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Report Period: February 1st to February 15th, 2024

Re: **CRAMER FISH SCIENCES – WILLAMETTE VALLEY FISH PASSAGE MONITORING VIA ROTARY SCREW TRAPS**

Project Schedule

Table 1. Project Schedule

Site	Task	Start	End	Days
Breitenbush River RST	Operation	6/16/2023	11/30/2024	470
Breitenbush River RST	Install	1/26/2024	1/26/2024	1
Breitenbush River RST	Trapping Efficiency (750)	2/7/2024	2/7/2024	1
Big Cliff Dam RST	Operation	10/15/2023	12/31/2024	443
Big Cliff Dam RST	Trapping Efficiency (500)	2/14/2024	2/14/2024	1
Detroit Head of Reservoir- North Santiam River RST	Operation	5/4/2023	11/30/2024	513
Detroit Head of Reservoir- North Santiam River RST	Install	1/31/2024	1/31/2024	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (749)	2/7/2024	2/7/2024	1
Green Peter Head of Reservoir- Middle Santiam River RST	Operation	5/4/2023	11/30/2024	575
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (753)	2/8/2024	2/8/2024	1
Green Peter Tailrace- Middle Santiam River RST	Operation	12/1/2023	12/31/2024	396
Green Peter Tailrace- Middle Santiam River RST	Trapping Efficiency (1,003)	1/9/2024	1/9/2024	1
Foster Dam Head of Reservoir- South Santiam River RST	Operation	12/1/2023	12/31/2023	0
Foster Dam Head of Reservoir- South Santiam River RST	Install	1/24/2024	1/24/2024	1
Foster Dam Head of Reservoir- South Santiam River RST	Trapping Efficiency (1,005)	2/2/2024	2/2/2024	1
Fall Creek Head of Reservoir RST	Operation	1/1/2024	6/30/2024	181
Fall Creek Head of Reservoir RST	Trapping Efficiency (755 fish)	1/2/2024	1/2/2024	1
Fall Creek Head of Reservoir RST	Trapping Efficiency (751)	2/2/2024	2/2/2024	1
Fall Creek Dam Tailrace RST	Operation	10/1/2023	12/31/2024	457
Fall Creek Dam Tailrace RST	Trapping Efficiency (999 fish)	1/22/2024	1/22/2024	1
Fall Creek Dam Tailrace RST	Trapping Efficiency (1,004)	2/13/2024	2/13/2024	1
Dexter Dam Tailrace RST	Operation	12/16/2023	12/31/2024	381
Dexter Dam Powerhouse	Trapping Efficiency (4,004 fish)	1/9/2024	1/9/2024	1
Dexter Dam Spillway	Trapping Efficiency (2,067)	2/8/2024	2/8/2024	1
Cougar Dam RST	Operation	12/1/2023	12/31/2023	396
Cougar Dam- Regulating Outlet	Trapping Efficiency	1/11/2024	1/11/2024	1

	(505 fish)			
Cougar Dam- Powerhouse	Trapping Efficiency (502 fish)	1/30/2024	1/30/2024	1
Cougar Dam- Regulating Outlet	Trapping Efficiency (505 fish)	2/7/2024	2/7/2024	1
Cougar Dam- Powerhouse	Trapping Efficiency (493 fish)	2/7/2024	2/7/2024	1
Cougar Dam Head of Reservoir	Operation	12/1/2023	12/31/2023	0
Cougar Dam Head of Reservoir	Install	1/23/2024	1/23/2024	1
Cougar Dam Head of Reservoir	Trapping Efficiency (768 fish)	2/6/2024	2/6/2024	1
Lookout Point Head of Reservoir	Operation	12/16/2023	12/31/2024	381
Lookout Point Head of Reservoir	Trapping Efficiency (1,505 fish)	1/3/2023	1/3/2024	1
Lookout Point Head of Reservoir	Trapping Efficiency (761 fish)	2/14/2023	2/14/2024	1
Lookout Dam Tailrace RSTs	Operation	8/01/2023	12/31/2023	517
Lookout Dam Tailrace Powerhouse	Trapping Efficiency (17,553 fish)	1/10/2024	1/10/2024	1
Hills Creek Dam RSTs	Operation	9/15/2023	12/31/2024	472
Hills Creek Dam Regulating Outlet	Trapping Efficiency (503 fish)	1/4/2024	1/4/2024	1
Hills Creek Dam Powerhouse	Trapping Efficiency (503 fish)	1/23/2024	1/23/2024	1
Hills Creek Head of Reservoir RST	Operation	5/9/2023	6/30/2023	52
Hills Creek Head of Reservoir RST	Install	1/24/2024	1/24/2024	1
Hills Creek Head of Reservoir RST	Trapping Efficiency (761 fish)	2/15/2023	2/15/2024	1

Table 2. Sampling Dates for Reporting Period

Site	Sampling Period Start	Current Reporting Period Start	Current Reporting Period End	Days Sampled This Period	Total Days Sampled
Breitenbush River	02/01/2024	2/1/2024	2/15/2024	15	15
Big Cliff Dam	01/01/2024	2/1/2024	2/15/2024	7	21
Detroit Head of Reservoir	02/01/2024	2/1/2024	2/15/2024	15	15
Green Peter Head of Reservoir	02/01/2024	2/1/2024	2/15/2024	15	15
Green Peter Tailrace	01/01/2024	2/1/2024	2/15/2024	7	26
Foster Dam Head of Reservoir	02/01/2024	2/1/2024	2/15/2024	15	15
Fall Creek Head of Reservoir	01/01/2024	2/1/2024	2/15/2024	15	31
Fall Creek Dam Tailrace	01/01/2024	2/1/2024	2/15/2024	15	33
Cougar Dam PH	01/01/2024	2/1/2024	2/15/2024	15	44
Cougar Dam RO	01/01/2024	2/1/2024	2/15/2024	15	46
Cougar Dam Head of Reservoir	02/01/2024	2/1/2024	2/15/2024	15	15
Dexter Dam Tailrace	01/01/2024	2/1/2024	2/15/2024	15	46
Lookout Point Dam PH	01/01/2024	2/1/2024	2/15/2024	3	34
Lookout Point Dam Spill	01/01/2024	2/1/2024	2/15/2024	6	37
Lookout Point Head of Reservoir	01/01/2024	2/1/2024	2/15/2024	9	24
Hills Creek Dam PH	01/01/2024	2/1/2024	2/15/2024	15	46
Hills Creek Dam RO	01/01/2024	2/1/2024	2/15/2024	10	33
Hills Creek Head of Reservoir RST	02/01/2024	2/1/2024	2/15/2024	14	14

Table 3. Willamette Valley Rotary Screw Trap Monitoring Catch Summary

Site	Species	Catch (Reporting Period)	Recaptures (Reporting Period)	Total Catch
Breitenbush River RST	CHS	239	16	239
Breitenbush River RST	STW	8	0	8
Big Cliff Dam Tailrace	CHS	6	16	23
Big Cliff Dam Tailrace	STW	0	0	1
Detroit Head of Reservoir- North Santiam River RST	CHS	192	8	192
Detroit Head of Reservoir- North Santiam River RST	STW	6	0	6
Green Peter Head of Reservoir- Middle Santiam River RST	CHS	276	8	276
Green Peter Head of Reservoir- Middle Santiam River RST	STW	0	0	0
Green Peter Tailrace	CHS	0	0	3
Green Peter Tailrace	STW	0	0	0
Foster Dam Head of Reservoir	CHS	19	46	19
Foster Dam Head of Reservoir	STW	4	0	4
Cougar Dam	CHS	288	59	312
Cougar Dam Head of Reservoir	CHS	15	53	15
Fall Creek Head of Reservoir	CHS	3	51	3
Fall Creek Dam Tailrace	CHS	2	35	2
Dexter Dam Tailrace	CHS	4	0	14
Lookout Point Dam	CHS	0	0	60
Lookout Point Head of Reservoir	CHS	0	2	1
Hills Creek Dam	CHS	3	0	57
Hills Creek Head of Reservoir RST	CHS	20	0	20

Summary of Rotary Screw Trap Data

For this contract, traps were operated at the following 13 locations: Big Cliff Dam Tailrace, Detroit Head of Reservoir – North Santiam River, Breitenbush River, Green Peter Dam Tailrace – Middle Santiam River, Green Peter Head of Reservoir – Middle Santiam River, Fall Creek Dam Tailrace, Fall Creek Head of Reservoir, Cougar Dam Tailrace, Dexter Dam Tailrace, Lookout Dam Tailrace, Lookout Point Head of Reservoir, Hills Creek Dam Tailrace, and Hills Creek Head of Reservoir.

The RST in Big Cliff Dam Tailrace began sampling under contract W9127N19D0009 on October 16th, 2023. Sampling at Big Cliff Dam Tailrace prior to October 16th, 2023 was conducted by EAS for the USACE under contract W9127N19D0007. Reports for sampling at this location, and other sites, can be found online at the USACE Portland District website under the Willamette Fish Passage Operations and Maintenance (W-FPOM) Documents page.

The Detroit Head of Reservoir – North Santiam RST and Green Peter Head of Reservoir – Middle Santiam RST were installed on April 19, 2023 and 26, 2023, respectively. The RSTs at Detroit Head of Reservoir – North Santiam and Green Peter Head of Reservoir – Middle Santiam rivers started sampling on May 4, 2023 once permits were received. These traps sampled until November 30, 2023. The Hills Creek Head of Reservoir RST on the upper Middle Fork Willamette River was installed and began sampling on May 9, 2023. Sampling concluded at the Hills Creek Head of Reservoir site on June 30, 2023 and was removed for the remainder of the year. The RST for the Breitenbush River was installed on

June 16, 2023 and began sampling on the same day. This trap sampled until November 30, 2023. The RSTs in the Breitenbush River, Detroit Head of Reservoir, Green Peter Dam Head of Reservoir, Foster Dam Head of Reservoir, and Cougar Dam Head of Reservoir will resume sampling on February 1, 2024.

The RSTs in the Lookout Dam Tailrace began sampling under contract W9127N19D0009 on August 1, 2023. Sampling at Lookout Dam Tailrace prior to August 1st, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

The RSTs in the Hills Creek Dam Tailrace began sampling under contract W9127N19D0009 on September 15, 2023. Sampling at Hills Creek Dam Tailrace prior to September 15, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

The RST in the Fall Creek Dam Tailrace began sampling under contract W9127N19D0009 on September 30, 2023. Sampling at Fall Creek Dam Tailrace prior to September 30, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

The RSTs in the Green Peter Dam Tailrace and Cougar Dam Tailrace began sampling under contract W9127N19D0009 on December 1, 2023. Sampling prior to December 1, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

The RSTs at Dexter Dam Tailrace and Lookout Point Head of Reservoir began sampling under contract W9127N19D0009 on December 16, 2023. Sampling at these sites prior to December 16, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

Winter Steelhead may be present at the Big Cliff Dam, Breitenbush River, Detroit Head of Reservoir – North Santiam River, Green Peter Dam Tailrace, Green Peter Head of Reservoir, and Foster Dam Head of Reservoir sites. All natural origin juvenile *O. mykiss* captured at these sites will be treated and reported as Winter Steelhead.

RST sampling was conducted by EAS for the USACE in 2023 under contract W9127N19D0007 at the following locations: Big Cliff Dam Tailrace, Green Peter Dam Tailrace, Foster Head of Reservoir- South Santiam, Cougar Dam Tailrace, Cougar Head of Reservoir, Fall Creek Dam Tailrace, Fall Creek Head of Reservoir, Dexter Dam Tailrace, Lookout Dam Tailrace, Lookout Point Head of Reservoir, and Hills Creek Dam Tailrace. Results from 2023 sampling at these sites under contract W9127N19D0007 were reported separately (EAS 2024).

The Breitenbush River, Detroit Head of Reservoir, Green Peter Head of Reservoir, Foster Head of Reservoir, Cougar Dam Head of Reservoir and Hills Creek Head of Reservoir traps were all installed at the end of January. They will resume sampling on February 1st, 2024.

This report was written by Environmental Assessment Services, LLC (EAS) for Cramer Fish Sciences under contract W9127N19D0009. It contains season totals from data starting on January 1st, 2024 but incorporates operations from previous years sampled.

Sampling start dates are included in Table 2, and season total collection numbers are displayed in Table 3. The locations of the RSTs are depicted in Figures 1 through 15.



Imagery Source: 2022, ESRI.



FIGURE 1
Breitenbush River

● RST Locations



EAS ENVIRONMENTAL ASSESSMENT SERVICES
 Wholly Owned Subsidiary of Natives of Kodiak



Imagery Source: 2021, ESRI.



FIGURE 2
Big Cliff Dam Tailrace

● RST Locations

500 Feet





Imagery Source: 2022, ESRI.



FIGURE 3
 Detroit Head of Reservoir -
 North Santiam Above Detroit

● RST Locations

500 Feet



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Imagery Source: 2022, ESRI.



FIGURE 4
 Green Peter Head of Reservoir -
 Middle Santiam River

● RST Locations

500 Feet



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FIGURE 5
 Green Peter Tailrace -
 Middle Santiam River

● RST Locations

500 Feet





Imagery Source: 2021, ESRI.



FIGURE 6
 Foster Dam Head of Reservoir -
 South Santiam River

● RST Locations

500 Feet



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Imagery Source: 2020, NAIP.



FIGURE 7
Cougar Dam Tailrace

● RST Locations

500 Feet





Imagery Source: 2020, NAIP.



FIGURE 8
Cougar Dam Head of Reservoir

● RST Locations

500 Feet





Imagery Source: 2021, ESRI.



FIGURE 9
Fall Creek Dam Tailrace

● RST Locations

500 Feet





FIGURE 10
Fall Creek Head of Reservoir

● RST Locations

— 500 Feet





Imagery Source: 2021, ESRI.



FIGURE 11
Dexter Dam Tailrace

- RST location prior to 11/6/2023
- ▲ RST location after 11/6/2023

500 Feet





Imagery Source: 2021, ESRI.



FIGURE 12
Lookout Dam Tailrace

● RST Locations

500 Feet





FIGURE 13
 Lookout Point Head of Reservoir -
 Middle Fork Willamette

● RST Locations

500 Feet





FIGURE 14
Hills Creek Dam Tailrace

● RST Locations

500 Feet





Imagery Source: 2019, ESRI.



FIGURE 15
 Hills Creek Head of Reservoir -
 Middle Fork Willamette Above Hills Creek

● RST Locations

500 Feet



Breitenbush River

The Breitenbush River RST was installed on January 26th, 2024 and began sampling on February 1st, 2024. All natural origin *O. mykiss* captured at this site will be reported as Winter Steelhead.

Target Species

This reporting period began on February 1st and ended on February 15th. There were a total of 239 Chinook Salmon (CHS) and 8 Winter Steelhead (STW) captured during the 15-day sampling period (Figure 16). Sampling duration was 100.0% of the reporting period for the RST. Figure 17 shows length frequency data to-date. Table 4 provides life stage, length, and weight data for all Chinook Salmon and Winter Steelhead that have been caught at the Breitenbush River site to-date and for the reporting period.

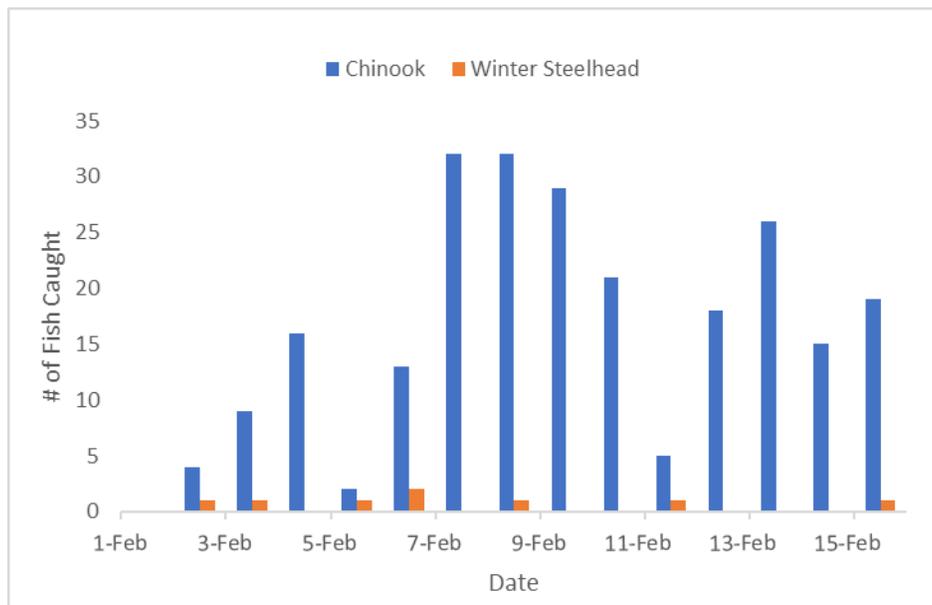


Figure 16. Chinook and Winter Steelhead Captured per day 2/1/2024 to 2/15/2024 (Breitenbush River).

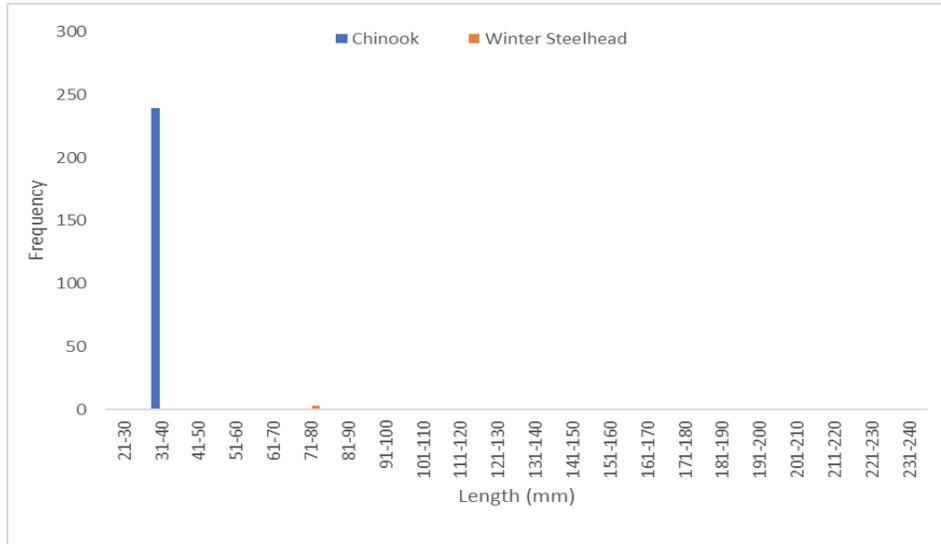


Figure 17. Length Frequency of Juvenile Chinook Sampled Season To-Date (Breitenbush River).

Table 4. Descriptive Statistics of Target Species Captured at the Breitenbush River To-Date

To-Date (Since February 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Breitenbush River	5ft	CHS	Fry	237	32	40	35.4	N/A	N/A	N/A
		CHS	Parr	1	86	86.0	7.1	7.1	7.1	7.1
		CHS	Smolt	1	106	106	106.0	12.9	12.9	12.9
		STW	Fry	1	33	33	33.0	N/A	N/A	N/A
		STW	Parr	6	51	89	73.0	1.6	7.3	4.6
		STW	Smolt	1	111	111	111.0	15.6	15.6	15.6

Fish that were missing heads or caudal fins are not included in length and weight calculations.

February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Breitenbush River	5ft	CHS	Fry	237	32	40	35.4	N/A	N/A	N/A
		CHS	Parr	1	86	86	86.0	7.1	7.1	7.1
		CHS	Smolt	1	106	106	106.0	12.9	12.9	12.9
		STW	Fry	1	33	33	33.0	N/A	N/A	N/A
		STW	Parr	6	51	89	73.0	1.6	7.3	4.6
		STW	Smolt	1	111	111	111.0	15.6	15.6	15.6

Fish that were missing heads or caudal fins are not included in length and weight calculations.

Trapping Efficiency

On 2/7/2024 750 adipose and right ventral fin clipped fish were released above the trap site to evaluate the trapping efficiency of the 5 ft RST. 15 fish were recaptured for an efficiency of 2.0%.

Breitenbush River	Release #	Recapture #	Capture Efficiency
5ft Trap	750	15	2.0% (15/750)

Run of River Trapping Efficiency

Run of river fish captured in the RST have been caudal clipped, PIT tagged or VIE tagged, and released upstream to perform run of river trapping efficiency trials. Only fish large enough to be safely VIE marked have been used for run of river efficiency trials. This year, a total of 129 fish, 123 Spring Chinook and 6 Winter Steelhead have been marked and released upstream for the purpose of conducting run of river trapping efficiency trials. Release numbers and recaptures for this reporting period are summarized below.

Table 5. Run of River Trapping Efficiency (Breitenbush River).

Breitenbush River	Release (Current Reporting Period) #	Recapture (Current Reporting Period) #
Chinook	123	3
Winter Steelhead	6	0

Injuries and Copepod Infection

Partial descaling <20% was observed in 5 of the 239 Chinook captured (2.1%), 3 displayed descaling >20% (1.3%), 26 displayed body injury (10.9%), 0 had eye injuries (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 1 had copepods on fins (0.4%). 0 Chinook displayed gas bubble disease (0.0%). There were 10 mortalities (4.2%).

Partial descaling <20% was observed on 2 of the 8 Winter Steelhead captured (25.0%) and 0 displayed descaling >20% (0.0%), 4 displayed body injury (50.0%), 0 had eye injury (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 1 had copepods on fins (12.5%). 0 Winter Steelhead displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%). Injury data summarized in Table 6.

Table 6. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon and Winter Steelhead for Sampling Period (Breitenbush River).

Site	Species	# Fish Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Breitenbush River	Chinook	239	5	3	26	0	0	1	10
	Winter Steelhead	8	2	0	4	0	0	1	0

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

Collected DNA and Scale Samples

DNA was collected from 2 Spring Chinook and 6 Winter Steelhead. Scale samples were collected from 2 Spring Chinook and 7 Winter Steelhead. The other targets captured did not meet length criteria for DNA sampling or were too descaled/damaged to collect samples.

PIT Tags

7 fish were PIT tagged during this reporting period, 2 Chinook and 5 Winter Steelhead. More information regarding PIT tagged fish can be found in Appendix D. 1 Chinook PIT tagged at the Breitenbush River site on 6/21/2023 was recaptured at the Big Cliff Dam site on 1/1/2024. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

A total of 128 Spring Chinook and 2 Winter Steelhead have been VIE marked with fluorescent elastomer in 2024. VIE tag color is changed every month to distinctly mark groups of fish by capture date. No fish with VIE marks have been detected at downstream RST sites to date. Fish still showing an egg sac are not VIE marked. Release numbers and recaptures for this reporting period are summarized below.

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
02/01/2024-02/15/2024	Chinook	Head	Yellow	126	0
02/01/2024-02/15/2024	<i>O. mykiss</i>	Head	Yellow	2	0

Non-Target Species

4 non-target species were captured during this reporting period. A summary of non-target fish capture is provided in Table 7.

Table 7. Summary of Non-target Species (Breitenbush River).

Species	5 ft Capture	5 ft Mortality	Season Total	Season Total Mortality
Kokanee	0	0	0	0
Chinook (clipped)	0	0	0	0
Cutthroat Trout	0	0	0	0
<i>O. mykiss</i> (clipped)	0	0	0	0
Sculpin	4	0	4	0
Dace	0	0	0	0
Totals	4	0	4	0

Stream Statistics

Basic stream statistics at the Breitenbush River RST site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14179000. Instantaneous discharge (cfs) and gage height (feet) flow metrics are available at this gage. During the reporting period, daily maximum values for instantaneous discharge ranged from 475.0 to 2240.0. Figure 18 shows instantaneous discharge.

Stream temperatures will be recorded every 2 hours for the length of the reporting period for the RST (Figure 19).

Catch per unit of effort (CPUE) data are summarized in Table 8. Gage height and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 8. Summary of salmonid CPUE, Breitenbush River.

