big Cliff Dam	5/1/2022	8 ft	O. mykiss	3DD.003E1BC822
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC845
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC7F0
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC847
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC838
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC816
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC820
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC821
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC899
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC87A
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC86F
Big Cliff Dam	5/1/2022	8 ft	Chinook	3DD.003E1BC8AB
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC83D
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC815
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC82B
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC83E
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC7E4
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC831
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC81C
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC80C
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC82A
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC834
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC836
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC842
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC840
Big Cliff Dam	5/2/2022	8 ft	O. mykiss	3DD.003E1BC839
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC844

Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC83B
Big Cliff Dam	5/2/2022	8 ft	Chinook	3DD.003E1BC833
Cougar Dam	5/1/2022	PH	Chinook	3DD.003BEE2622
Cougar Dam	5/1/2022	PH	Chinook	3DD.003BEE2641
Cougar Dam	5/1/2022	PH	Chinook	3DD.003BEE2632
Cougar Dam	5/1/2022	PH	Chinook	3DD.003BEE262A
Cougar Dam	5/1/2022	PH	Chinook	3DD.003BEE2613
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE281B
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE2846
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE2838
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE2845
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE282C
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE2802
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE27F4
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE27EF
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE280F
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE283C
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE280C
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Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE2824
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE2842
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE2814
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE283A
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE27E3
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE2815
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE27F2
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE27FF
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE281C
Cougar Dam	5/3/2022	PH	Chinook	3DD.003BEE2817
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Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2840
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE27E9
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2835
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE281D
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE27F3
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE283E
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2825
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE282D
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2832
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2826
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE281F
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2834
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE27ED

Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2810
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE27FA
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2837
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE27EB
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2844
Cougar Dam	5/4/2022	PH	Chinook	3DD.003BEE2818
Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE2828
Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE2820
Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE2808
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Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE2804
Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE27FB
Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE2819
Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE27F9
Cougar Dam	5/5/2022	PH	Chinook	3DD.003BEE2816
Cougar Dam	5/6/2022	PH	Chinook	3DD.003E1BC786
Cougar Dam	5/6/2022	PH	Chinook	3DD.003E1BC7A0
Cougar Dam	5/6/2022	PH	Chinook	3DD.003E1BC7D3
Cougar Dam	5/6/2022	PH	Chinook	3DD.003E1BC7D0
Cougar Dam	5/6/2022	PH	Chinook	3DD.003E1BC7B5
Cougar Dam	5/6/2022	PH	Chinook	3DD.003E1BC7DF
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE2805
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE27FC
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE27EC
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE282E
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE280D
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE27F0
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE2829
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE27FD
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE27F8
Cougar Dam	5/7/2022	PH	Chinook	3DD.003BEE2823
Cougar Dam	5/8/2022	PH	Chinook	3DD.003E1BC837
Cougar Dam	5/8/2022	PH	Chinook	3DD.003E1BC813
Cougar Dam	5/8/2022	PH	Chinook	3DD.003E1BC828
Cougar Dam	5/8/2022	PH	Chinook	3DD.003E1BC83A
Cougar Dam	5/9/2022	PH	Chinook	3DD.003E1BC80A
Cougar Dam	5/9/2022	PH	Chinook	3DD.003E1BC81F
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE263B
Cougar Dam	5/2/2022	PH	Chinook	3DD.003BEE2624
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE2633
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE2600
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE2630
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE2638
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE2621

Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE2619
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE2650
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE262E
Cougar Dam	5/1/2022	RO	Chinook	3DD.003BEE261D
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE27F5
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE280B
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE2831
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE2813
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE281A
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE2833
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE2830
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE283D
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE283B
Cougar Dam	5/2/2022	RO	Chinook	3DD.003BEE2811
Cougar Dam	5/3/2022	RO	Chinook	3DD.003BEE2801
Cougar Dam	5/3/2022	RO	Chinook	3DD.003BEE280A
Cougar Dam	5/3/2022	RO	Chinook	3DD.003BEE2812
Cougar Dam	5/3/2022	RO	Chinook	3DD.003BEE2822
Cougar Dam	5/4/2022	RO	Chinook	3DD.003BEE27F1
Cougar Dam	5/4/2022	RO	Chinook	3DD.003BEE27F7
Cougar Dam	5/4/2022	RO	Chinook	3DD.003BEE283F
Cougar Dam	5/4/2022	RO	Chinook	3DD.003BEE282A
Cougar Dam	5/4/2022	RO	Chinook	3DD.003BEE2839
Cougar Dam	5/4/2022	RO	Chinook	3DD.003BEE281E
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE280E
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE27E8
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE2836
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE27EE
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE2800
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE27EA
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE282F
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE2841
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE2806
Cougar Dam	5/5/2022	RO	Chinook	3DD.003BEE27E4
Cougar Dam	5/7/2022	RO	Chinook	3DD.003BEE2827
Cougar Dam	5/7/2022	RO	Chinook	3DD.003BEE2821
Cougar Dam	5/10/2022	RO	Chinook	3DD.003E1BC811
Cougar Dam	5/10/2022	RO	Chinook	3DD.003E1BC800
Cougar Dam	5/10/2022	RO	Chinook	3DD.003E1BC825
Cougar Dam	5/10/2022	RO	Chinook	3DD.003BEE1650
Cougar Dam	5/10/2022	RO	Chinook	3DD.003BEE168A
Cougar Dam	5/10/2022	RO	Chinook	3DD.003BEE1660
Cougar Dam	5/11/2022	RO	Chinook	3DD.003E1BC7CB
Cougar Dam	5/11/2022	RO	Chinook	3DD.003E1BC7CF