	Chinook	Winter Steelhead
Description	(5 ft)	(5 ft)
Catch	239	8
Effort (hrs)	334.5	334.5
CPUE (fish/hr)	0.71	0.02

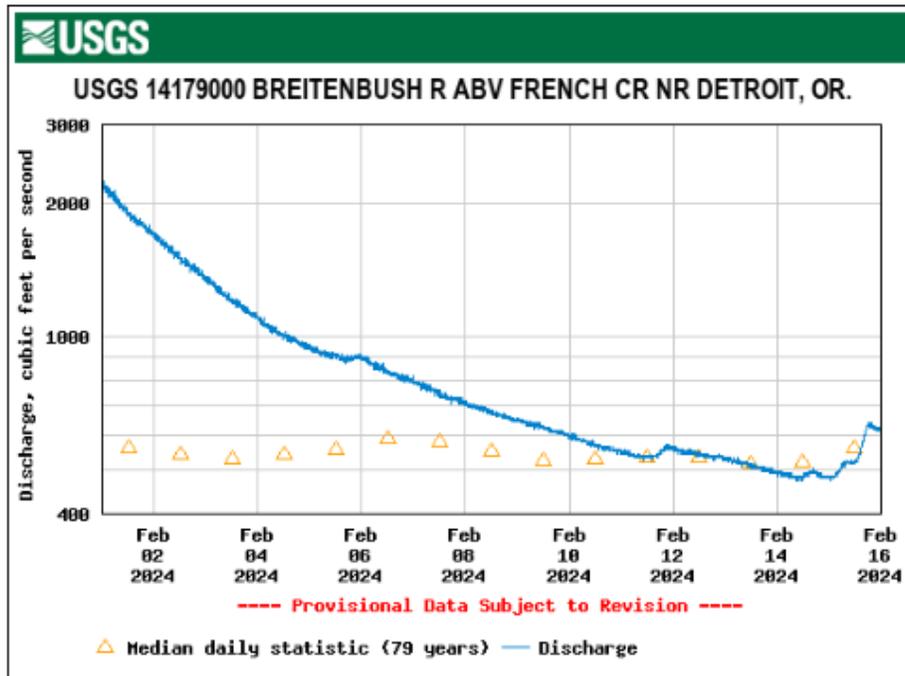


Figure 18. Discharge (cfs); Breitenbush River.

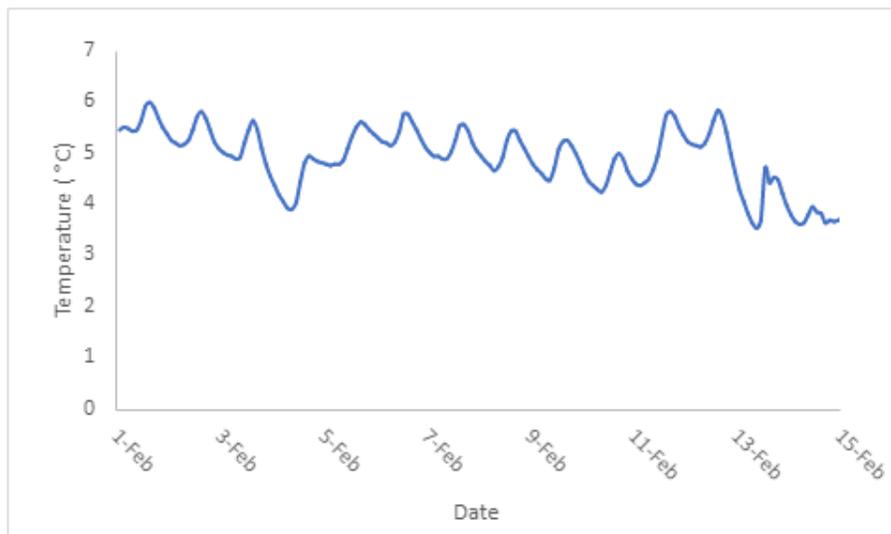


Figure 19. Temperature at RST (Breitenbush River).

North Santiam – Big Cliff Dam

The RST in the Big Cliff Dam Tailrace began sampling under contract W9127N19D0009 on October 16th, 2023. Sampling at Big Cliff Dam Tailrace prior to October 16th, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were a total of 6 Chinook Salmon (CHS) and 0 Winter Steelhead (STW) captured during the 15-day sampling period (Figure 20). The RST was raised to the non-sampling position on January 14th due to unsafe road and weather conditions and remained raised due to flows exceeding safety thresholds. The RST was lowered into the sampling position on February 9th once dam outflows returned below our safety threshold. Sampling duration was 46.7% for the RST. Table 9 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 21 shows length frequency data to-date.

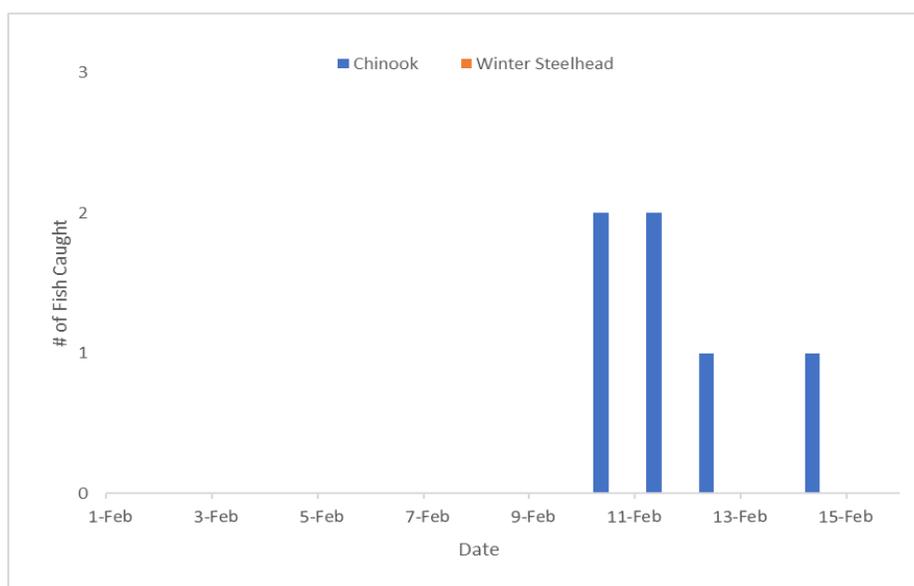
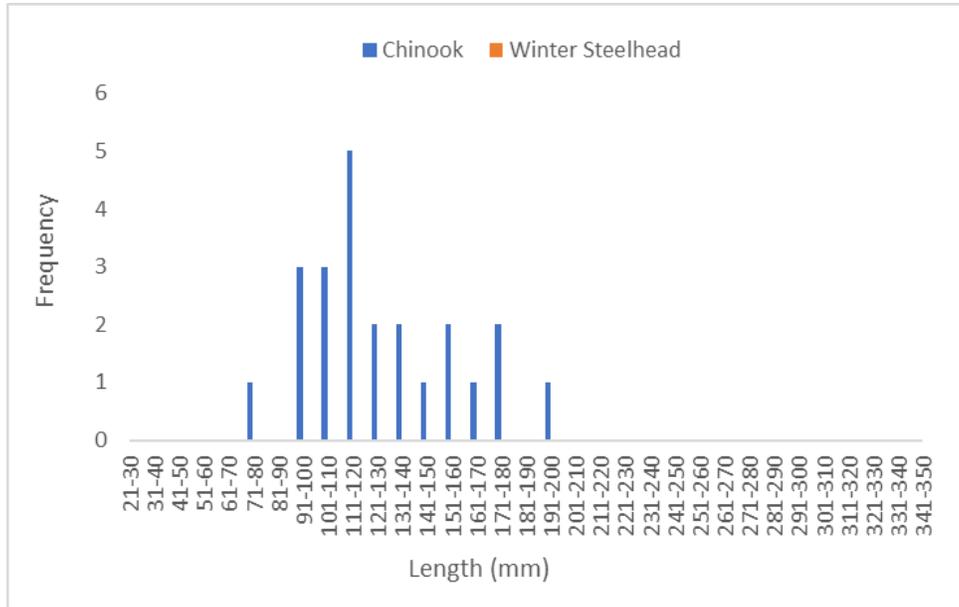


Figure 20. Chinook and Winter Steelhead Captured per day from 2/1/2024 to 2/15/2024 (Big Cliff).



*Figure does not include fish without heads

Figure 21. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled in 2024 (Big Cliff).

Table 9. Descriptive Statistics of Target Species Captured at Big Cliff Dam To-Date and for the reporting period.

To-Date (Since Jan. 1, 2024)										
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	1	80	80	80.0	6.8	6.8	6.8
		CHS	Smolt	22	97	193	131.1	9.4	73.2	26.0
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Smolt	1	275	275	275.0	247.1	247.1	247.1

February 1-15, 2024										
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	1	80	80	80.0	6.8	6.8	6.8
		CHS	Smolt	5	99	154	115.2	9.6	37.1	17.1
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

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

Trapping Efficiency

On 2/14/2024, 500 bismarck-brown dyed and adipose clipped juvenile hatchery Chinook were released below Big Cliff Dam. 16 fish were recaptured for an efficiency of 3.2%.

Big Cliff Dam	Release #	Recapture #	Capture Efficiency
8ft Trap	500	16	3.2% (16/500)

24-Hour Post Collection Holding Trial

6 Spring Chinook and 0 Winter Steelhead were captured during the current reporting period and held for ~24 hours. 1 Chinook (16.7%) and 0 Winter Steelhead (0.0%) died in holding.

Injuries and Copepod Infection

Partial descaling <20% was observed in 5 of the 6 Chinook captured (83.3%), 1 displayed descaling >20% (16.7%), 6 displayed body injury (100.0%), 0 had eye injury (0.0%), 3 had copepods present in the branchial cavity (50.0%) and 1 had copepods on fins (16.7%). 0 Chinook displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%).

Partial descaling <20% was observed on 0 of the 0 Winter Steelhead captured (0.0%) and 0 displayed descaling >20% (0.0%), 0 displayed body injury (0.0%), 0 had eye injury (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). No Winter Steelhead displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%). Injury data is further summarized in Table 10.

Table 10. 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	6	5	1	6	0	3	1	0
	Winter Steelhead	0	0	0	0	0	0	0	0

Collected DNA and Scale Samples

DNA was collected from 6 Spring Chinook and 0 Winter Steelhead for the reporting period. Scales were collected from 6 Spring Chinook and 0 Winter Steelhead. The other targets captured did not meet length criteria for DNA sampling or were too descaled/damaged to collect samples.

PIT Tags

0 Spring Chinook and 0 Winter Steelhead were PIT tagged during this reporting period. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. 1 Chinook PIT tagged at the Breitenbush River site on 6/21/2023 was recaptured at the Big Cliff Dam site on 1/1/2024. More information regarding PIT tagged fish can be found in Appendix D.

Non-Target Species

17 non-targets were captured during this sampling period. A summary of non-target species catch and mortality numbers for 2024 are listed in Table 11. 0 of the clipped Chinook were PIT tagged fish from Bulk Mark releases above the dam, 0 of the clipped Chinook were only adipose clipped.

Table 11. Summary of Non-target Species (Big Cliff Dam).

Species	PWR Capture	PWR Mortality	Season Total	Season Total Mortality
Bluegill	0	0	0	0
Brown Bullhead	0	0	0	0
Dace	0	0	0	0
Chinook (Adult)	0	0	0	0
Chinook (clipped)	0	0	6	0
Cutthroat Trout	0	0	0	0
Kokanee	16	4	93	28
Kokanee (clipped)	1	0	18	5
<i>O. mykiss</i> (clipped)	0	0	0	0
Pumpkinseed	0	0	0	0
Unknown	0	0	0	0
Mountain Whitefish	0	0	1	0
Sculpin	0	0	0	0
Totals	17	4	118	33

Stream Statistics

Basic stream statistics at the Big Cliff Dam site were calculated from data downloaded from U.S. Geological Survey stream gauge numbers 14181410 and 14181500. Gauge height (feet) is the only metric provided at gauge 14181410. Total dissolved gas (TDG) saturation data was received from gauge 14181500, 1 rkm downstream of the trap. During the reporting period, daily maximum values for instantaneous gauge height ranged from 1109.5 to 1116.3 feet during the reporting period. Figure 22 shows instantaneous gauge height.

Total dissolved gas saturation ranged from 104 to 127% during the reporting period. Figure 23 shows total dissolved gas saturation.

Stream temperatures were recorded every 2 hours for the length of the reporting period at the RST (Figure 24). The temperature probe for the trap operated normally throughout this reporting period.

Flows through the Powerhouse and Spill during the reporting period averaged 2,978.5 and 2,167.3 cubic feet per second (cfs), respectively (Figure 25). Catch per unit of effort (CPUE) data are summarized in Table 12, Detroit and Big Cliff forebay elevations and TDG at Niagara are shown in Appendix B. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 12. Summary of salmonid CPUE, Big Cliff Dam.

Description	Chinook	Winter Steelhead
Catch	6	0
Effort (hrs)	120.1	0
CPUE (fish/hr)	0.05	0

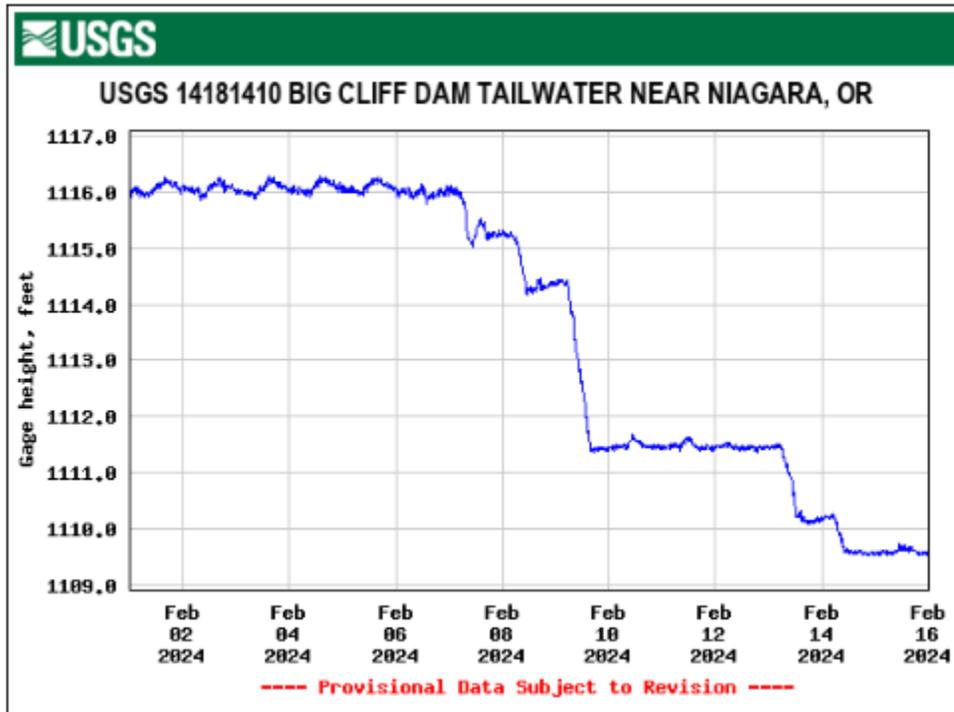


Figure 22. Gauge height (ft); below Big Cliff Dam.

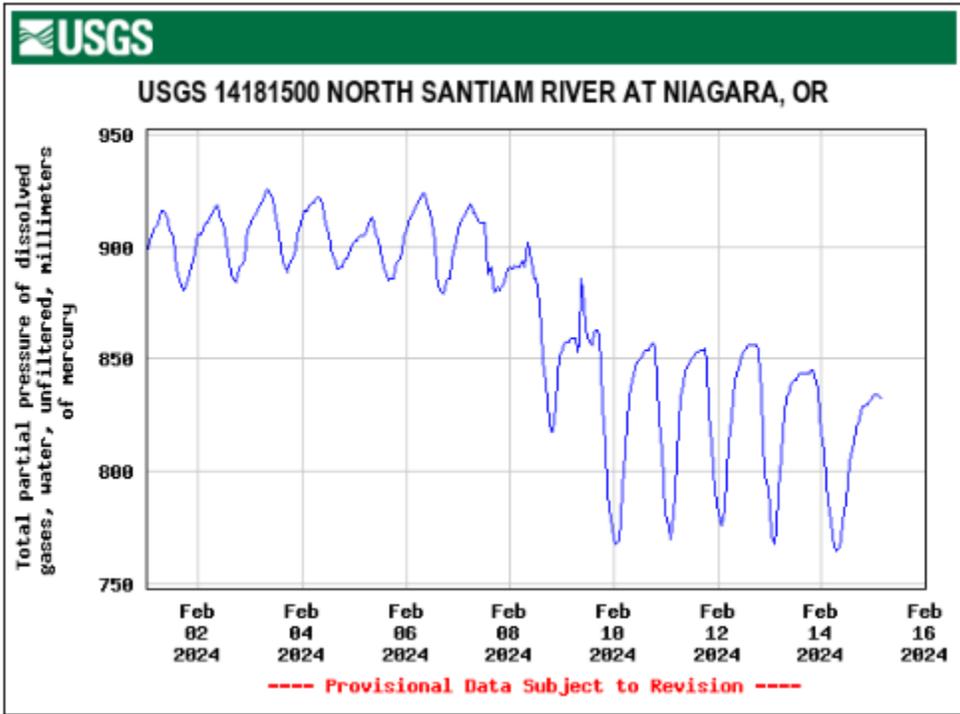


Figure 23. Total Dissolved Gas Saturation (%); below Big Cliff Dam.

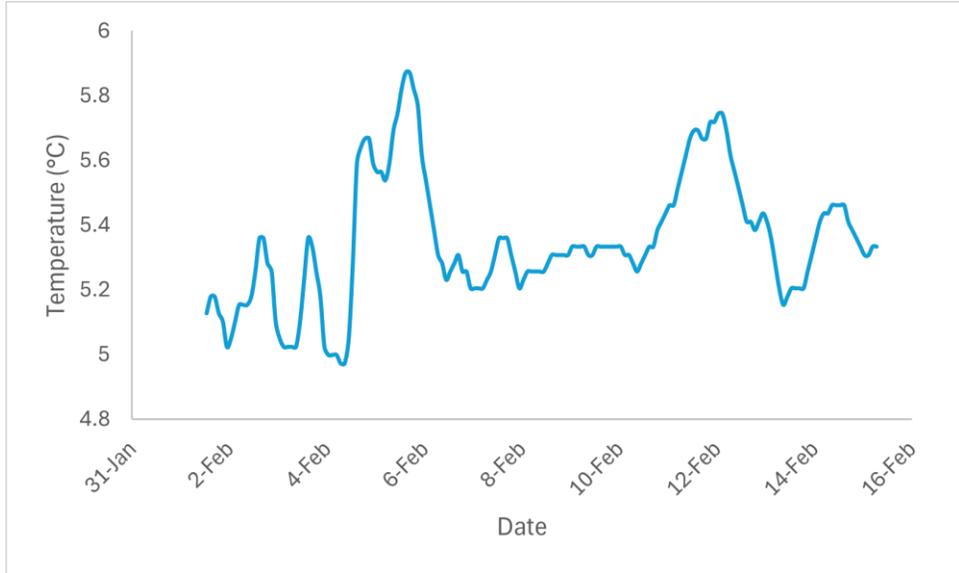


Figure 24. Temperature at RST (Big Cliff Dam).

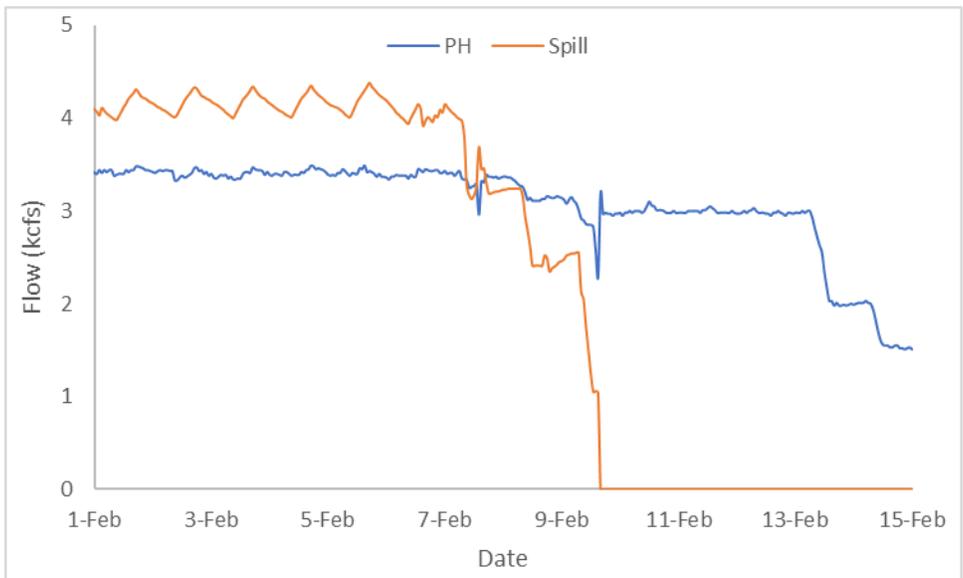


Figure 25. Hourly Flows PWR vs. Spill (Big Cliff Dam).

North Santiam River – Detroit Head of Reservoir

The Detroit Head of Reservoir- North Santiam River RST was installed on April 19th, 2023. This site started sampling on May 4, 2023. All natural origin *O. mykiss* captured at this site will be reported as Winter Steelhead.

Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were a total of 192 Chinook Salmon (CHS) and 6 Winter Steelhead (STW) captured during the 15-day sampling period (Figure 26). Sampling duration was 100.0% of the reporting period for the RST. Figure 27 shows length frequency data to-date. Table 13 provides life stage, length, and weight data for all Chinook Salmon and Winter Steelhead that have been caught at the Detroit Head of Reservoir site to-date and for the reporting period.

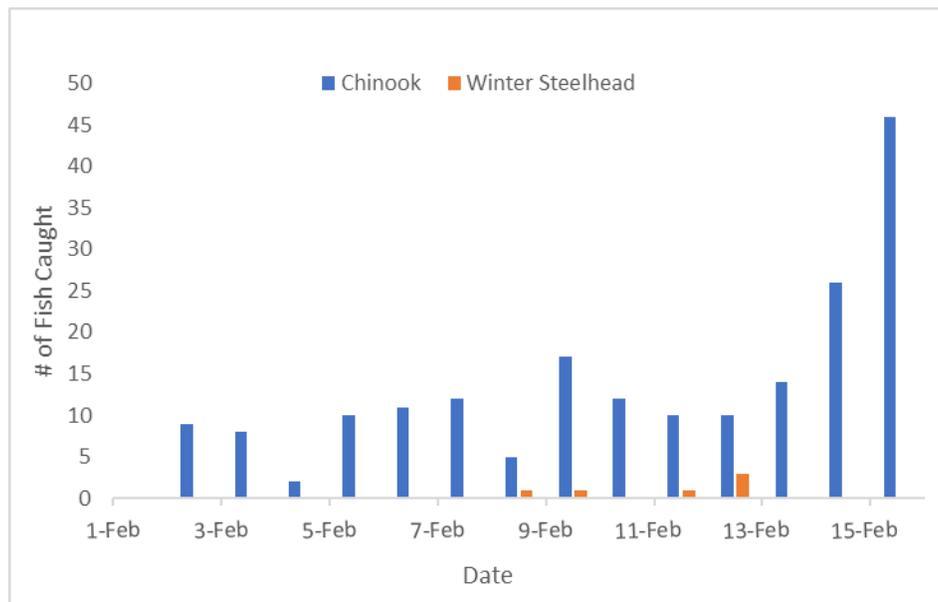


Figure 26. Chinook and Winter Steelhead Captured per day 2/1/2024 to 2/15/2024 (Detroit Head of Reservoir).

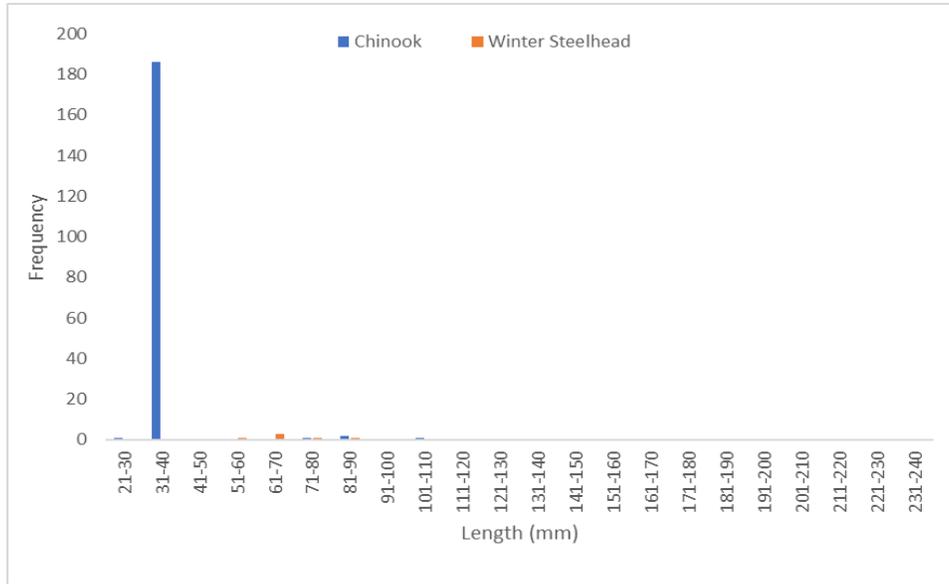


Figure 27. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled Season To-Date (Detroit Head of Reservoir).

Table 13. Descriptive Statistics of Target Species Captured at Detroit Head of Reservoir Season To-Date.

To-Date (Since February 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Detroit HOR	5ft	CHS	Fry	188	30	40	35.2	N/A	N/A	N/A
		CHS	Parr	4	80	107	89.0	4.9	11.5	7.3
		CHS	Smolt	0	0	0	0	0	0	0
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	6	55	81	65.7	2.6	5.2	3.7
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

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

February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Detroit HOR	5ft	CHS	Fry	188	30	40	35.2	N/A	N/A	N/A
		CHS	Parr	4	80	107	89.0	4.9	11.5	7.3
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	6	55	81	65.7	2.6	5.2	3.7
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

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

Trapping Efficiency

On 2/7/2024 749 adipose and left ventral fin clipped fish were released above the trap site to evaluate the trapping efficiency of the 5 ft RST. 8 fish were recaptured for an efficiency of 1.1%

Detroit Head of Reservoir	Release #	Recapture #	Capture Efficiency
5ft Trap	749	8	1.1% (8/749)

Run of River Trapping Efficiency

Run of river fish captured in the RST have been caudal clipped, PIT tagged or VIE tagged, and released upstream to perform run of river trapping efficiency trials. Only fish large enough to be safely VIE marked have been used for run of river efficiency trials. This year, a total of 21 fish, 21 Spring Chinook and 0 Winter Steelhead have been marked and released upstream for the purpose of conducting run of river trapping efficiency trials. Release numbers and recaptures for this reporting period are summarized below.

Table 14. Run of River Trapping Efficiency (Detroit Head of Reservoir).

Detroit Head of Reservoir	Release (Current Reporting Period) #	Recapture (Current Reporting Period) #
Chinook	21	0
Winter Steelhead	0	0

Injuries and Copepod Infection

Partial descaling <20% was observed in 4 of the 192 Chinook captured (2.1%), 6 displayed descaling >20% (3.1%), 26 displayed body injury (13.5%), 1 had eye injuries (0.5%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). 0 Chinook displayed gas bubble disease (0.0%). There were 19 mortalities (9.9%).

Partial descaling <20% was observed on 0 of the 6 Winter Steelhead captured (0.0%) and 0 displayed descaling >20% (0.0%), 3 displayed body injury (50.0%), 0 had eye injuries (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 1 had copepods on fins (16.7%). 0 Winter Steelhead displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%). Injury data is summarized in Table 15.

Table 15. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon and Winter Steelhead for Sampling Period (Detroit Head of Reservoir).

Site	Species	# Fish Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Detroit HOR	Chinook	192	4	6	26	1	0	0	19
	Winter Steelhead	6	0	0	3	0	0	1	0

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

Collected DNA and Scale Samples

For the reporting period, DNA was collected from 4 Spring Chinook and 6 Winter Steelhead. Scale samples were collected from 4 Spring Chinook and 6 Winter Steelhead. The other targets captured did not meet length criteria for DNA sampling or were too descaled/damaged to collect samples.

PIT Tags

4 Spring Chinook and 2 Winter Steelhead were PIT tagged during this reporting period. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

A total of 78 Spring Chinook and 4 Winter Steelhead have been VIE marked with fluorescent elastomer in 2024. VIE tag color is changed every month to distinctly mark groups of fish by capture date. No fish with VIE marks have been detected at downstream RST sites to date. Fish still showing an egg sac are not VIE marked. Release numbers and recaptures for this reporting period are summarized below.

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
02/01/2024-02/15/2024	Chinook	Right Dorsal	Yellow	78	0
02/01/2024-02/15/2024	<i>O. mykiss</i>	Right Dorsal	Yellow	4	0

Non-Target Species

7 non-target species fish were captured during the reporting period; the data is summarized below in Table 16.

Table 16. Summary of Non-target Species (Detroit Head of Reservoir).

Species	5 ft Capture	5 ft Mortality	Season Total	Season Total Mortality
Kokanee	0	0	0	0
Chinook (clipped)	0	0	0	0
Cutthroat Trout	1	0	1	0
Kokanee Wild	1	0	1	0
Sculpin	1	1	1	1
Mountain Whitefish	0	0	0	0
<i>O. mykiss</i> (clipped)	0	0	0	0
Dace	0	0	0	0
Northern Pikeminnow	0	0	0	0
Unknown Salmonid	4	4	4	4
Unknown	0	0	0	0
Totals	7	5	7	5

Stream Statistics

Basic stream statistics at the Detroit Head of Reservoir site were calculated from data downloaded from U.S. Geological Survey stream gauge number 14178000. Gauge height (feet) and Discharge (cfs) metrics are provided at gauge 14178000. During the reporting period, daily maximum values for instantaneous discharge ranged from 939.0 cfs to 3190.0 cfs during the reporting period. Figure 28 shows instantaneous discharge.

Stream temperatures were recorded every 2 hours for the length of the reporting period at the Detroit Head of Reservoir RST site. Figure 29 shows temperature during the reporting period.

Catch per unit of effort (CPUE) data are summarized in Table 17. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 17. Summary of salmonid CPUE, Detroit Head of Reservoir – North Santiam River.

	Chinook	Winter Steelhead
Description	(5 ft)	(5 ft)
Catch	192	6
Effort (hrs)	334.5	334.5
CPUE (fish/hr)	0.57	0.02

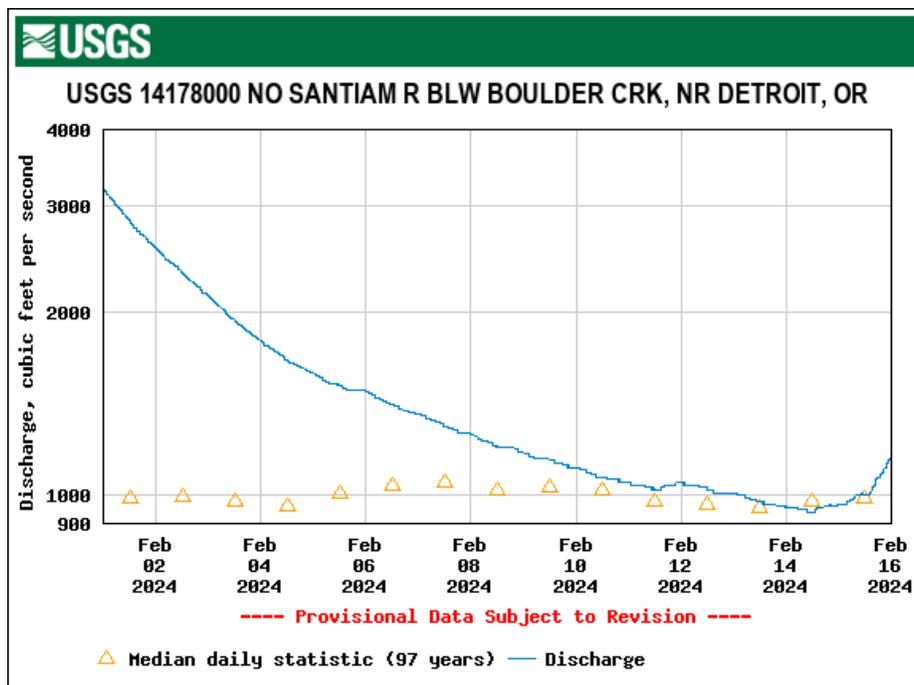


Figure 28. Discharge (cfs); Detroit Head of Reservoir – North Santiam River.

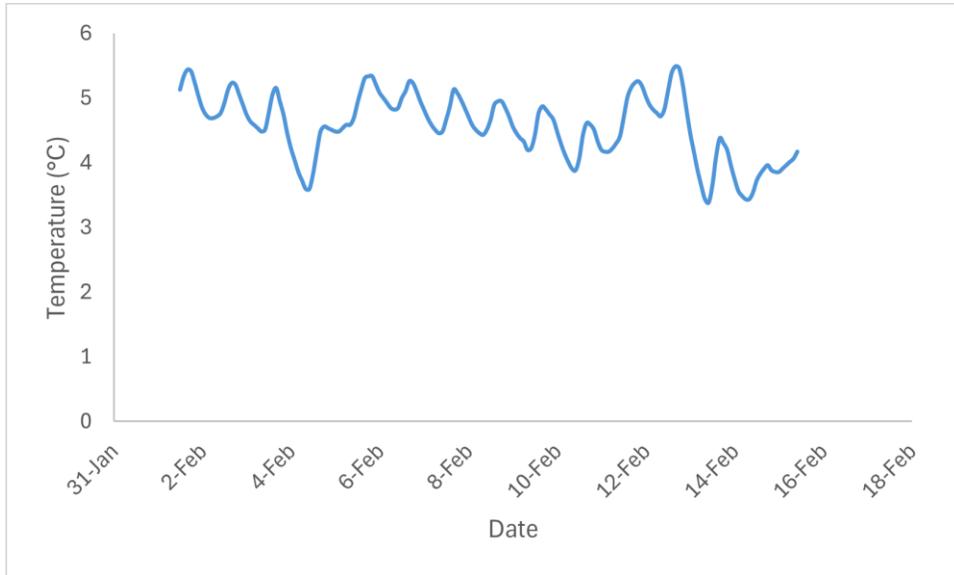


Figure 29. Temperature at RST (Detroit Head of Reservoir – North Santiam River).

Middle Santiam River– Green Peter Head of Reservoir

The Green Peter Head of Reservoir- Middle Santiam River RST was installed on April 26th, 2023. This site started sampling on May 4th, 2023. All natural origin *O. mykiss* captured at this site will be reported as Winter Steelhead.

Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were a total of 276 Chinook Salmon (CHS) and 0 Winter Steelhead (STW) captured during the 15-day sampling period (Figure 30). Sampling duration was 100% of the reporting period for the RST. Figure 31 shows length frequency data to-date. Table 18 provides life stage, length, and weight data for all Chinook Salmon and Winter Steelhead that have been caught at the Middle Santiam River- Green Peter Head of Reservoir site to-date and for the reporting period.

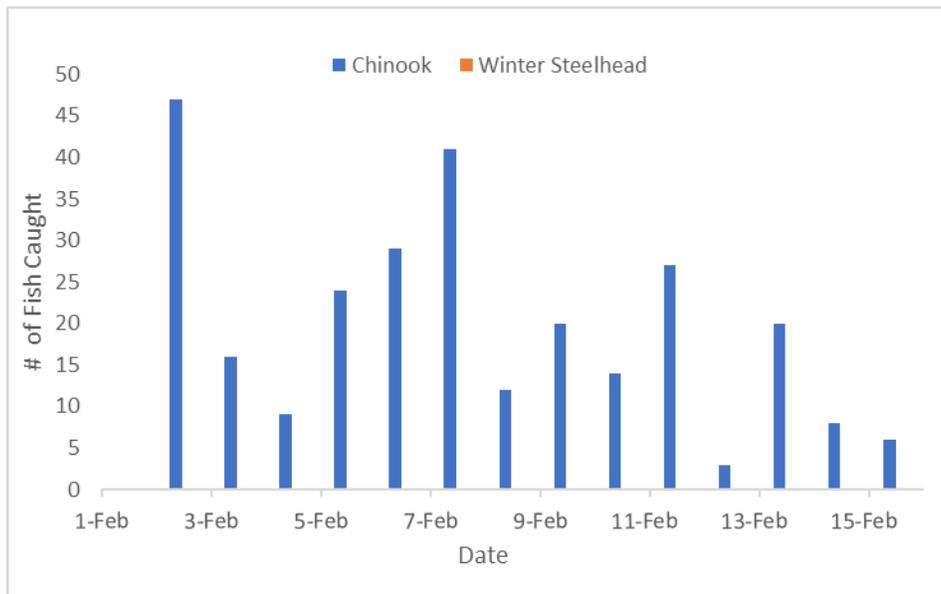


Figure 30. Chinook Captured per day 2/1/2024 to 2/15/2024 (Green Peter Head of Reservoir – Middle Santiam River).

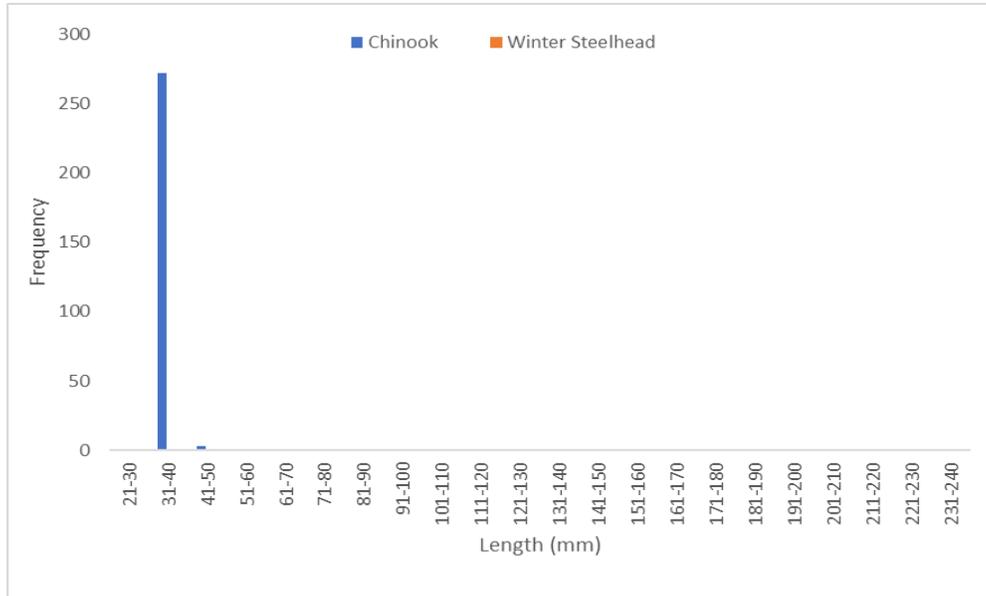


Figure 31. Length Frequency of Juvenile Chinook Sampled Season To-Date (Green Peter Head of Reservoir – Middle Santiam River).

Table 18. Descriptive Statistics of Target Species Captured at Green Peter Head of Reservoir – Middle Santiam River Season To-Date.

To-date (since February 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Green Peter Head of Reservoir-Middle Santiam	5ft	CHS	Fry	275	32	43	35.9	N/A	N/A	N/A
		CHS	Parr	1	84	84	84.0	8.5	8.5	8.5
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

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

February 1-15, 2023										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Green Peter Head of Reservoir-Middle Santiam	5ft	CHS	Fry	275	32	43	35.9	N/A	N/A	N/A
		CHS	Parr	1	84	84	84.0	8.5	8.5	8.5
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

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

Trapping Efficiency

On 2/8/204, 753 adipose and left ventral clipped fish were released above the trap site to evaluate the trapping efficiency of the 5 ft RST. 4 fish were recaptured for an efficiency of 0.5%.

Green Peter Head of Reservoir- Middle Santiam River	Release #	Recapture #	Capture Efficiency
5ft Trap	Alive (753)	4	0.5% (4/753)
	Dead (0)	N/A	N/A

Run of River Trapping Efficiency

Run of river fish captured in the RST have been caudal clipped, PIT tagged or VIE tagged, and released upstream to perform run of river trapping efficiency trials. Only fish large enough to be safely VIE marked have been used for run of river efficiency trials. This year, a total of 134 fish, 134 Spring Chinook and 0 Winter Steelhead have been marked and released upstream for the purpose of conducting run of river trapping efficiency trials. Release numbers and recaptures for this reporting period are summarized below.

Table 19. Run of River Trapping Efficiency (Green Peter Head of Reservoir).

Green Peter Head of Reservoir	Release (Current Reporting Period) #	Recapture (Current Reporting Period) #
Chinook	134	0
Winter Steelhead	0	0

Injuries and Copepod Infection

Partial descaling <20% was observed in 2 of the 276 Chinook captured (0.7%), 1 displayed descaling >20% (0.4%), 13 displayed body injury (4.7%), 0 had eye injuries (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). 0 Chinook displayed gas bubble disease (0.0%). There were 3 mortalities (1.1%).

Partial descaling <20% was observed on 0 of the 0 Winter Steelhead captured (0.0%) and 0 displayed descaling >20% (0.0%), 0 displayed body injury (0.0%), 0 had eye injuries (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). 0 Winter Steelhead displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%). Injury data is summarized in Table 20.

Table 20. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon and Winter Steelhead for Sampling Period (Green Peter Head of Reservoir-Middle Santiam River).

Site	Species	# Fish Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Green Peter Head of Reservoir- Middle Santiam	Chinook	276	2	1	13	0	0	0	0
	Winter Steelhead	0	0	0	0	0	0	0	0

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

Collected DNA and Scale Samples

For the reporting period, DNA was collected from 1 Spring Chinook and 0 Winter Steelhead. Scale samples were collected from 1 Spring Chinook and 0 Winter Steelhead. The other targets captured did not meet length criteria for DNA sampling or were too descaled/damaged to collect samples.

PIT Tags

1 Spring Chinook and 0 Winter Steelhead were PIT tagged during this reporting period. All fish captured did not meet the size criteria for PIT tagging. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

A total of 177 Spring Chinook and 0 Winter Steelhead have been VIE marked with fluorescent elastomer in 2024. VIE tag color is changed every month to distinctly mark groups of fish by capture date. No fish with VIE marks have been detected at downstream RST sites to date. Fish still showing an egg sac are not VIE marked. Release numbers and recaptures for this reporting period are summarized below.

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
02/01/2024-02/15/2024	Chinook	Right Dorsal	Yellow	177	0
02/01/2024-02/15/2024	<i>O. mykiss</i>	Right Dorsal	Yellow	0	0

Non-Target Species

2 non-target fish were collected during the reporting period; the data is summarized below in Table 21.

Table 21. Summary of Non-target Species (Green Peter Head of Reservoir – Middle Santiam River).

Species	5 ft Capture	5 ft Mortality	Season Total	Season Total Mortality
Kokanee	0	0	0	0
Cutthroat Trout	0	0	0	0
Chinook (clipped)	0	0	0	0
Dace	2	0	2	0
Largescale Sucker	0	0	0	0
Sculpin	0	0	0	0
Totals	2	0	2	0

Stream Statistics

Basic stream statistics at the Green Peter Head of Reservoir – Middle Santiam River site were calculated from data downloaded from the U.S. Geological Survey stream gauge number 14185800. Gauge height (feet) is the only flow metric available at this gauge. During the reporting period, daily maximum values for gage height ranged from 2.9 ft to 4.66 ft. Figure 32 shows gage height.

Stream temperatures were recorded every 2 hours for the length of the report period for the RST (Figure 33). Temperature probes for the trap operated normally throughout this reporting period.

Catch per unit of effort (CPUE) data are summarized in Table 22. Gage height and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 22. Summary of salmonid CPUE, Green Peter HOR – Middle Santiam River.

	Chinook	Winter Steelhead
Description	(5 ft)	(5 ft)
Catch	276	0
Effort (hrs)	333.5	333.5
CPUE (fish/hr)	0.83	0.0

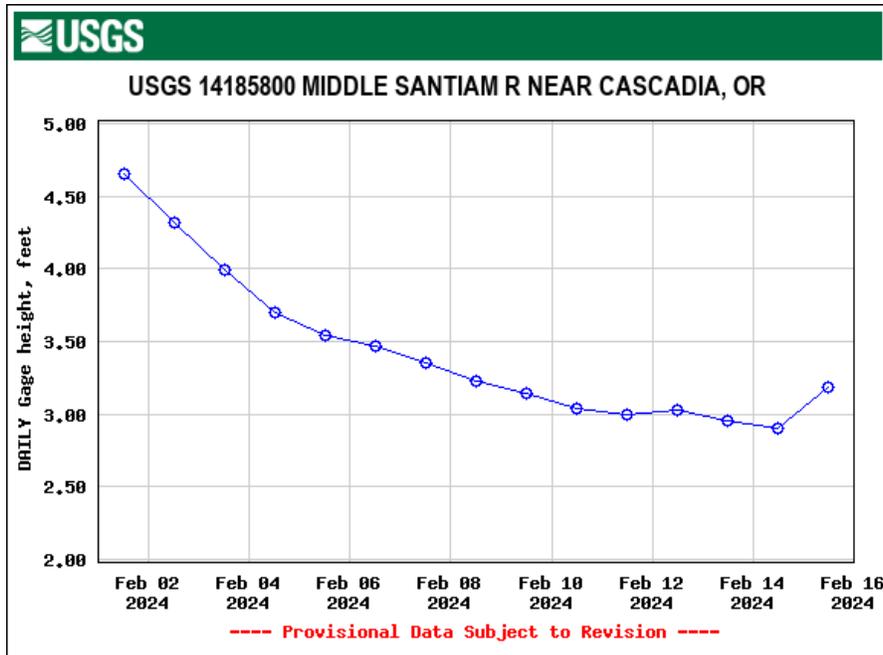


Figure 32. Gage Height (feet); Green Peter Head of Reservoir – Middle Santiam River.

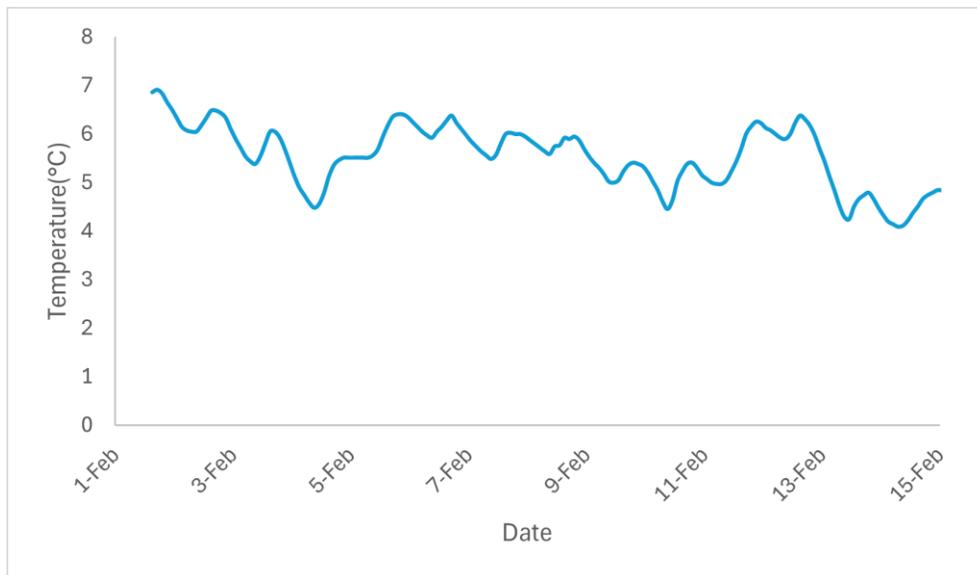


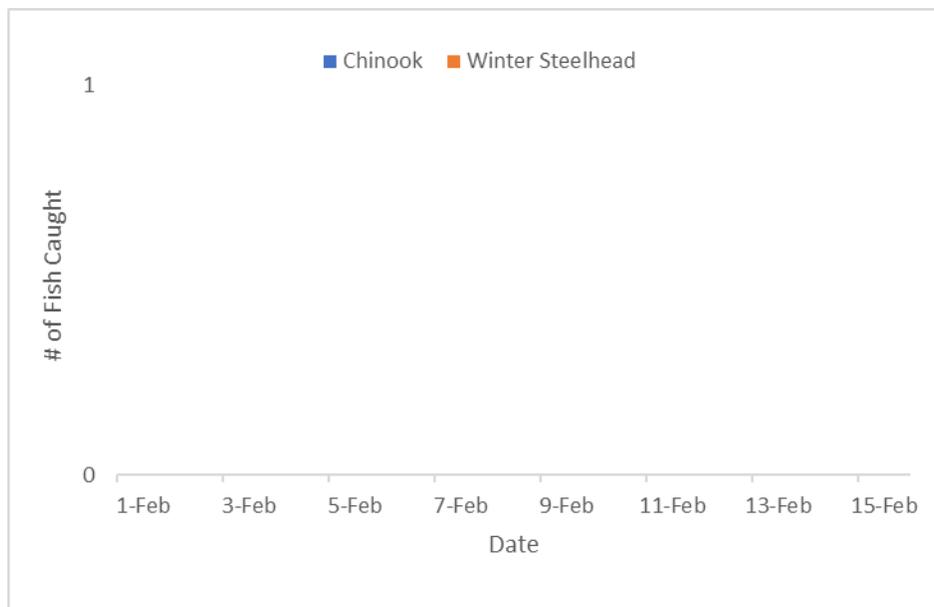
Figure 33. Temperature at RST (Green Peter Head of Reservoir – Middle Santiam River).