Cougar Dam	5/11/2022	RO	Chinook	3DD.003E1BC7A8
Cougar Dam	5/11/2022	RO	Chinook	3DD.003E1BC7A4
Cougar Dam	5/11/2022	RO	Chinook	3DD.003E1BC7D9
Cougar Dam	5/11/2022	RO	Chinook	3DD.003E1BC7E0
Cougar Dam	5/15/2022	RO	Chinook	3DD.003E1BC7D1
Cougar Dam	5/15/2022	RO	Chinook	3DD.003E1BC7E1
Cougar Dam	5/15/2022	RO	Chinook	3DD.003E1BC7A3
Cougar Dam	5/10/2022	PH	Chinook	3DD.003E1BC7EB
Cougar Dam	5/14/2022	RO	Chinook	3DD.003E1BC7AC
Cougar Dam	5/14/2022	RO	Chinook	3DD.003E1BC7AE
Cougar Dam Head of Reservoir	5/4/2022	5 ft	Chinook	3DD.003BEE2803
Dexter Dam Tailrace	5/1/2022	5 ft	Chinook	3DD.003E1BC7CA
Dexter Dam Tailrace	5/1/2022	5 ft	Chinook	3DD.003E1BC7B4
Dexter Dam Tailrace	5/9/2022	5 ft	Chinook	3DD.003BEE29E8
Dexter Dam Tailrace	5/11/2022	5 ft	Chinook	3DD.003BEE27E6
Dexter Dam Tailrace	5/11/2022	5 ft	Chinook	3DD.003BEE27E7
Dexter Dam Tailrace	5/11/2022	5 ft	Chinook	3DD.003BEE2843
Dexter Dam Tailrace	5/13/2022	5 ft	Chinook	3DD.003BEE1A55
Dexter Dam Tailrace	5/13/2022	5 ft	Chinook	3DD.003BEE1A3D
Foster Dam Head of Reservoir- South Santiam River	5/2/2022	5 ft	O. mykiss	3DD.003BEE2645
Foster Dam Head of Reservoir- South Santiam River	5/2/2022	5 ft	O. mykiss	3DD.003BEE2611
Foster Dam Head of Reservoir- South Santiam River	5/1/2022	8 ft	O. mykiss	3DD.003E1BC74D
Foster Dam Head of Reservoir- South Santiam River	5/1/2022	8 ft	O. mykiss	3DD.003E1BC80E
Foster Dam Head of Reservoir- South Santiam River	5/1/2022	8 ft	O. mykiss	3DD.003E1BC80D
Foster Dam Head of Reservoir- South Santiam River	5/1/2022	8 ft	O. mykiss	3DD.003E1BC818
Foster Dam Head of Reservoir- South Santiam River	5/1/2022	8 ft	O. mykiss	3DD.003E1BC810A
Foster Dam Head of Reservoir- South Santiam River	5/1/2022	8 ft	O. mykiss	3DD.003E1BC83F
Foster Dam Head of Reservoir- South Santiam River	5/1/2022	8 ft	O. mykiss	3DD.003E1BC7E6
Lookout Dam Tailrace	5/1/2022	PH 1	Chinook	3DD.003E1BC7B9
Lookout Dam Tailrace	5/3/2022	PH 1	Chinook	3DD.003E1BC7B2
Lookout Dam Tailrace	5/5/2022	PH 1	Chinook	3DD.003E1BC788
Lookout Dam Tailrace	5/5/2022	Spill	Chinook	3DD.003E1BC7DC
Lookout Dam Tailrace	5/11/2022	Spill	Chinook	3DD.003BEE2828
Lookout Dam Tailrace	5/11/2022	Spill	Chinook	3DD.003BEE1A77
Lookout Dam Tailrace	5/12/2022	Spill	Chinook	3DD.003BEE29F0