Middle Fork Santiam– Green Peter Tailrace

The RST in the Green Peter dam Tailrace began sampling under contract W9127N19D0009 on December 1st, 2023. Sampling at Green Peter Dam Tailrace prior to December 1st, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

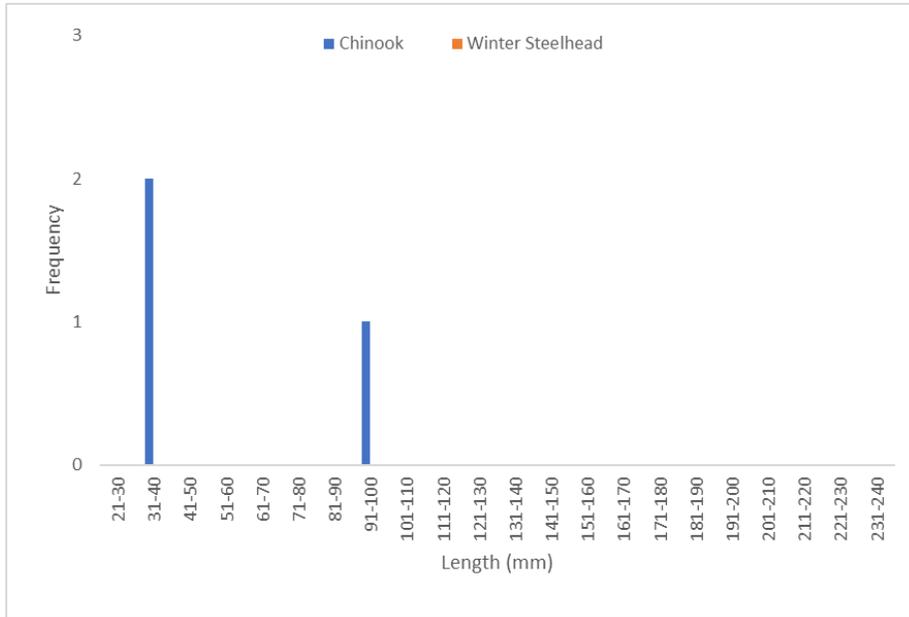
Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. 0 Chinook Salmon (CHS) and 0 Winter Steelhead (STW) were captured during the 16-day sampling period. The RST was raised into the non-sampling position on January 19th due to high outflows above safety thresholds. The cone was lowered into the sampling position on February 9th once dam outflows returned below safety thresholds. Sampling duration was 46.7% for the 8ft RST. Table 23 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 34 shows the daily capture numbers for Chinook and Winter Steelhead and Figure 35 shows length frequency data to date.



**Recaptured fish for trapping efficiency trials not included.*

Figure 34. Chinook and Winter Steelhead Captured per day 2/1/2024 to 2/15/2024 (Green Peter Tailrace- Middle Santiam).



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

Figure 35. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled in 2024 (Green Peter Tailrace- Middle Santiam River).

Table 23. Descriptive Statistics of Target Species Captured at the Green Peter Tailrace-Middle Santiam River Season To-Date.

To-Date (Since Jan. 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Green Peter Dam Tailrace	Spill	CHS	Fry	2	36	36	36	N/A	N/A	N/A
		CHS	Parr	1	98	98	98.0	9.8	9.8	9.8
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Green Peter Dam Tailrace	Spill	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	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

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

Trapping Efficiency

On 1/9/2024, 1,003 juvenile hatchery Chinook (yearlings) were adipose fin clipped, upper caudal clipped, and released for fish trapping efficiency below Green Peter Dam. 9 Chinook were recaptured for a trap efficiency of 0.9%.

Green Peter Dam Tailrace	Release #	Recapture #	Capture Efficiency
8 ft Trap	1,003	9	0.9% (1/1003)

24-Hour Post Collection Holding Trial

0 Spring Chinook and 0 Winter Steelhead were captured during the current reporting period and held for 24 hours. 0 Chinook (0.0%) and 0 Winter Steelhead (0.0%) died in holding.

Injuries and Copepod Infection

Partial descaling <20% was observed in 0 of the 0 Spring Chinook captured (0.0%) and 0 displayed descaling >20% (0.0%), 0 displayed body injury (0.0%), 0 had eye injury (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). 0 Spring Chinook displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%).

Partial descaling <20% was observed in 0 of the 0 Winter Steelhead captured (0.0%) and 0 displayed descaling >20% (0.0%), 0 displayed body injury (0.0%), 0 had eye injury (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). 0 Winter Steelhead displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%).

A summary of injuries observed on Chinook Salmon and Winter Steelhead during the reporting period is provided in Table 24, and target species injuries for the duration of the season are provided in Appendix A.

Table 24. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon and Winter Steelhead for Sampling Period (Green Peter Tailrace- Middle Santiam River).

Site	Species	# Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Green Peter Tailrace	CHS	0	0	0	0	0	0	0	0
	STW	0	0	0	0	0	0	0	0

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

Collected DNA and Scale Samples

DNA was collected from 0 Spring Chinook and 0 Winter Steelhead for the reporting period. Scales were collected from 0 Spring Chinook and 0 Winter Steelhead. The other targets captured did not meet length criteria for DNA sampling or were too descaled/damaged to collect samples.

PIT Tags

No Spring Chinook or Winter Steelhead were PIT tagged during this reporting period. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. More information regarding PIT tagged fish can be found in Appendix D.

Non-Target Species

0 non-targets were captured during this sampling period. A summary of non-target species catch and mortality numbers for 2024 are listed in Table 25.

Table 25. Summary of Non-target Species (Green Peter Tailrace- Middle Santiam River).

Species	Capture	Mortality	Season Total Capture	Season Total Mortality
Bass Unknown	0	0	0	0
Bluegill	0	0	3	1
Brown Bullhead	0	0	0	0
Chinook (clipped)	0	0	2	0
Crappie	0	0	2	1
Cutthroat Trout	0	0	0	0
Dace	0	0	0	0
Kokanee	0	0	0	0
Kokanee (clipped)	0	0	0	0
Largemouth Bass	0	0	0	0
Largescale Sucker	0	0	0	0
Mountain Whitefish	0	0	0	0
Northern Pikeminnow	0	0	0	0
<i>O. mykiss</i> (adults)	0	0	0	0
<i>O. mykiss</i> (clipped)	0	0	0	0
Sculpin	0	0	0	0
Smallmouth Bass	0	0	0	0
Spotted Bass	0	0	0	0
Unknown	0	0	0	0
Walleye	0	0	0	0
Totals	0	0	7	2

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 696.1 feet to 703.2 feet. Figure 36 shows instantaneous gage height.

Total dissolved gas saturation ranged from 102 to 112% during the reporting period. Figure 37 shows the total dissolved gas saturation.

Stream temperatures were recorded every 2 hours for the length of the report period for the RST (Figure 38). Temperature probes operated normally throughout this reporting period.

Flows through the Powerhouse and Spillway during the reporting period averaged 2,840.0 and 190.1 cubic feet per second (cfs) respectively (Figure 39). Catch per unit of effort (CPUE) data are summarized

in Table 26. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 26. Summary of salmonid CPUE, Green Peter Tailrace- Middle Santiam River.

Description	Chinook	Winter Steelhead
Catch	0	0
Effort (hrs)	143.1	143.1
CPUE (fish/hr)	0.0	0.0

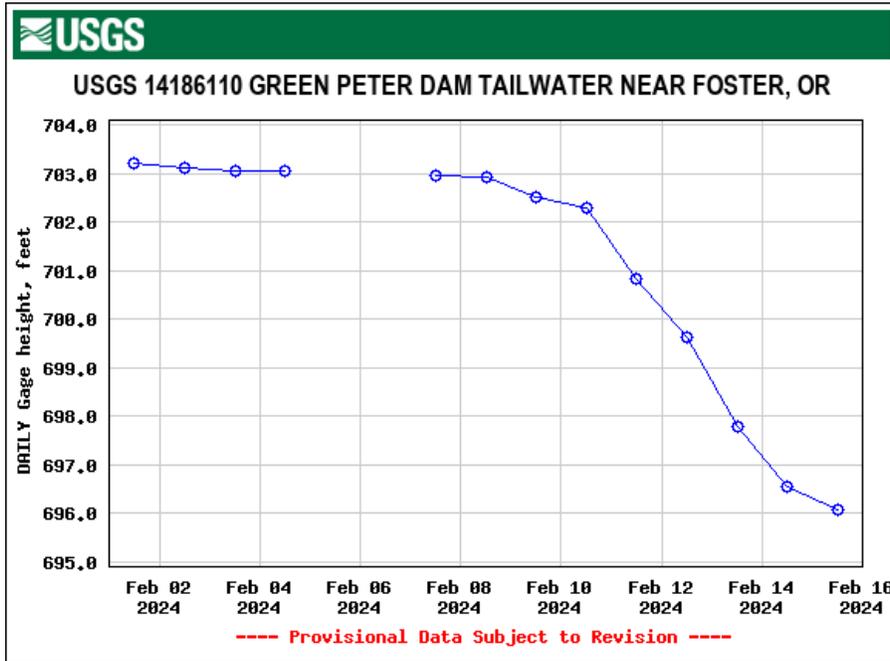


Figure 36. Gage Height (feet); below Green Peter Dam.

Middle Santiam R Blw Green Peter Dam NR Foster, OR - 14186200

February 1, 2024 - February 15, 2024

Total partial pressure of dissolved gases, water, unfiltered, percent of saturation
105 % - Feb 15, 2024 11:00:00 PM PST

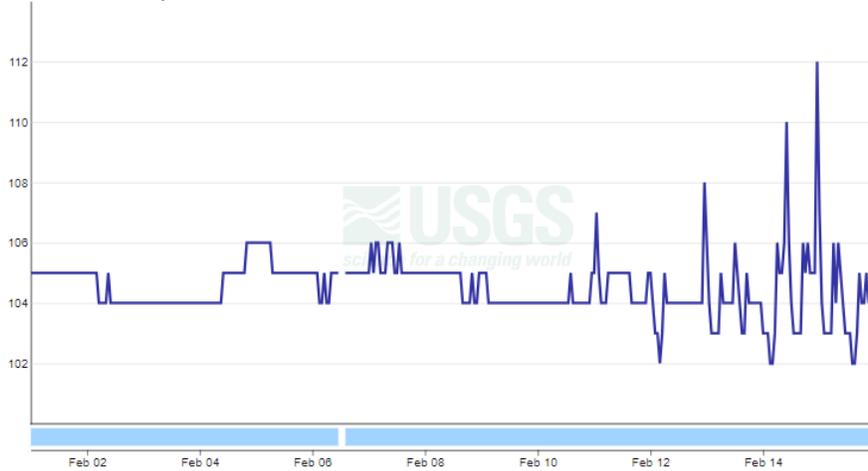


Figure 37. Total Dissolved Gas Saturation (%); below Green Peter Dam.

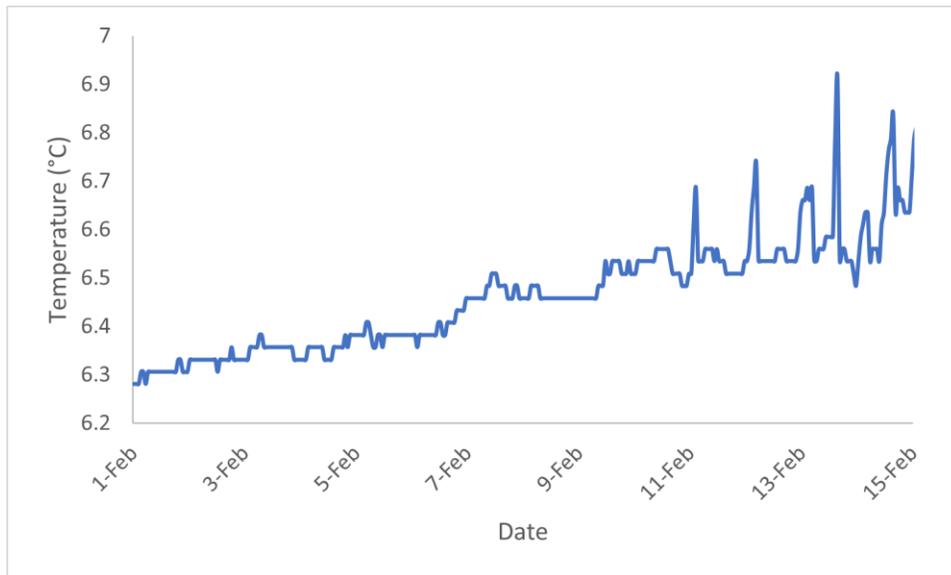


Figure 38. Temperature at RST (Green Peter Tailrace- Middle Santiam River).

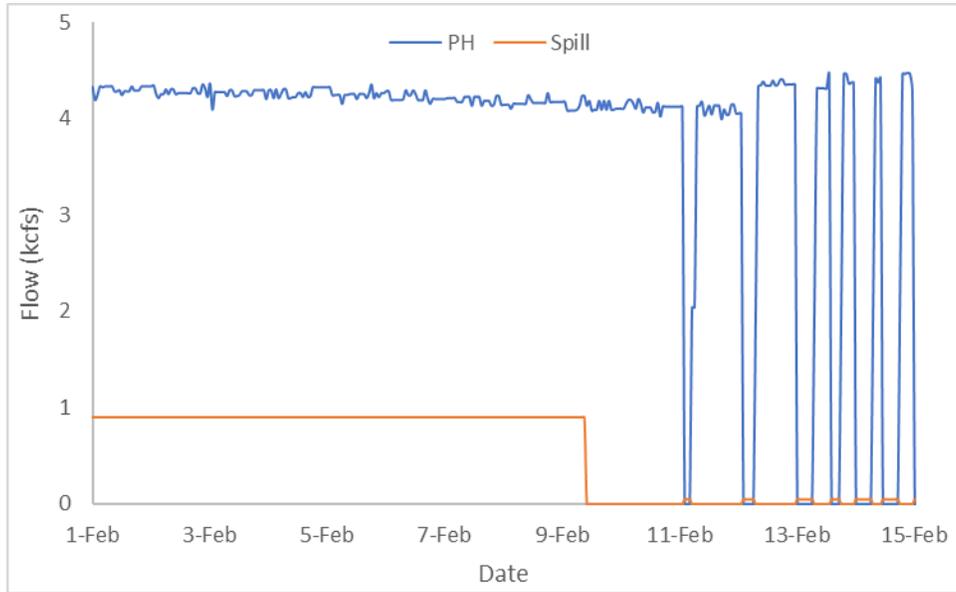


Figure 39. Hourly Flows PWR vs. Spill (Green Peter Dam).

South Fork Santiam– Foster Dam Head of Reservoir

The Foster Dam Head of Reservoir RST was installed on January 26th, 2024 and began sampling on February 1st. All natural origin *O. mykiss* captured at this site will be reported as Winter Steelhead.

Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were a total of 19 Chinook Salmon (CHS) and 4 Winter Steelhead (STW) captured during the 15-day sampling period (Figure 40). Sampling duration was 100.0% of the reporting period for the RST. Figure 41 shows length frequency data to-date. Table 27 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 site to-date and for the reporting period.

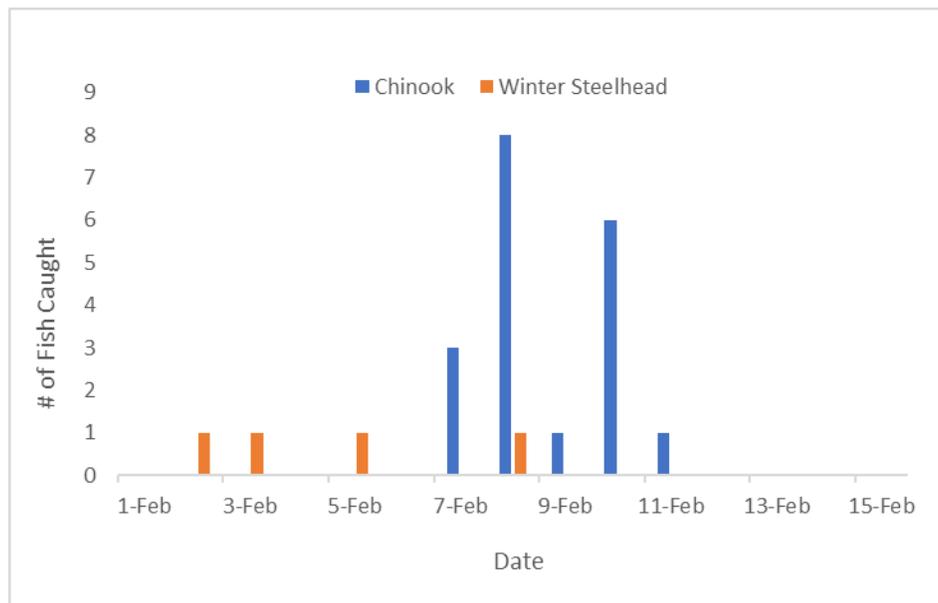


Figure 40. Chinook and Winter Steelhead Captured per day 2/1/2024 to 2/15/2024 (Foster Dam Head of Reservoir).

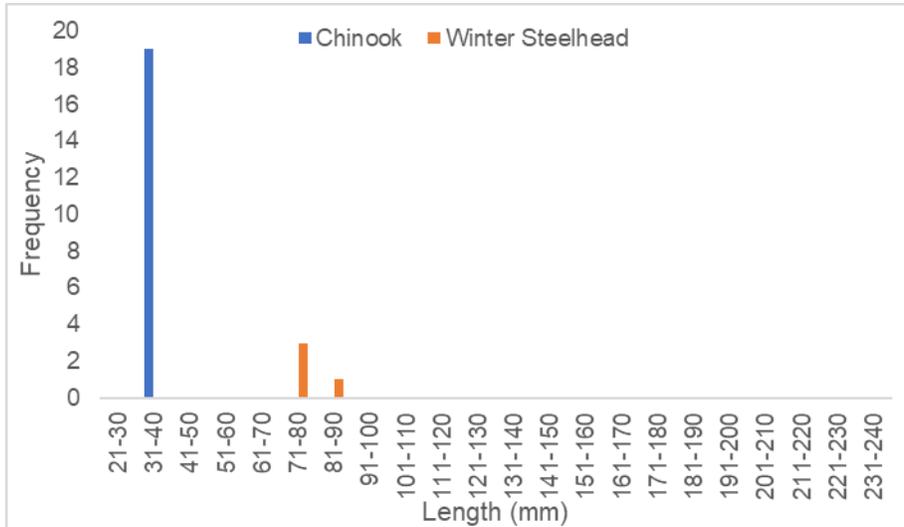


Figure 41. Length Frequency of Juvenile Chinook Sampled Season To-Date (Foster Dam Head of Reservoir).

Table 27. Descriptive Statistics of Target Species Captured at the Foster Dam Head of Reservoir To-Date

To-Date (Since February 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Foster Dam Head of Reservoir	5ft	CHS	Fry	19	37	39	37.7	N/A	N/A	N/A
		CHS	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	4	75	82	79.0	5.7	7.0	6.1
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

Fish that were missing heads or caudal fins are not included in length and weight calculations.

February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Foster Dam Head of Reservoir	5ft	CHS	Fry	19	37	39	37.7	N/A	N/A	N/A
		CHS	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Parr	4	75	82	79.0	5.7	7.0	6.1
		STW	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

Fish that were missing heads or caudal fins are not included in length and weight calculations.

Trapping Efficiency

On 2/2/2024 1,005 adipose and upper caudal clipped fish were released above the trap site to evaluate the trapping efficiency of the 5 ft RST. 46 fish were recaptured for an efficiency of 4.6%.

Foster Dam Head of Reservoir	Release #	Recapture #	Capture Efficiency
5ft Trap	1,005	46	4.6% (46/1,005)

Run of River Trapping Efficiency

Run of river fish captured in the RST have been caudal clipped, PIT tagged or VIE tagged, and released upstream to perform run of river trapping efficiency trials. Only fish large enough to be safely caudal clipped have been used for run of river efficiency trials. This year, 0 Spring Chinook and 0 Winter Steelhead have been caudal clipped and released upstream for the purpose of conducting run of river trapping efficiency trials. Release numbers and recaptures for this reporting period are summarized below.

Run of river trapping efficiency has been discontinued until daily catch rates increase.

Table 28. Run of River Trapping Efficiency (Foster Dam Head of Reservoir).

Foster Dam Head of Reservoir	Release (Current Reporting Period) #	Recapture (Current Reporting Period) #
Chinook	0	0
Winter Steelhead	0	0

Injuries and Copepod Infection

Partial descaling <20% was observed in 0 of the 19 Chinook captured (0.0%), 0 displayed descaling >20% (0.0%), 2 displayed body injury (10.5%), 0 had eye injuries (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). 0 Chinook displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%).

Partial descaling <20% was observed on 0 of the 4 Winter Steelhead captured (0.0%) and 0 displayed descaling >20% (0.0%), 0 displayed body injury (0.0%), 0 had eye injury (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). 0 Winter Steelhead displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%). Injury data summarized in Table 29.

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

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	Chinook	19	0	0	2	0	0	0	0
	Winter Steelhead	4	0	0	0	0	0	0	0

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

Collected DNA and Scale Samples

DNA was collected from 0 Spring Chinook and 4 Winter Steelhead. Scale samples were collected from 0 Spring Chinook and 4 Winter Steelhead.

PIT Tags

4 fish were PIT tagged during this reporting period, 0 Chinook and 4 Winter Steelhead. More information regarding PIT tagged fish can be found in Appendix D.

Non-Target Species

1 non-target species were captured during this reporting period. A summary of non-target fish capture is provided in Table 30.

Table 30. Summary of Non-target Species (Foster Dam Head of Reservoir).

Species	5 ft Capture	5 ft Mortality	Season Total	Season Total Mortality
Kokanee	0	0	0	0
Chinook (clipped)	0	0	0	0
Cutthroat Trout	0	0	0	0
<i>O. mykiss</i> (clipped)	0	0	0	0
Sculpin	1	0	1	0
Dace	0	0	0	0
Totals	1	0	1	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 gauge number 14185000. Discharge (cfs) and Gauge height (feet) are available at this gauge. During the reporting period, daily maximum values for instantaneous discharge ranged from 629.0 cfs to 1990.0 cfs. Figure 42 shows instantaneous discharge.

Stream temperatures were recorded every 2 hours for the duration of the reporting period for the RST (Figure 43). Temperature probes for the trap 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 CPUE, Foster Dam Head of Reservoir.

	Chinook	Winter Steelhead
Description	(5 ft)	(5 ft)
Catch	19	4
Effort (hrs)	333.3	333.3
CPUE (fish/hr)	0.06	0.01

South Santiam River Below Cascadia, OR - 14185000

February 1, 2024 - February 15, 2024

Discharge, cubic feet per second

1990 ft³/s - Feb 15, 2024 11:55:00 PM PST

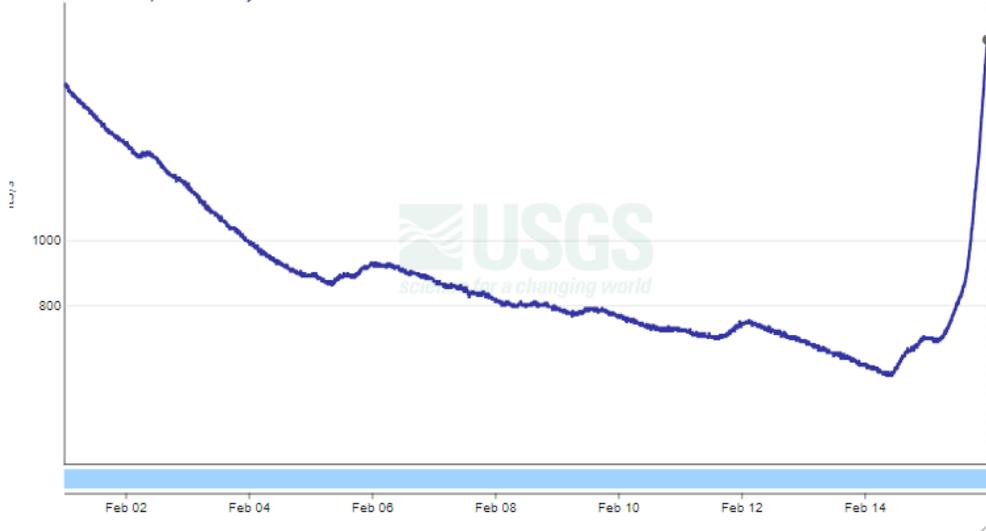


Figure 42. Discharge (cfs); Foster Dam Head of Reservoir.

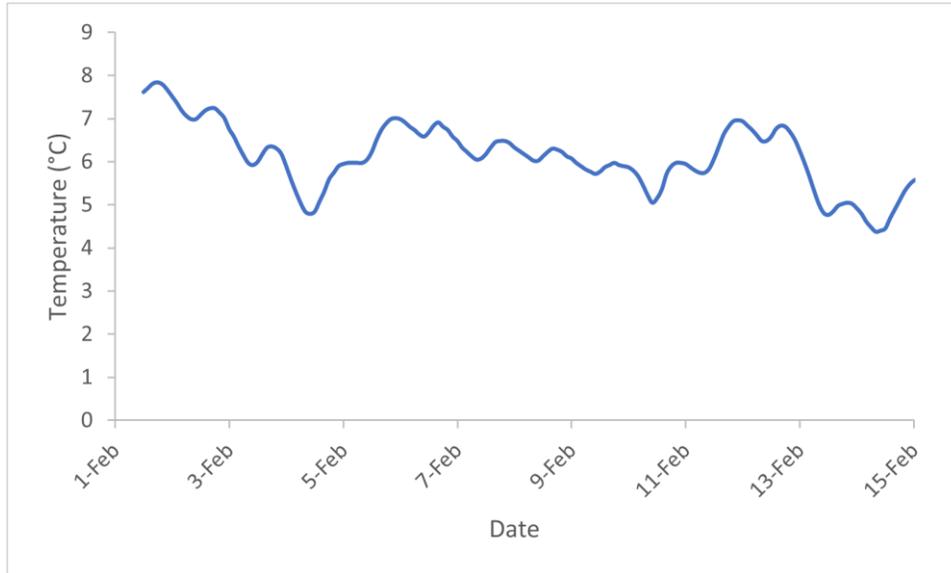


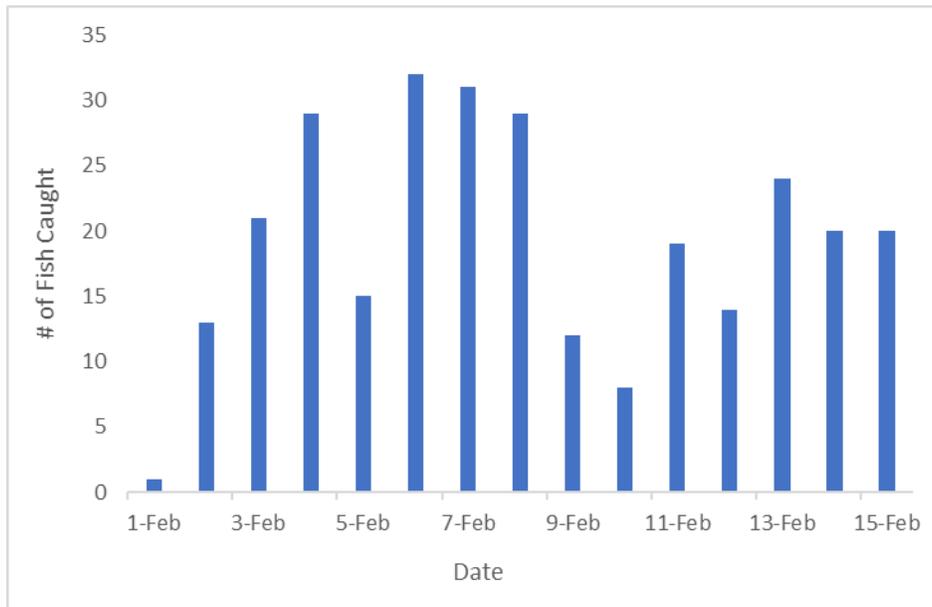
Figure 43. Temperature at RST (Foster Dam Head of Reservoir).

South Fork McKenzie – Cougar Dam

The RSTs in the Cougar Dam began sampling under contract W9127N19D0009 on December 1st, 2023. Sampling at Cougar Dam prior to December 1st, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

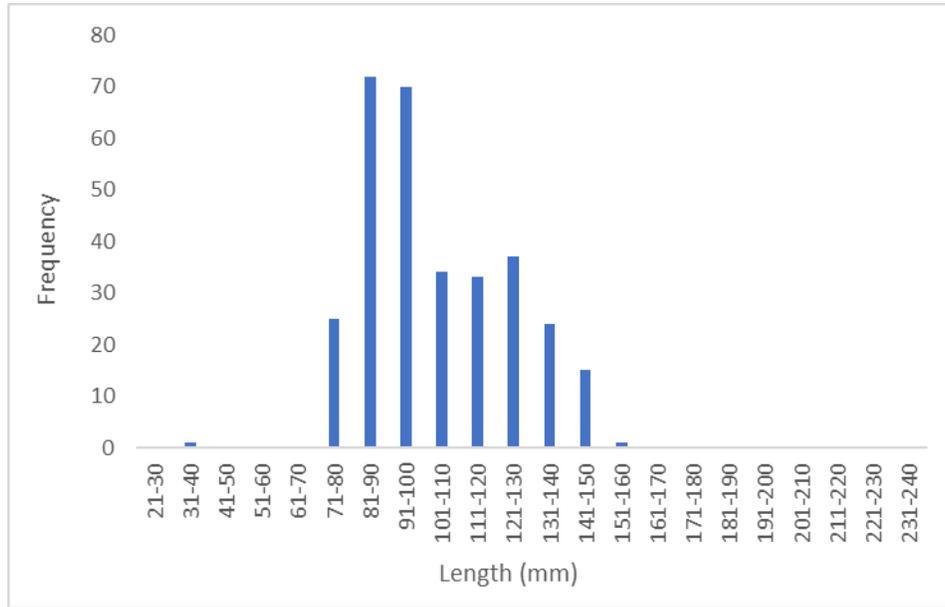
Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were a total of 288 Chinook Salmon (CHS) captured during the 15-day sampling period. Sampling duration was 100% for the RO RST, 100.0% for PH 1 RST and 100% for the PH 2 RST. Table 32 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 44 shows the daily capture numbers for chinook and Figure 45 shows length frequency data to-date.



**Recaptured fish for trapping efficiency trials not included.*

Figure 44. Chinook Captured per day 2/1/2024 to 2/15/2024 (Cougar Dam).



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

Figure 45. Length Frequency of Juvenile Chinook Sampled in 2024 (Cougar Dam).

Table 32. Descriptive Statistics of Target Species Captured at Cougar Dam To-Date.

To-Date (Since Jan. 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam	RO	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	106	72	117	88.7	4.0	15.0	7.7
		CHS	Smolt	159	78	153	116.2	5.1	35.2	17.6
	PH 1	CHS	Fry	1	37	37	37.0	N/A	N/A	N/A
		CHS	Parr	16	73	96	86.1	4.2	9.4	7.0
		CHS	Smolt	16	92	149	113.3	8.3	30.5	14.6
	PH 2	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	8	83	96	89.5	4.9	9.5	7.3
		CHS	Smolt	6	84	133	107.8	6.4	24.0	13.6

February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam	RO	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	93	72	117	88.9	4.0	15.0	7.6
		CHS	Smolt	150	78	153	116.5	5.1	35.2	17.8
	PH 1	CHS	Fry	1	37	37	37.0	N/A	N/A	N/A
		CHS	Parr	16	73	96	86.1	4.2	9.4	7.0
		CHS	Smolt	16	92	149	113.3	8.3	30.5	14.6
	PH 2	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	8	83	96	89.5	4.9	9.5	7.3
		CHS	Smolt	4	109	133	117.5	11.6	24.0	16.9

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

Trapping Efficiency

On 2/7/2024 493 juvenile hatchery Chinook (yearlings) were adipose clipped, right vent clipped and released in the Powerhouse channel for a trapping efficiency trial. 49 fish were recaptured in the PWR RSTs for an efficiency of 9.9%.

Additionally, on 2/7/2024 505 juvenile hatchery Chinook (yearlings) were adipose clipped, left vent clipped and released in the RO channel for a trapping efficiency trial. 9 fish were recaptured in the RO RST for an efficiency of 1.8%.

Cougar Dam	Release #	Recapture #	Capture Efficiency
PH 1 Trap	493	33	6.7%
PH 2 Trap		16	3.2%
RO Trap	505	9	1.8%

Run of River Trapping Efficiency

Run of river fish were captured, caudal clipped or PIT tagged and released for the purpose of conducting run of river trapping efficiency trials at Cougar Dam. Chinook that were dead upon entering the trap, were differentially marked and released for dead run of river trapping efficiency trials. This year, a total of 108 Chinook have been released for the purpose of run of river trapping efficiency. Numbers of fish released and recaptured by route for the reporting period are listed below.

Table 33. Run of River Trapping Efficiency (Cougar Dam).

Release Route	Release (Current Reporting Period) #	Trap	Recapture (Current Reporting Period) #
RO	0	RO	0
PH	108	PH 1	4
		PH 2	2

24-Hour Post Collection Holding Trial

A total of 119 Chinook captured in the RO RST and 31 Chinook captured in the PWR RSTs were held for ~24 hours in holding tanks and then evaluated for survival rates. In total 2 of the 150 fish (1.3%) held during this period died during holding. 0 of the 31 PWR RST captured fish (0.0%) died during holding and 2 of the 119 RO RST captured fish (1.7%) died during holding.

Injuries and Copepod Infection

Partial descaling <20% was observed on 156 of the 243 Chinook collected at the RO RST (64.2%). Descaling >20% was observed on 81 of the Chinook (33.3%). There were 215 fish with bodily injuries (88.5%) and 61 had eye injuries (25.1%). 99 fish had copepods present in the branchial cavity (40.7%) and 117 had copepods present on fins (48.1%). 141 fish displayed Gas Bubble Disease (56 level 1, 48 level 2, 24 at level 3 and 13 at level 4) (58.0%). There were 61 Chinook mortalities collected in the RO RST (25.1%).

Partial descaling <20% was observed on 30 of the 33 Chinook collected at the PH 1 RST (90.9%). Descaling >20% was observed on 0 of the Chinook (0.0%). There was 20 fish with bodily injuries (60.6%) and 0 had eye injuries (0.0%). 8 fish had copepods present in the branchial cavity (24.2%) and 23 had copepods present on fins (69.7%). 0 fish displayed Gas Bubble Disease (0.0%). There was 1 Chinook mortality collected in the PH 1 RST (3.0%).

Partial descaling <20% was observed on 9 of the 12 Chinook collected at the PH 2 RST (75.0%). Descaling >20% was observed on 1 of the Chinook (8.3%). There was 7 fish with bodily injuries (58.3%) and 0 had eye injuries (0.0%). 4 fish had copepods present in the branchial cavity (33.3%) and 4 had

copepods present on fins (33.3%). 1 fish displayed Gas Bubble Disease (8.3%). There were 0 Chinook mortalities collected in the PH 2 RST (0.0%).

Data is summarized below in Table 34. A summary of injuries observed during the reporting period, and for the duration of the season are provided in Appendix A.

Table 34. 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 Dam	RO	243	156	81	215	61	99	117	61
	PH 1	33	30	0	20	0	8	23	1
	PH 2	12	9	1	7	0	4	4	0

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

Collected DNA and Scale Samples

DNA was collected from 287 Spring Chinook for the reporting period. Scales were collected from 283 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling or were too damaged to remove scales.

PIT Tags

76 Spring Chinook were PIT tagged during this reporting period. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

5 VIE marked Spring Chinook have been detected at this site to date. Recaptures are displayed below.

Site	Trap	Mark	Month Marked	Date Re-Captured	Species
Cougar Dam	RO	VIE RDO	May 2023	11/7/2023	Chinook
Cougar Dam	RO	VIE RDO	May 2023	11/5/2023	Chinook
Cougar Dam	RO	VIE RDO	May 2023	11/5/2023	Chinook
Cougar Dam	RO	VIE RDO	May 2023	11/6/2023	Chinook
Cougar Dam	RO	VIE RDO	May 2023	11/11/2023	Chinook

Non-Target Species

35 non-target fish were captured during the reporting period; the data is summarized below in Table 35. Of the 32 clipped Chinook captured, 21 were PIT tagged fish from Bulk Mark releases above the dam, and 3 were fish released above the RSTs for trapping efficiency trials.

Table 35. 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
Brook Lamprey	0	0	0	0	0	0
Bull Trout	1	0	0	0	1	0
Chinook (clipped)	30	5	2	1	46	8
Chinook (Adult)	0	0	0	0	0	0
Cutthroat Trout	0	0	0	0	1	1
Dace	0	0	0	0	0	0
Largescale Sucker	0	0	0	0	0	0
Mountain Whitefish	0	0	0	0	12	0
Northern Pikeminnow	0	0	0	0	0	0
<i>O. mykiss</i>	1	0	1	0	2	0
Pacific Lamprey	0	0	0	0	0	0
Sculpin	0	0	0	0	2	0
Smallmouth Bass	0	0	0	0	0	0
Spotted Bass	0	0	0	0	0	0
Unknown Bass	0	0	0	0	0	0
Totals	32	5	3	1	64	9

Stream Statistics

Basic stream statistics at the Cougar Dam site were calculated from data downloaded from U.S. Geological Survey stream gauge numbers 14159410 and 14181500. Total dissolved gas saturation data was received from gauge 14181500, 500 meters downstream of the trap. During the reporting period, daily maximum values for instantaneous gage height ranged from 1254.5 to 1255.5 ft. Figure 46 shows instantaneous discharge.

Total dissolved gas saturation ranged from 104 to 109%. Figure 47 shows total dissolved gas saturation.

Stream temperatures were recorded using HOBO temperature loggers. The RO and PH temperature loggers recorded data every two hours. (Figure 48 and Figure 49). Flow through the PWR and RO during the reporting period is displayed in Figure 50. Catch per unit of effort (CPUE) data are summarized in Table 36. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 36. Summary of salmonid CPUE, Cougar Dam.

Description	RO (5ft)	PWR (8ft)
Catch	243	45
Effort (hrs)	358.1	714.8
CPUE (fish/hr)	0.7	0.06

Cougar Dam Tailwater Near Rainbow, OR - 14159410

February 1, 2024 - February 15, 2024

Gage height, feet

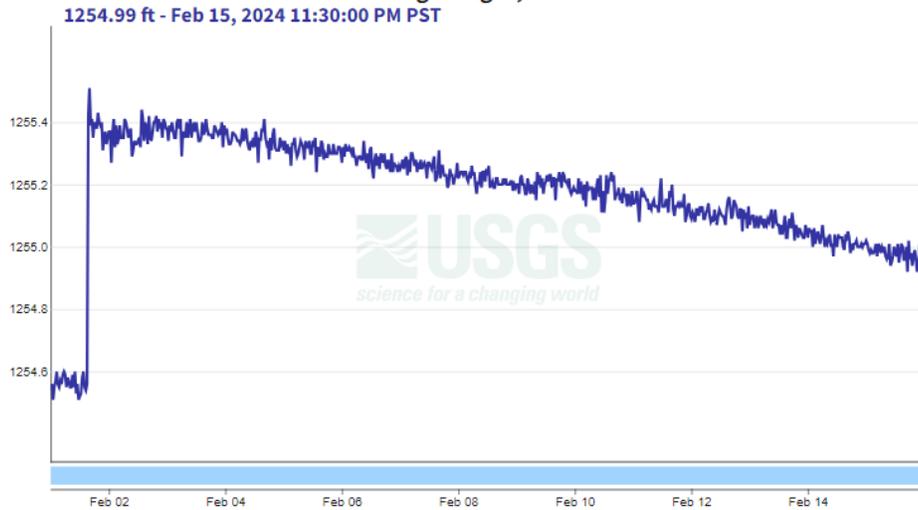


Figure 46. Gauge Height (feet); below Cougar Dam, South Fork McKenzie River.

South Fork Mckenzie River Near Rainbow, OR 14159500

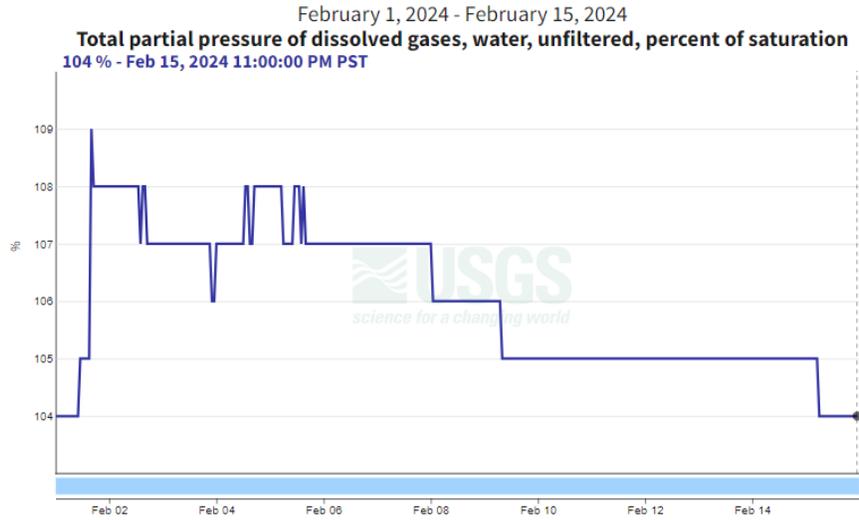


Figure 47. Total Dissolved Gas Saturation (%); below Cougar Dam, South Fork McKenzie River.

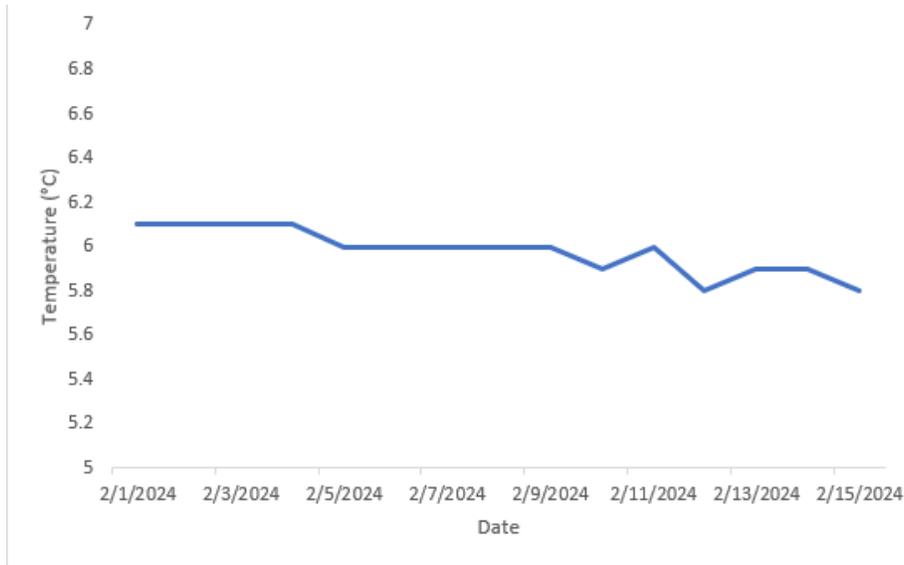


Figure 48. Temperature at RO RST (Cougar Dam).

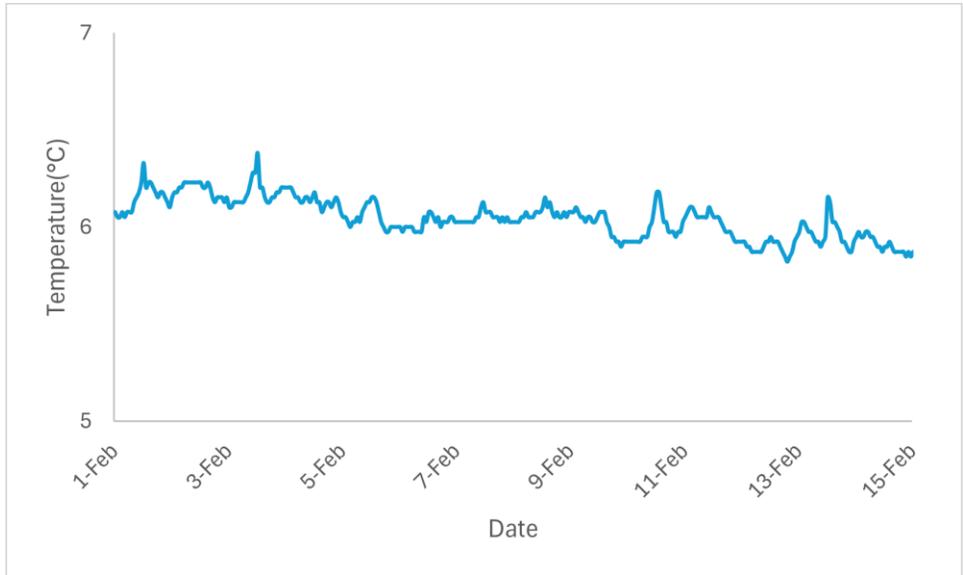


Figure 49. Temperature at PWR RST (Cougar Dam).

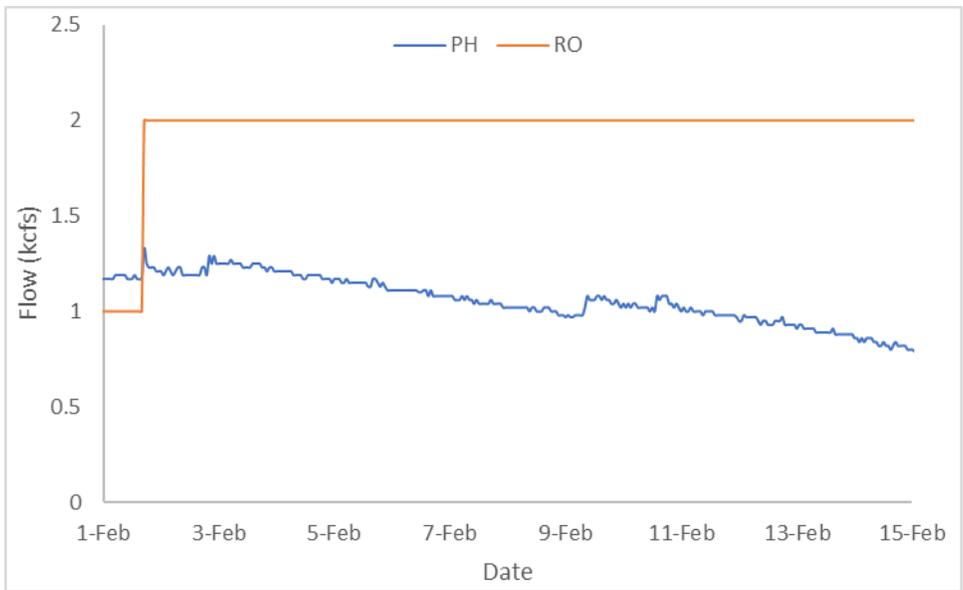


Figure 50. Hourly Flows PWR vs. RO (Cougar Dam).

South Fork of the McKenzie–Cougar Dam Head of Reservoir

Target Species

The reporting period began February 1st, 2024 and ended on February 15th, 2024. There were 15 Chinook salmon captured during the 15-day sampling period (Figure 51). The trap was operated 100.0% of the reporting period. Table 37 provides life stage, length, and weight data for all Chinook salmon that have been caught at the site to-date and Figure 52 shows length frequency data to-date.

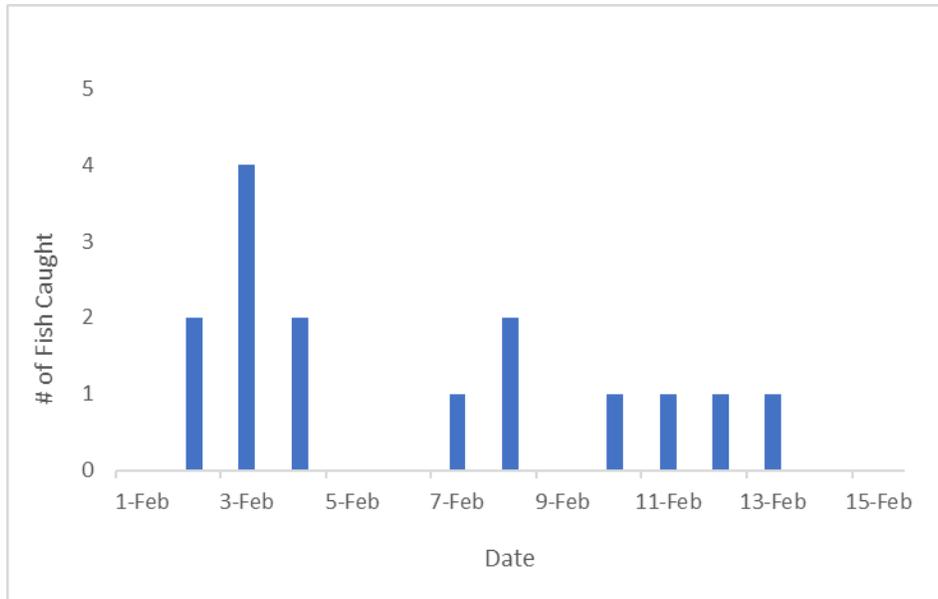


Figure 51. Chinook Captured Per Day 2/1/2024 to 2/15/2024 (Cougar Dam Head of Reservoir).

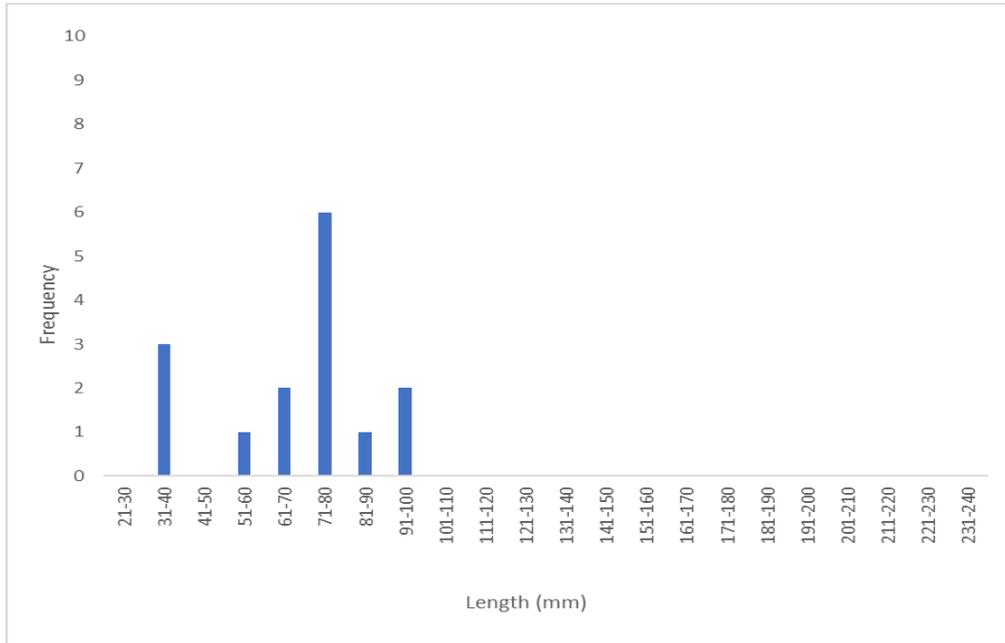


Figure 52. Length Frequency of Juvenile Chinook Sampled in 2024 (Cougar Dam Head of Reservoir).

Table 37. Descriptive Statistics of Target Species Captured at Cougar Dam Head of Reservoir, Season To-Date and for the Reporting Period.

To-Date (Since February 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam Head of Reservoir	5 ft	CHS	Fry	3	31	36	33.3	N/A	N/A	N/A
		CHS	Parr	12	51	95	74.8	1.8	8.1	4.7
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A

February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam Head of Reservoir	5 ft	CHS	Fry	3	31	36	33.3	N/A	N/A	N/A
		CHS	Parr	12	51	95	74.8	1.8	8.1	4.7
		CHS	Smolt	0	N/A	N/A	N/A	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 768 juvenile hatchery Chinook were adipose, upper caudal clipped and released on 11/28/2023 upstream of the Cougar Head of Reservoir trap site. A total of 53 fish were recaptured in the 5 ft trap. Trapping efficiency was 6.9%.

Cougar Dam Head of Reservoir	Release #	Recapture #	Capture Efficiency
5ft trap	768	53	6.9% (53/768)

Run of River Trapping Efficiency

Run of river fish captured in the RST have been caudal clipped, PIT tagged or VIE tagged, and released upstream to perform run of river trapping efficiency trials. Only fish large enough to be safely VIE marked have been used for run of river efficiency trials. This year, 0 Spring Chinook have been marked and released upstream for the purpose of conducting run of river trapping efficiency trials. Release numbers and recaptures for this reporting period are summarized below.

Run of river trapping efficiency trials have been discontinued at this time due to low catch rates.

Table 38. Run of River Trapping Efficiency (Cougar Dam Head of Reservoir).

Cougar Dam Head of Reservoir	Release (Current Reporting Period) #	Recapture (Current Reporting Period) #
Chinook	0	0

Injuries and Copepod Infection

15 Chinook were captured for the reporting period. Of the fish captured, partial descaling <20% was observed on 7 fish (46.7%) and descaling >20% was observed on 0 fish (0.0%). 5 fish had bodily injuries (33.3%). 0 fish displayed eye injuries (0.0%). 0 fish had copepods in the branchial cavity (0.0%), 1 had copepods on fins (6.7%). There were 0 mortalities for this reporting period (0.0%). Injury data for the reporting period is summarized in Table 39. To date injury data can be found in Appendix A.

Table 39. 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	15	7	0	5	0	0	1	0

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

Collected DNA and Scale Samples

DNA was collected from 12 of the Chinook captured. Scales were collected from 12 of the Chinook captured. The rest of the captured fish were under the minimum fork length threshold or too descaled to retrieve samples.

PIT Tags

9 Spring Chinook were PIT tagged during this reporting period. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

A total of 4 Spring Chinook have been VIE marked with fluorescent elastomer. VIE tag color is changed every month to distinctly mark groups of fish by capture date. Fish still showing an egg sac are not VIE marked. Release numbers and recaptures for this reporting period are summarized below.

To date, 5 Chinook smolt with a right dorsal orange VIE mark were captured below Cougar Dam in the Regulating Outlet RST. These fish were tagged in May of 2023 by EAS staff.

Date Tagged	Tag Location	VIE Color	# Tagged	# Recaptured to Date
02/01/2024-02/15/2024	Right Dorsal	Yellow	4	0

Non-Target Species

3 non-target fish were captured at the Cougar Dam Head of Reservoir RST during the reporting period; the data is summarized below in Table 40.

Table 40. Summary of Non-target Species (Cougar Dam Head of Reservoir).

Species	Capture	Mortality	Season Total	Season Total Mortality
Bull Trout	1	0	1	0
Cutthroat Trout	1	0	1	0
Chinook (Adult)	0	0	0	0
Chinook (clipped)	0	0	0	0
Dace	0	0	0	0
Mountain Whitefish	0	0	0	0
Northern Pikeminnow	0	0	0	0
<i>O. mykiss</i>	1	0	1	0
Sculpin	0	0	0	0
Unknown	0	0	0	0
Totals	3	0	3	0

Stream Statistics

Basic stream statistics at the site were calculated from data downloaded from the U.S. Geological Survey stream gauge number 14159200. During the reporting period, daily maximum values for instantaneous discharge ranged from 575.0 cfs to 1900.0 cfs. Figure 53 shows instantaneous discharge.

Stream temperatures were recorded every 2 hours using a temperature probe at the Cougar Dam Head of Reservoir RST site during this reporting period. The temperature probe operated normally throughout the reporting period, and the data is shown below in Figure 54.

Catch per unit of effort (CPUE) data are summarized in Table 41. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 41. Summary of Chinook CPUE, Cougar Dam Head of Reservoir.

Description	Chinook
Catch	15
Effort (hrs)	330.5
CPUE (fish/hr)	0.05

SO FK Mckenzie River Abv Cougar Lake NR Rainbow OR - 14159200

February 1, 2024 - February 15, 2024

Discharge, cubic feet per second

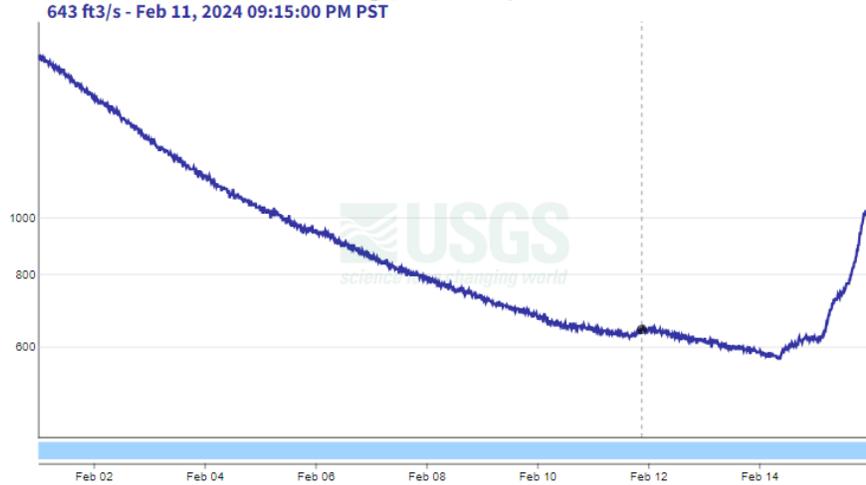


Figure 53. Discharge (cfs); South Fork McKenzie above Cougar Dam.

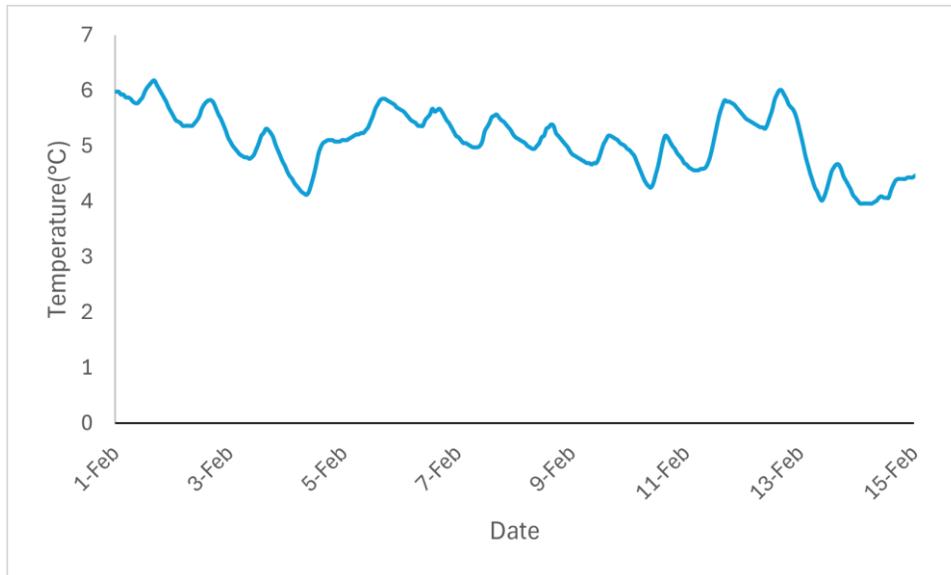


Figure 54. Temperature at RST (Cougar Dam Head of Reservoir).

Middle Fork Willamette – Fall Creek Head of Reservoir

Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were a total of 3 Chinook Salmon (CHS) captured during the 15-day sampling period. Sampling duration was 100.0% for the 8ft RST. Table 42 provides life stage, length, and weight data for all Chinook salmon that have been caught at the site to-date and for the reporting period. Figure 55 shows the daily capture numbers for chinook and Figure 56 shows length frequency data to-date.

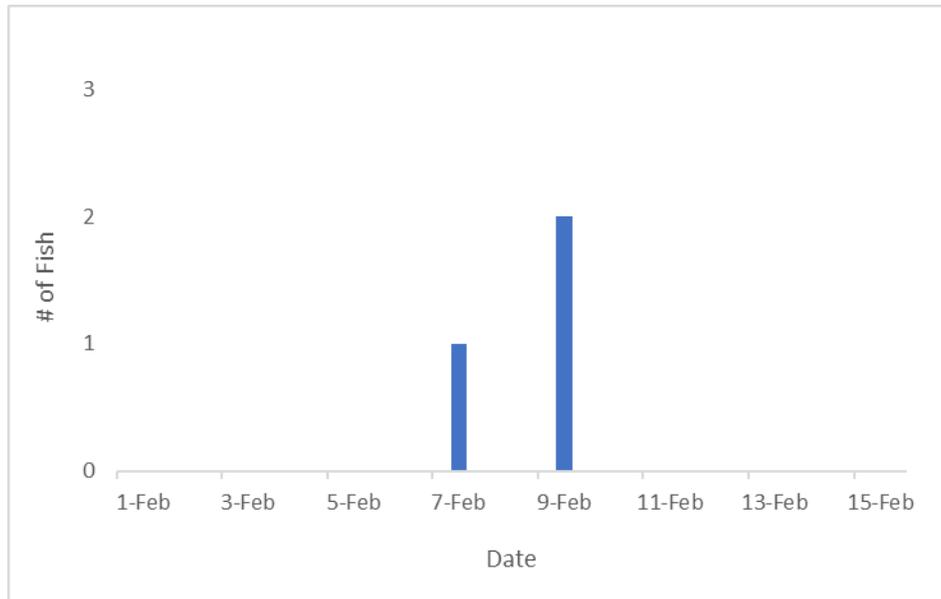


Figure 55. Chinook Captured Per Day 2/1/2024 to 2/15/2024 at Fall Creek Head of Reservoir.

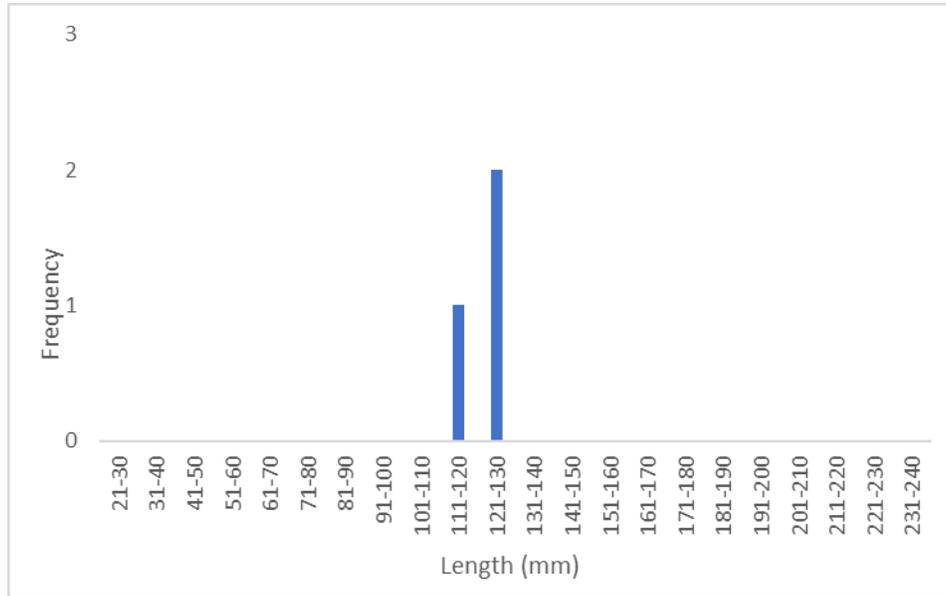


Figure 56. Length Frequency of Juvenile Chinook Sampled in 2024 (Fall Creek Head of Reservoir).

Table 42. Descriptive Statistics of Target Species Captured at Fall Creek Head of Reservoir 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	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	3	120	125	122.0	19.9	22.3	21.1
February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Fall Creek Head of Reservoir	8 ft	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	3	120	125	122.0	19.9	22.3	21.1

Trapping Efficiency

On 2/2/24, 751 juvenile hatchery Chinook (yearlings) were released on the river right bank upstream of Dolley Varden bridge. Of the 755 Chinook released, 51 were recaptured for an efficiency of 6.8%.

Fall Creek Head of Reservoir	Release #	Recapture #	Capture Efficiency
8ft	751	51	6.8%

Run of River Trapping Efficiency

Run of river trapping efficiency trials have been discontinued until daily catch rates increase.

Collected DNA and Scale Samples

Scales were collected from 3 Spring Chinook and DNA was collected from 3 Spring Chinook this reporting period.

PIT Tags

A total of 3 Spring Chinook were PIT tagged during sampling in 2023. Refer to Appendix D for further information regarding PIT tags.

VIE Marking

A total of 0 Spring Chinook have been VIE marked with fluorescent elastomer in 2024. VIE tag color is changed every month to distinctly mark groups of fish by capture date. No fish with VIE marks have been detected at downstream RST sites to date. Fish still showing an egg sac are not VIE marked. A summary of VIE marked fish is shown in Table 43.

Table 43. Summary of VIE marked fish at the Fall Creek Head of Reservoir site in 2024.

Date Tagged	Tag Location	VIE Color	# Tagged	# Recaptured to Date
N/A	Left Dorsal	Yellow	0	0

Injuries and Copepod Infection

3 Chinook was captured during this reporting period. Partial descaling <20% was observed in 3 of the 3 Chinook captured (100.0%) and 0 displayed descaling >20% (0.0%). 2 displayed body injury (66.7%) and 0 Chinook had eye injury (0.0%). 0 Chinook had copepods present in the branchial cavity (0.0%) and 0 had copepods on fins (0.0%). There were 0 mortalities this reporting period (0.0%). Injuries are displayed in Table 44. To date injury data can be found in Appendix A.

Table 44. 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	3	3	0	2	0	0	0	0

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

Non-Target Species

59 non target fish were captured at Fall Creek Head of Reservoir this reporting period; the data is summarized below in Table 45.

Table 45. Summary of Non-target Species (Fall Creek Head of Reservoir).

Species	Capture	Mortality	Season Total	Season Total Mortality
Brook Lamprey	15	0	28	0
Brown Bullhead	0	0	0	0
Cutthroat Trout	19	0	26	0
Dace	3	0	5	0
Chinook (clipped)	1	0	1	0
Largescale Sucker	0	0	1	0
<i>O. mykiss</i>	18	0	35	0
<i>O. mykiss (clipped)</i>	0	0	0	0
Pacific Lamprey	3	0	5	0
Redside Shiner	0	0	0	0
Sculpin	0	0	0	0
Unknown Lamprey	0	0	0	0
Totals	59	0	101	0

Stream Statistics

Basic stream statistics at the Fall Creek Head of Reservoir 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 3.7 feet to 6.2 ft. Figure 57 shows instantaneous gage height.

Stream temperatures were recorded every 2 hours for the Fall Creek RST (Figure 58).

Catch per unit of effort (CPUE) data are summarized in Table 46. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 46. Summary of Chinook CPUE, Fall Creek Head of Reservoir.

Description	Chinook
Catch	0
Effort (hrs)	356.7
CPUE (fish/hr)	0.0

Fall Creek Above North Fork, Near Lowell, OR 14150290

February 1, 2024 - February 15, 2024

Gage height, feet



Figure 57. Gage Height (feet); Fall Creek Above North Fork, Near Lowell OR

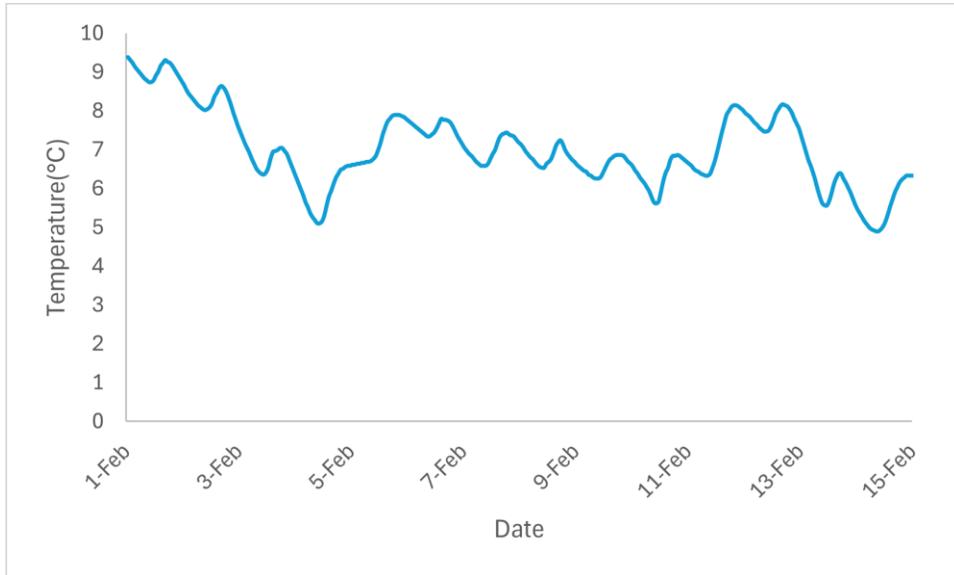


Figure 58. Temperature at RST (Fall Creek Head of Reservoir)

Fall Creek Dam Tailrace

The RST in the Fall Creek Dam Tailrace began sampling under contract W9127N19D0009 on September 30th, 2023. Sampling at Fall Creek Dam Tailrace prior to September 30th, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

Target Species

The reporting period began February 1st, 2024 and ended on February 15th, 2024. 2 Chinook salmon were captured during the 15-day sampling period (Figure 59). The trap sampled 100.0% of the days during this reporting period. Figure 60 shows length frequency data to-date and Table 47 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Fall Creek Dam Tailrace site to-date.

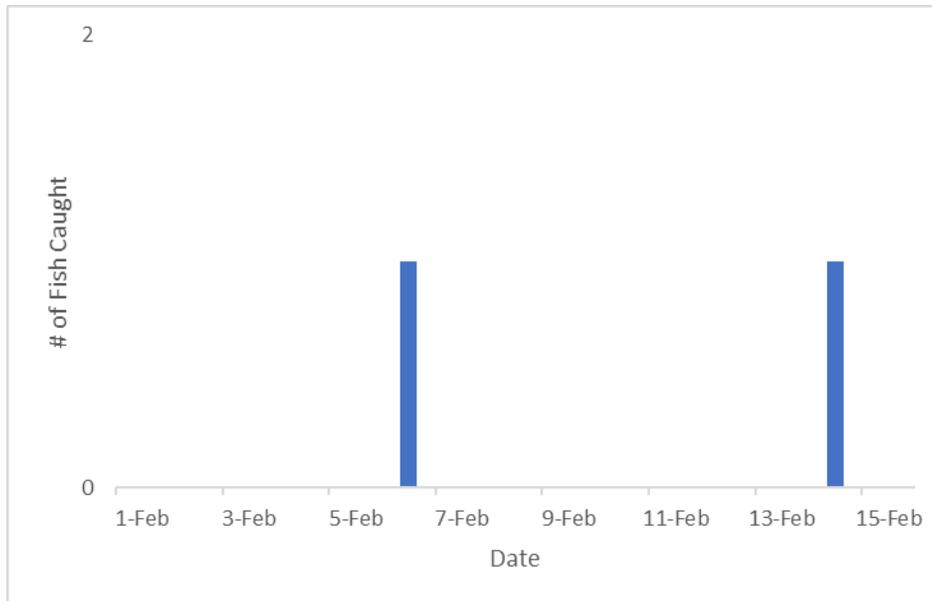


Figure 59. Chinook captured per day 2/1/2024 to 2/15/2024 (Fall Creek Dam Tailrace).

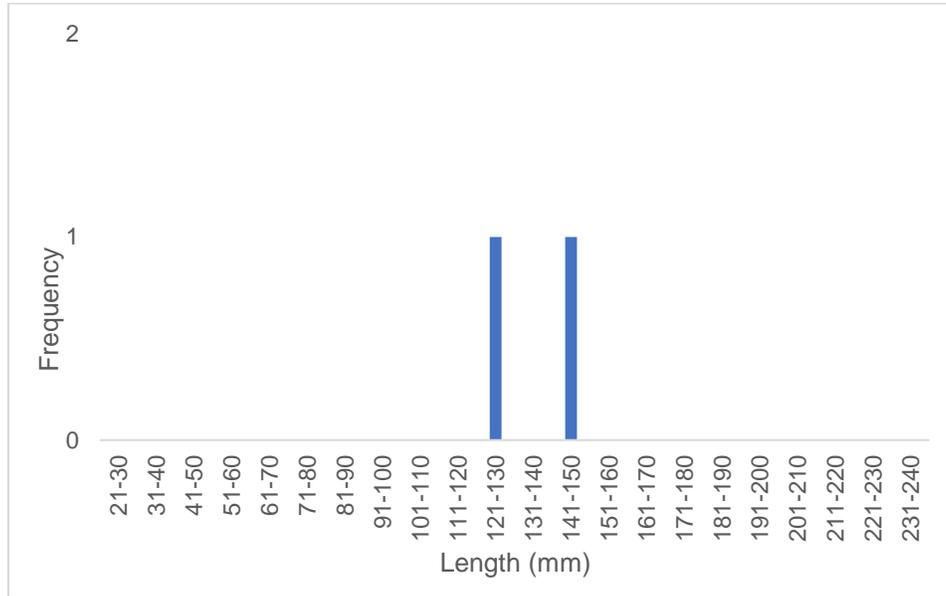


Figure 60. Length Frequency of Juvenile Chinook Sampled Season To-Date (Fall Creek Dam Tailrace).

Table 47. Descriptive Statistics of Target Species Captured at Fall Creek Dam Tailrace 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	2	130	146	138.0	24.7	36.4	30.6
		CHS	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A

February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Fall Creek Dam	RO	CHS	Smolt	2	130	146	138.0	24.7	36.4	30.6
		CHS	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A

Trapping Efficiency

A total of 1004 juvenile hatchery Chinook (sub yearlings) were adipose clipped, lower caudal clipped, and released on 2/13/2024 upstream of the Fall Creek Dam Tailrace RO channel trap site. A total of 35 fish were recaptured in the 8 ft trap. Trapping efficiency was 3.5%.

Fall Creek Dam	Release #	Recapture #	Capture Efficiency
RO	1004	35	3.5% (35/1004)

24-Hour Post Collection Holding Trial

2 Spring Chinook was captured during the current reporting period and held for 24 hours. 0 Chinook (0.0%) died in holding.

Injuries and Copepod Infection

Partial descaling <20% was observed in 2 of the 2 Chinook captured (100.0%), 0 displayed descaling >20% (0.0%), 2 displayed body injury (100.0%), 0 displayed eye injuries (0.0%), 0 had copepods present in the branchial cavity (0.0%) and 0 fish had copepods on fins (0.0%). 0 Chinook displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%). The data is summarized in Table 48. To date injury data is listed in Appendix A.

Table 48. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period (Fall Creek Dam).

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	2	2	0	2	0	0	0	0

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

Collected DNA and Scale Samples

Scales were collected from 2 Spring Chinook and DNA was collected from 2 Spring Chinook this reporting period.

PIT Tags

No Spring Chinook were PIT tagged during this reporting period. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

No VIE marked Spring Chinook have been detected at this site to date.

Non-Target Species

77 non-target fish were captured at the Fall Creek Dam Tailrace site during the reporting period; the data is summarized below in Table 49.

Table 49. Summary of Non-target Species (Fall Creek Dam Tailrace).

Species	Capture	Mortality	Season Total	Season Total Mortality
Bluegill	0	0	0	0
Brook Lamprey	0	0	0	0
Brown Bullhead	0	0	1	0
Cutthroat Trout	5	0	6	0
Dace	5	3	5	3
Mountain Whitefish	1	1	1	1
Largescale Sucker	0	0	1	1
Mosquitofish	0	0	0	0
Peamouth	0	0	0	0
Redsided Shiner	0	0	0	0
Northern Pikeminnow	0	0	0	0
Chinook (clipped)	46	1	46	1
<i>O. mykiss</i>	19	5	20	5
<i>O. mykiss</i> (clipped)	0	0	0	0
Pacific Lamprey	1	0	1	0
Sculpin	0	0	0	0
Unknown Salmonid	0	1	0	1
Totals	77	11	81	12

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 684.0 cfs to 3600.0 cfs. Figure 61 shows instantaneous discharge.

Dissolved oxygen concentrations ranged from 12.0 mg/L to 13.6 mg/L (Figure 62).

Stream temperatures were recorded every 2 hours using a temperature probe at the Fall Creek Dam RST site during this reporting period. The temperature probe operated normally throughout the reporting period and can be seen in Figure 63.

Flows In and Out of reservoir during the reporting period are displayed in Figure 64.

Catch per unit of effort (CPUE) data are summarized in Table 50. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B

Table 50. Summary of Chinook CPUE, Fall Creek Dam Tailrace.

Description	Chinook
Catch	2
Effort (hrs)	338.5
CPUE (fish/hr)	0.01

Fall Creek Blw Winberry Creek, Near Fall Creek, OR - 14151000

February 1, 2024 - February 15, 2024

Discharge, cubic feet per second



Figure 61. Discharge (cfs); Fall Creek Below Winberry Creek, Near Fall Creek, OR

Fall Creek Blw Winberry Creek, Near Fall Creek, OR - 14151000

February 1, 2024 - February 15, 2024

Dissolved oxygen, water, unfiltered, milligrams per liter

13.1 mg/l - Feb 15, 2024 11:45:00 PM PST



Figure 62. Dissolved Oxygen (mg/L), Fall Creek below Winberry Creek, Near fall Creek, OR

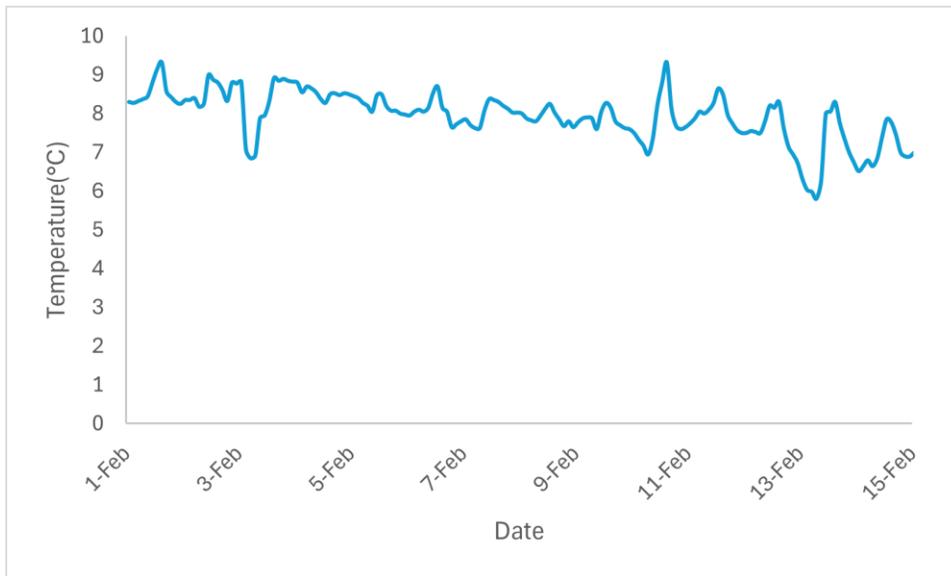


Figure 63. Temperature at RST (Fall Creek Dam Tailrace).

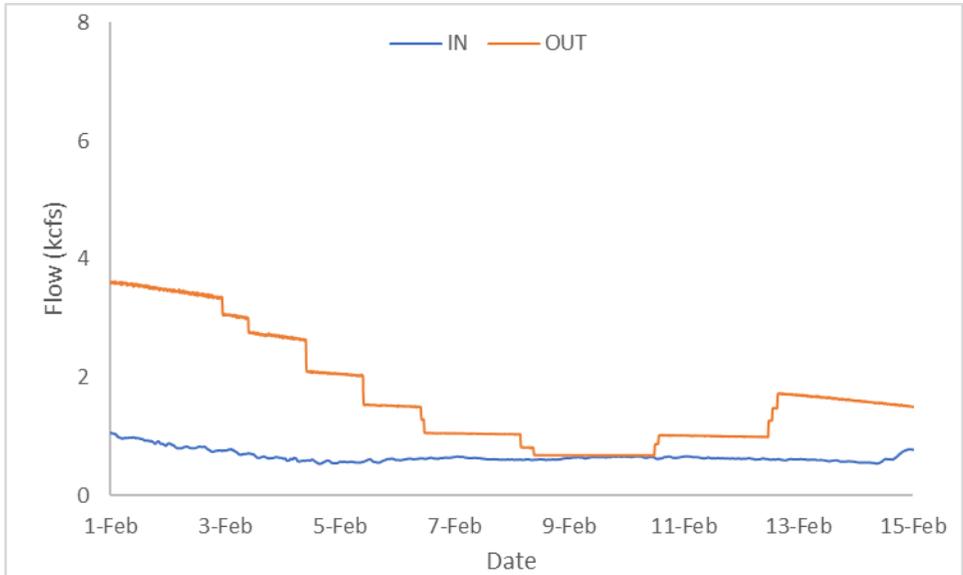


Figure 64. Hourly Flows Inflow vs. Outflow (RO) (Fall Creek Tailrace)

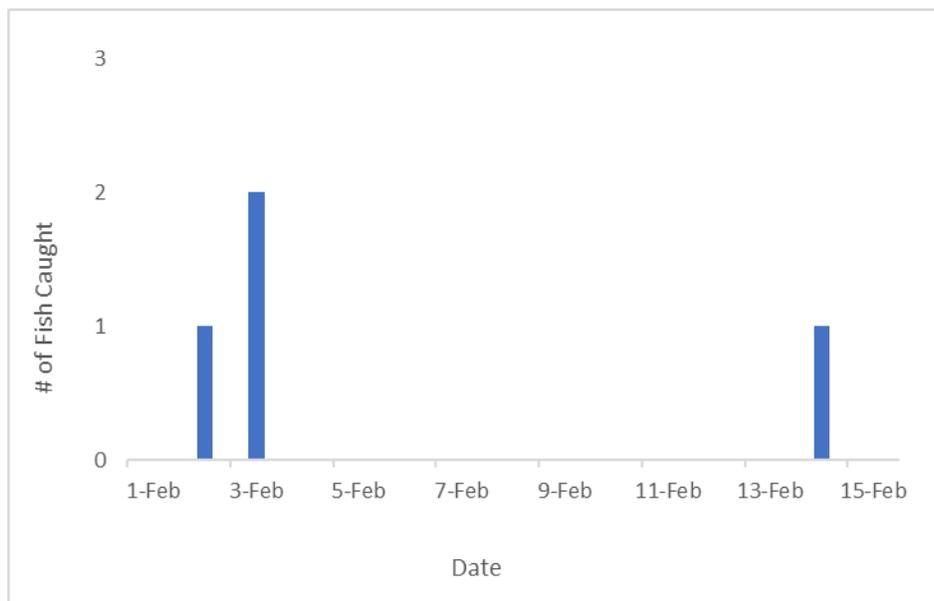
Middle Fork Willamette– Dexter Dam

The RST in the Dexter Dam Tailrace began sampling under contract W9127N19D0009 on December 16th, 2023. Sampling at Dexter Dam Tailrace prior to December 16th, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

On November 7th, 2023 the Dexter Dam Tailrace RST was moved to a new sampling site further downstream to allow construction crews to perform work at the Dexter Fish Facility. The trap will sample at this location until construction activities at the facility are completed.

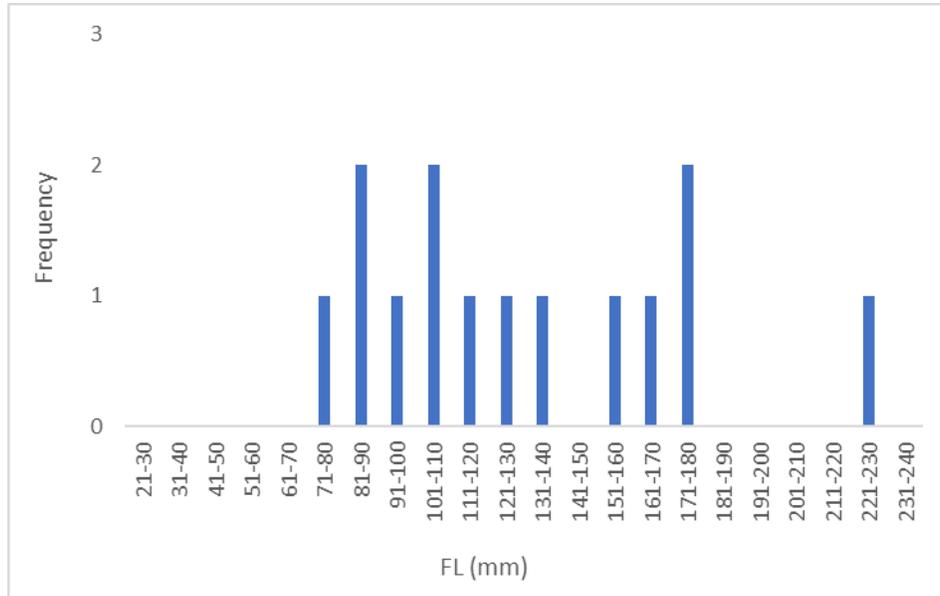
Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were 4 Chinook salmon (CHS) captured during the 15-day sampling period. Sampling duration was 100% for the 5 ft RST. Table 51 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 65 shows the daily capture numbers for Chinook and Figure 66 shows length frequency data to-date.



**Recaptured fish for trapping efficiency trials not included.*

Figure 65. Chinook Captured per day 2/1/2024 to 2/15/2024 (Dexter Dam)



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

Figure 66. Length Frequency of Juvenile Chinook Sampled in 2024 (Dexter Dam).

Table 51. Descriptive Statistics of Target Species Captured at the Dexter Dam RST To-Date.

To-Date (Since Jan. 1, 2024)										
Site	Trap	Species	Life stage	Collected	Length (mm) [*]			Weight (g) [*]		
					Min	Max	Mean	Min	Max	Mean
Dexter Dam	5 ft	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	4	82	101	93.0	7.7	10.9	9.6
		CHS	Smolt	10	77	227	145.5	8.0	101.5	37.5

February 1-15, 2024										
Site	Trap	Species	Life stage	Collected	Length (mm) [*]			Weight (g) [*]		
					Min	Max	Mean	Min	Max	Mean
Dexter Dam	5 ft	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	1	99	99	99.0	10.9	10.9	10.9
		CHS	Smolt	3	117	175	148.7	15.8	60.1	39.6

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

Trapping Efficiency

A total of 2067 juvenile hatchery Chinook (yearlings) were adipose clipped, lower caudal clipped, and released on 2/8/2024 below Dexter Dam. Fish were released in small groups into the spillway flow to evaluate the traps efficiency capturing fish passing through the powerhouse. 0 fish were recaptured in the 5-foot RST for an efficiency of 0.0%

Dexter Dam	Release #	Recapture #	Capture Efficiency
Spillway	2067	0	0.0% (0/2067)

24-Hour Post Collection Holding Trial

3 Spring Chinook were captured during the current reporting period and held for 24 hours. 0 Chinook (0.0%) died in holding.

Injuries and Copepod Infection

4 Chinook were captured during this reporting period. Partial descaling <20% was observed in 3 of the 4 Chinook captured (75.0%) and 1 displayed descaling >20% (25.0%). 4 displayed body injury (100.0%) and 0 Chinook had eye injury (0.0%). 2 Chinook had copepods present in the branchial cavity (50.0%) and 1 had copepods on fins (25.0%). 2 displayed gas bubble disease (1 at level 1, 1 at level 4) (50.0%). There were 1 mortalities in this reporting period (25.0%). Injuries are displayed in Table 52. To date injury data can be found in Appendix A.

Table 52. 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	4	3	1	4	0	2	1	1

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

Collected DNA and Scale Samples

For the reporting period, scales and DNA were collected from 4 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling or were too damaged to remove scales.

PIT Tags

0 Spring Chinook was PIT tagged during this reporting period. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

No VIE marked Spring Chinook have been detected at this site to date.

Non-Target Species

87 non-target fish were captured during the reporting period; the data is summarized below in Table 53. Of the 20 clipped Chinook captured, 15 were PIT tagged fish from bulk mark releases at upstream sites, and 5 were fish released for trapping efficiency trials at upstream RST sites.

Table 53. Summary of Non-target Species (Dexter Dam).

Species	Capture	Mortality	Season Total*	Season Total Mortality
Bass Unknown	0	0	0	0
Bluegill	0	0	25	2
Chinook (adult)	0	0	0	0
Chinook (clipped)	20	0	216	3
Crappie	22	4	138	16
Cutthroat Trout	0	0	0	0
Dace	2	0	2	0
Brown Bullhead Catfish	0	0	0	0
Lamprey	1	0	2	0
Largescale Sucker	0	0	1	0
Largemouth Bass	0	0	0	0
Mountain Whitefish	0	0	0	0
Northern Pikeminnow	0	0	2	0
<i>O. mykiss</i> (clipped)	0	0	2	0
<i>O. mykiss</i>	0	0	2	0
Sculpin	36	8	69	8
Smallmouth Bass	0	0	0	0
Unknown	0	0	1	1
Unknown Salmonid	0	0	1	1
Walleye	6	0	22	5
Totals	87	12	483	36

Stream Statistics

Basic stream statistics at the Dexter Dam site were calculated from data downloaded from the U.S. Geological Survey stream gauge numbers 14149510 and 14150000. Gauge height (feet) is the only metric provided at gauge 14149510. Total dissolved gas saturation data was received from gauge 14150000, 4.75 rkms downstream of the trap. During the reporting period, daily maximum values for instantaneous gauge height ranged from 638.6 feet to 640.2 ft. Figure 67 shows instantaneous gauge height.

Total dissolved gas saturation ranged from 109 to 118% during the reporting period. Figure 68 shows total dissolved gas saturation.

Stream temperatures were recorded every 2 hours using a temperature probe at the Dexter Dam RST site during this reporting period. The temperature probe operated normally throughout the reporting period and can be seen in Figure 69.

Flows through the Powerhouse and Spill during the reporting period are displayed in Figure 70. Catch per unit of effort (CPUE) data are summarized in Table 54. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 54. Summary of salmonid CPUE, Dexter Dam.

Description	Chinook
Catch	4
Effort (hrs)	365.05
CPUE (fish/hr)	0.01

Dexter Dam Tailwater at Dexter, OR - 14149510

February 1, 2024 - February 15, 2024

Gage height, feet



Figure 67. Gauge Height (feet); below Dexter Dam, Middle Fork Willamette.

Middle Fork Willamette River Near Dexter, OR - 14150000

February 1, 2024 - February 15, 2024

Total partial pressure of dissolved gases, water, unfiltered, percent of saturation

109 % - Feb 15, 2024 11:00:00 PM PST

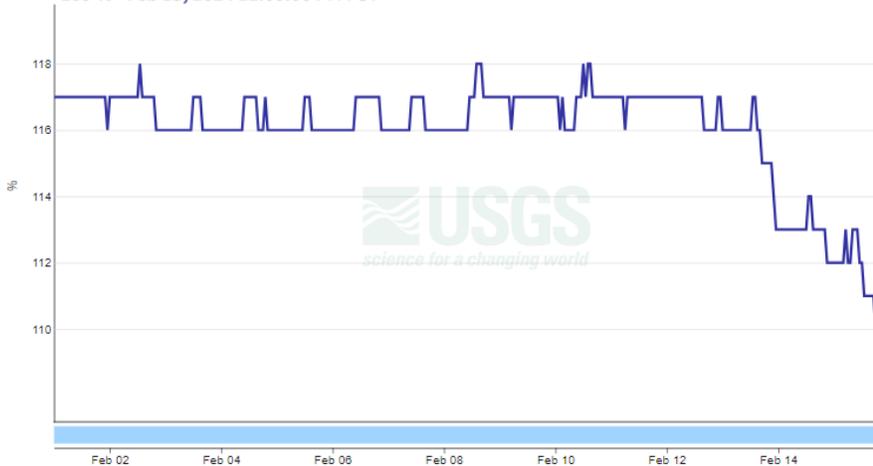


Figure 68. Total Dissolved Gas Saturation (%); Middle Fork Willamette River, Near Dexter, OR.

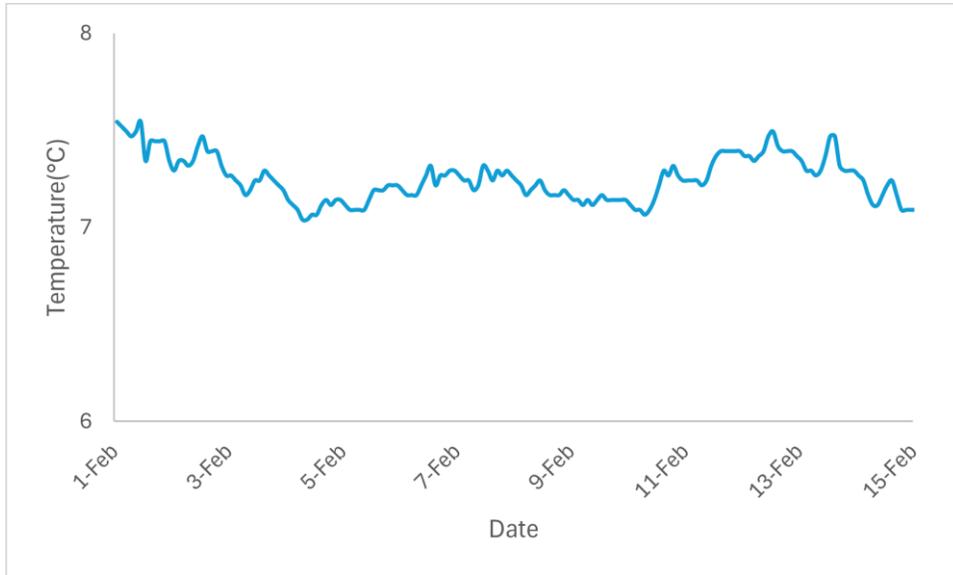


Figure 69. Temperature at RST (Dexter Dam).

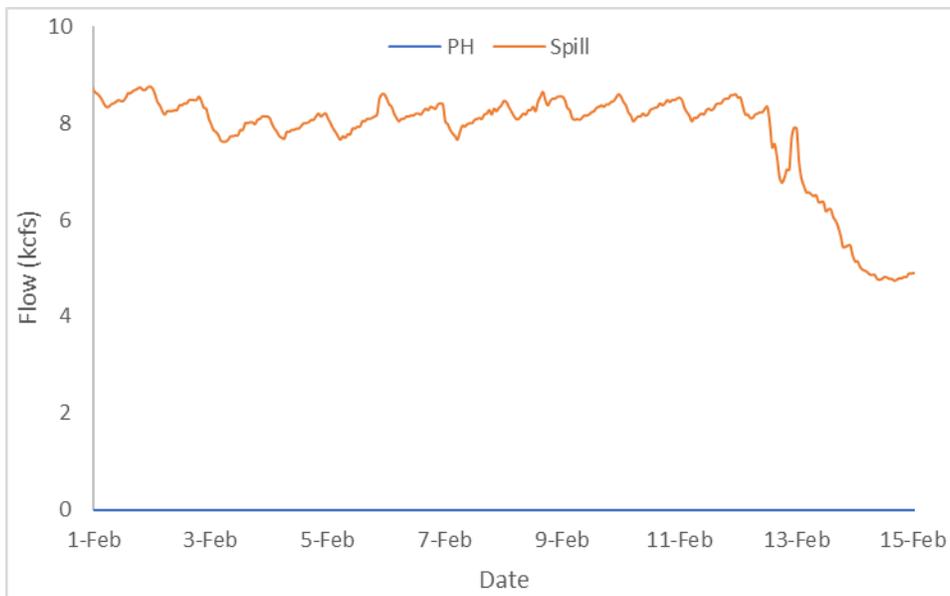


Figure 70. Hourly Flows PWR vs. Spill (Dexter Dam).

Middle Fork Willamette – Lookout Dam Tailrace

The RSTs in the Lookout Dam Tailrace began sampling under contract W9127N19D0009 on August 1, 2023. Sampling at Lookout Dam Tailrace prior to August 1, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

Target Species

The reporting period began February 1st, 2024 and ended on February 15th, 2024. There were a total of 0 Chinook salmon captured during the 15-day sampling period (Figure 71). Due to dam outflows exceeding safety thresholds, all three RSTs were raised to the non-sampling position on February 1st. On February 7th, the Spill RST was lowered back into the sampling position, however, on February 9th the cone was raised into the non-sampling position due to unsafe trap access. All three RSTs were lowered into the sampling position on February 13th, as flows returned below safety thresholds. The Spill RST operated 40.0% of the reporting period. The PWR RSTs operated 20.0% of the reporting period. Table 55 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 72 shows length frequency data to-date.

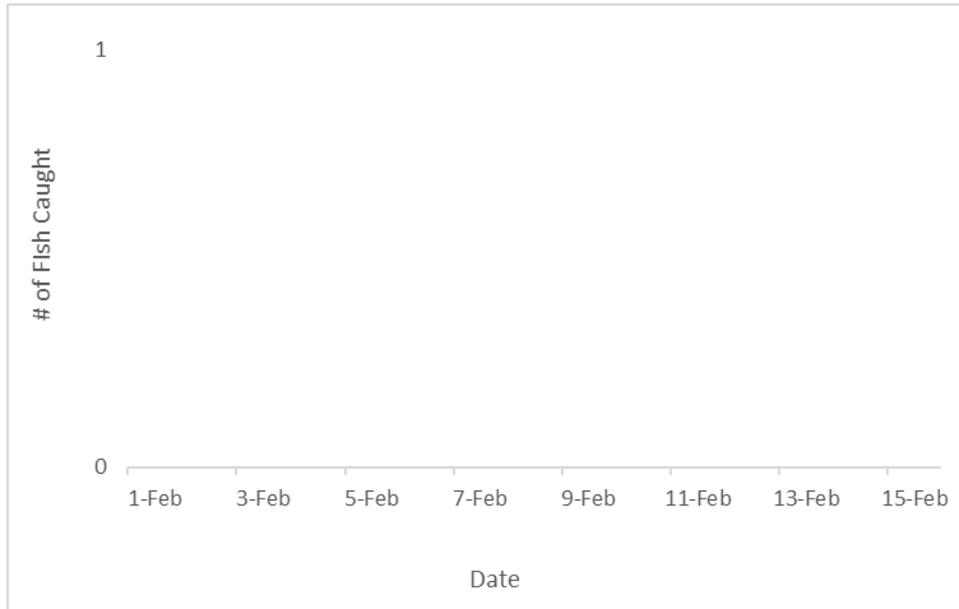


Figure 71. Chinook Captured per day 2/1/2024 to 2/15/2024 (Lookout Point Dam Tailrace).

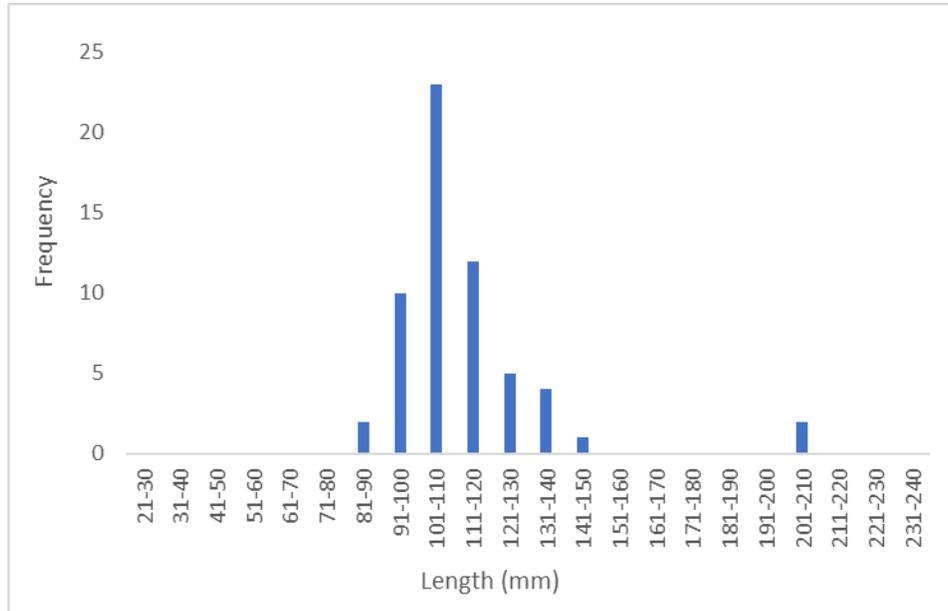


Figure 72. Length Frequency of Juvenile Chinook Sampled in 2024 (Lookout Point Dam Tailrace).

Table 55. Descriptive Statistics of Target Species Captured at Lookout Point Dam Tailrace To-Date and for the Reporting Period.

To-Date (Since Jan. 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Lookout Point Dam	PH 1	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	1	82	82	82.0	4.8	4.8	4.8
		CHS	Smolt	18	97	141	113.6	10.1	41.1	19.0
	PH 2	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	2	83	107	95.0	8.0	13.1	10.6
		CHS	Smolt	39	93	209	115.2	8.2	96.0	19.1
	Spill	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	0	N/A	N/A	N/A	N/A	N/A	N/A
February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Lookout Point Dam	PH 1	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	0	N/A	N/A	N/A	N/A	N/A	N/A
	PH 2	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	0	N/A	N/A	N/A	N/A	N/A	N/A
	Spill	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	0	N/A	N/A	N/A	N/A	N/A	N/A

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

Trapping Efficiency

On 1/10/2024, 17,553 juvenile hatchery Chinook were released in small groups directly into powerhouse flow. A total of 3 fish were recaptured in the traps for an efficiency of 0.02%. Trap specific efficiencies are as follows: 1 recaptured at the PH 1 RST for an efficiency of 0.006%, 1 recaptured at PH 2 for an efficiency of 0.006%, and 1 recaptured at the Spill RST for an efficiency of 0.006%.

Lookout Dam Powerhouse	Release #	Recapture #	Capture Efficiency
1/10/2024	17,553	3	0.02% (3/17,553)

24-Hour Post Collection Holding Trial

0 Spring Chinook were captured during the current reporting period and held for 24 hours. 0 fish were held from the PWR RSTs and 0 fish were held from the Spill RST. 0 hold fish died from the PWR RSTs (0.0%). 0 of the fish from Spill RST died during holding (0.0%).

Injuries and Copepod Infection

There were 0 Chinook captured in the Spill Channel RST. Partial descaling <20% was observed on 0 of 0 Chinook collected at the Spill RST (0.0%), and descaling >20% was observed on 0 of the Chinook collected (0.0%). 0 displayed body injuries (0.0%) and 0 had eye injuries (0.0%). 0 of the Spill RST Chinook had copepods present in the branchial cavity (0.0%) and 0 had copepods present on fins (0.0%). 0 of the fish captured in the Spill RST displayed Gas Bubble Disease (0.0%).

There were 0 Chinook captured in the Powerhouse 1 RST. Partial descaling <20% was observed on 0 of the 0 Chinook collected at the PWR 1 RST (0.0%). Descaling >20% was observed on 0 of the Chinook collected (0.0%). 0 PWR 1 RST fish had bodily injury (0.0%) and 0 had eye injuries (0.0%). 0 of the fish had copepods present in the branchial cavity (0.0%) and 0 had copepods present on fins (0.0%). 0 fish displayed Gas Bubble Disease (0.0%).

There were 0 Chinook captured in the Powerhouse 2 RST. Partial descaling <20% was observed on 0 of the 0 Chinook collected at the PWR 2 RST (0.0%). Descaling >20% was observed on 0 of the Chinook collected (0.0%). 0 PWR 2 RST fish had bodily injury (0.0%) and 0 had eye injuries (0.0%). 0 of the fish had copepods present in the branchial cavity (0.0%) and 0 had copepods present on fins (0.0%). 0 fish displayed Gas Bubble Disease (0.0%).

There were 0 chinook mortalities collected in the Spill RST (0.0%). There were 0 mortalities in the PWR 1 RST (0.0%) and 0 in the PWR 2 RST (0.0%). Injuries are displayed in Table 56. To date injury data can be found in Appendix A.

Table 56. 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	Spill	0	0	0	0	0	0	0	0
	PWR 1	0	0	0	0	0	0	0	0
	PWR 2	0	0	0	0	0	0	0	0

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

Collected DNA and Scale Samples

DNA was collected from 0 Spring Chinook for the reporting period. Scales were collected from 0 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling or were too damaged to remove scales.

PIT Tags

0 Spring Chinook were PIT tagged during this reporting period. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

No VIE marked Spring Chinook have been detected at this site to date.

Non-Target Species

33 non-target species were captured during the reporting period; the data is summarized below in Table 57. Of the 8 clipped Chinook captured, 6 were PIT tagged fish from bulk marked releases above the dam and 2 were fish released above the dam for trapping efficiency trials.

Table 57. Summary of Non-target Species (Lookout Point Dam Tailrace).

Species	PWR Capture	PWR Mortality	Spill Capture	Spill Mortality	Season Total	Season Total Mortality
Bass Unknown	0	0	0	0	0	0
Bluegill	0	0	0	0	0	0
Brown Bullhead	0	0	0	0	0	0
Chinook (clipped)	6	1	2	0	187	3
Crappie	0	0	0	0	16	7
Largemouth Bass	0	0	0	0	0	0
Mountain Whitefish	0	0	0	0	0	0
Largescale Sucker	0	0	1	1	1	1
Northern Pikeminnow	0	0	0	0	0	0
<i>O. mykiss</i>	0	0	0	0	1	0
<i>O. mykiss</i> (clipped)	0	0	0	0	0	0
Pumpkinseed	0	0	0	0	0	0
Redside Shiner	0	0	0	0	0	0
Sculpin	0	0	0	0	2	0
Smallmouth Bass	7	1	8	6	28	7
Spotted Bass	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
Walleye	4	0	5	0	93	12
Totals	17	2	16	7	328	30

Stream Statistics

Basic stream statistics at Lookout Dam Tailrace site were calculated from data downloaded from the U.S. Geological Survey stream gauge number 14149010. Total dissolved gas saturation or dissolved oxygen concentration measurements are not available at this stream gauge site, or any nearby stream gauges.

Gauge height (feet) is the only metric provided at this gauge. During the reporting period, daily maximum values for instantaneous gauge height ranged from 690.4 feet to 695.0 ft. Figure 73 shows instantaneous gauge height.

Stream temperatures were recorded every 2 hours using temperature probes at the PWR and Spill Lookout Dam RST's during this reporting period. Temperature probes operated normally, and the data is shown below in (Figure 74 and Figure 75).

Flows through the Powerhouse and Spill during the reporting period are displayed in Figure 76. Catch per unit of effort (CPUE) data are summarized in Table 58. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 58. Summary of Chinook CPUE at Lookout Point Dam Tailrace.

Description	Chinook		
	PH 1	PH 2	Spill
Catch	0	0	0
Effort (hrs)	68.8	68.7	116.8
CPUE (fish/hr)	0.0	0.0	0.0

Lookout Point Dam Tailwater Near Lowell, OR - 14149010

February 1, 2024 - February 15, 2024

Gage height, feet

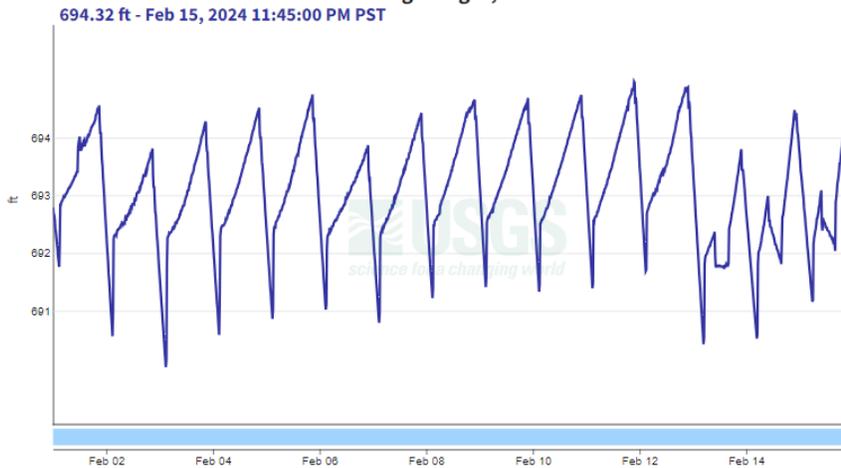


Figure 73. Gauge Height (feet); below Lookout Dam.

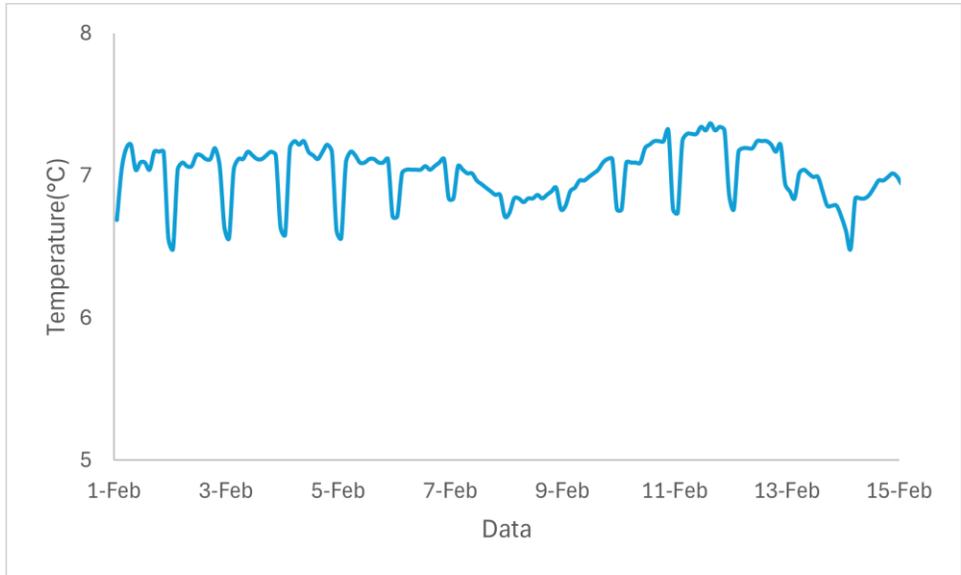


Figure 74. Temperature at RST (Lookout Dam PWR).

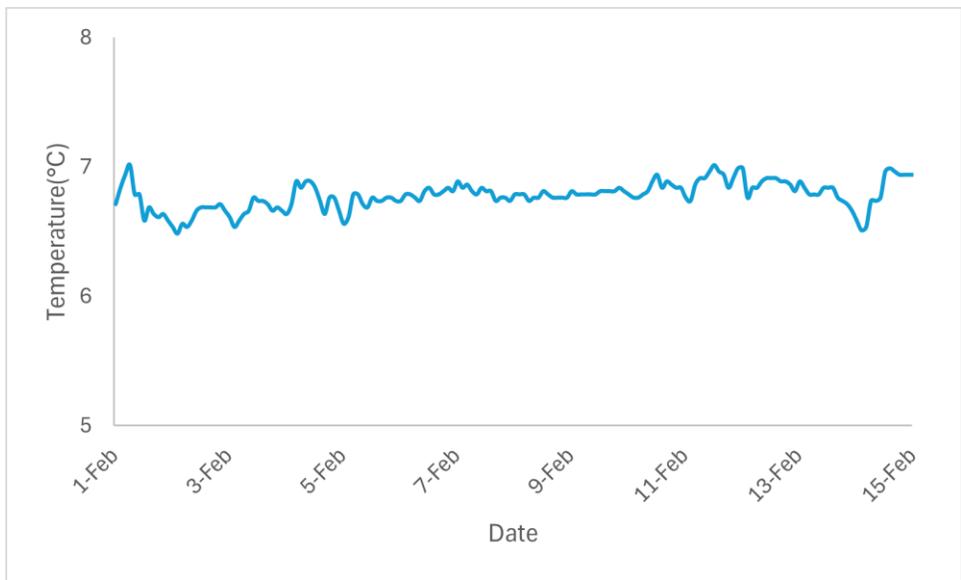


Figure 75. Temperature at RST (Lookout Dam Spill).

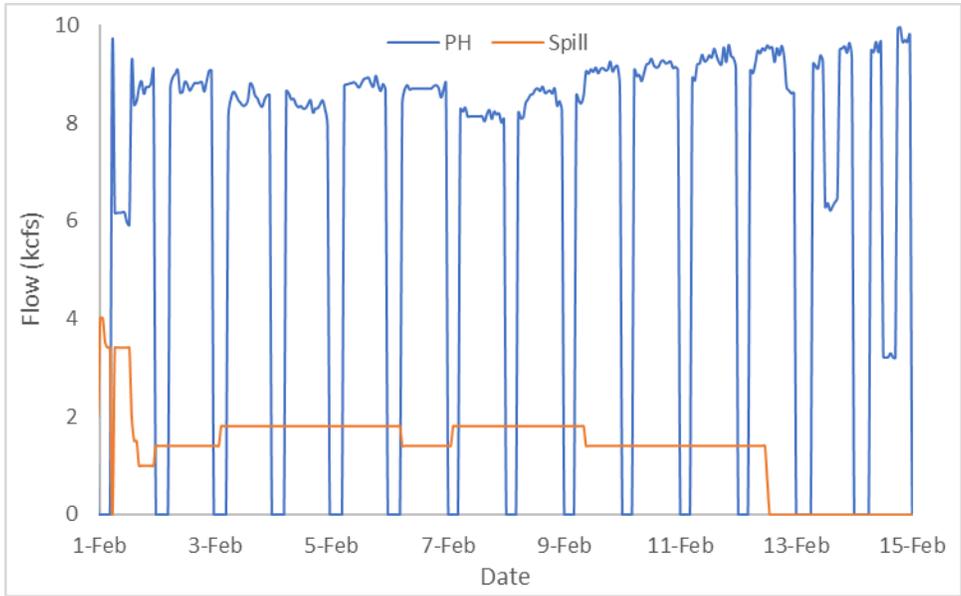


Figure 76. Hourly Flows PWR vs. Spill (Lookout Dam Tailrace).

Middle Fork Willamette – Lookout Point Head of Reservoir

The RST at Lookout Point Head of Reservoir began sampling under contract W9127N19D0009 on December 16, 2023. Sampling at Lookout Point Head of Reservoir prior to December 16, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

Target Species

The reporting period began February 1st, 2024 and ended on February 15th, 2024. 0 Chinook salmon were captured during the 15-day sampling period (Figure 77). On January 17th the RST was raised to the non-sampling position due to increasing flows and large debris coming down river. The cone was lowered into the sampling position on February 7th after river flows decreased. On February 12th the RST was raised into the non-sampling position for repairs and lowered the following day, February 13th, once repairs had been completed. Sampling duration was 60.0% for the 5 ft RST. Table 59 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Middle Fork Willamette – Lookout Point Head of Reservoir site to-date and Figure 78 shows length frequency data to-date.

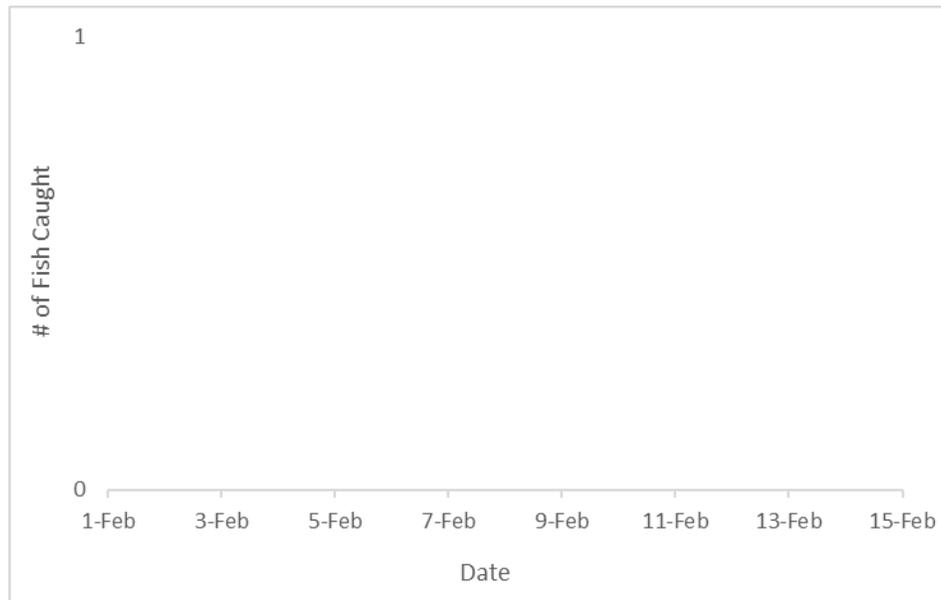


Figure 77. Chinook Captured per day 2/1/2024 to 2/15/2024 (Lookout Point Head of Reservoir).

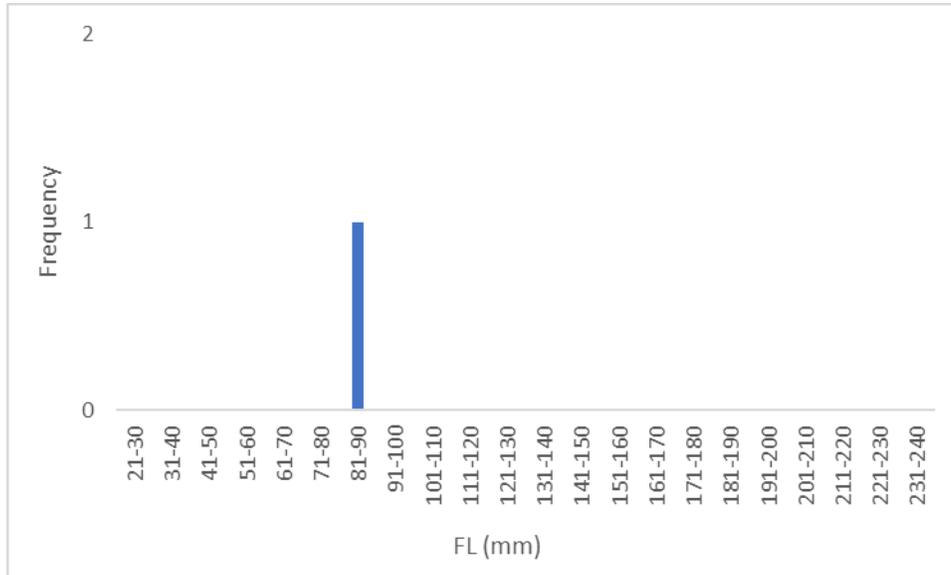


Figure 78. Length Frequency of Juvenile Chinook Sampled in 2024 (Lookout Point Head of Reservoir).

Table 59. Descriptive Statistics of Target Species Captured at Lookout Point Head of Reservoir To-Date and for the Reporting Period.

To-Date (Since Jan. 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Lookout Point Head of Reservoir	5 ft	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	1	87	87	87.0	6.6	6.6	6.6
		CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A
February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Lookout Point Head of Reservoir	5 ft	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	0	N/A	N/A	N/A	N/A	N/A	N/A

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

Trapping Efficiency

On 2/14/2024, 761 juvenile hatchery Chinook (yearlings) were adipose, upper caudal clipped and released upstream of the Lookout Point Head of Reservoir trap. Fish were released in small groups to evaluate the traps' efficiency. 2 fish were recaptured in the 5-ft RST for an efficiency of 0.3%.

Lookout Point Head of Reservoir	Release #	Recapture #	Capture Efficiency
5 ft	761	2	0.3% (2/761)

Run of River Trapping Efficiency

Run of river trapping efficiency trials have been discontinued until daily catch rates increase.

Injuries and Copepod Infection

There were 0 Chinook captured during this reporting period. 0 had partial descaling <20% (0.0%) and 0 had descaling >20% (0.0%). 0 had body injuries (0.0%) and 0 fish displayed eye injuries (0.0%). 0 fish had copepods in the branchial cavity (0.0%). There were 0 mortalities (0.0%). Injury data for the reporting period is shown in Table 60. To date data can be found in Appendix A.

Table 60. 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	0	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 from 0 Chinook captured for the reporting period.

PIT Tags

0 Spring Chinook was PIT tagged during this reporting period. Refer to Appendix D for further information regarding PIT tags during this reporting period.

VIE Marking

A total of 0 Spring Chinook have been VIE marked with fluorescent elastomer in 2024. VIE tag color is changed every month to distinctly mark groups of fish by capture date. No fish with VIE marks have been detected at downstream RST sites to date. Fish still showing an egg sac are not VIE marked. A summary of VIE marked fish is shown in Table 61.

Table 61. Summary of VIE Marked Chinook at the Lookout Point Head of Reservoir site.

Date Tagged	Tag Location	VIE Color	# Tagged	# Recaptured to Date
N/A	Left Dorsal	Yellow	0	0

Non-Target Species

6 non-target species were captured during the reporting period; the data is summarized below in Table 62.

Table 62. Summary of Non-target Species (Lookout Point Head of Reservoir).

Species	5ft Capture	5ft Mortality	Season Total	Season Total Mortality
Chinook (clipped)	1	0	1	0
Crappie	0	0	0	0
Cutthroat Trout	0	0	0	0
Bluegill	0	0	0	0
Spotted Bass	0	0	0	0
Dace	0	0	0	0
Lamprey	0	0	0	0
Largescale Sucker	0	0	1	0
Mountain Whitefish	0	0	0	0
Northern Pikeminnow	0	0	0	0
<i>O. mykiss</i>	0	0	1	0
<i>O. mykiss</i> (clipped)	0	0	0	0
Redside Shiner	0	0	0	0
Sculpin	5	1	6	1
Unknown	0	0	0	0
Totals	6	1	9	1

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 gauge number 14148000. During the reporting period, daily maximum values for instantaneous discharge ranged from 2050.0 cfs to 11000.0 cfs. Figure 79 shows instantaneous discharge.

Stream temperatures were recorded every 2 hours using a temperature probe at the Lookout Point Head of Reservoir RST site during this reporting period. Temperature probe at the RST operated normally throughout the reporting period (Figure 80).

Flows into Lookout Point Reservoir are displayed in Figure 81. Catch per unit of effort (CPUE) data are summarized in Table 63. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 63. Summary of Chinook CPUE at Lookout Point Head of Reservoir.

Description	Chinook
Catch	0
Effort (hrs)	173.5
CPUE (fish/hr)	0

MF Willamette River Blw N Fork, NR Oakridge, Or. - 14148000

February 1, 2024 - February 15, 2024

Discharge, cubic feet per second

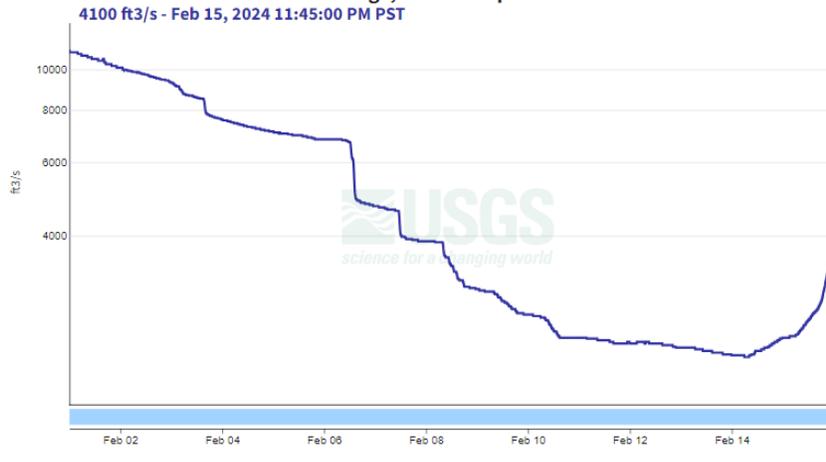


Figure 79. Discharge (cfs); above Lookout Point Reservoir, Below Oakridge, OR.

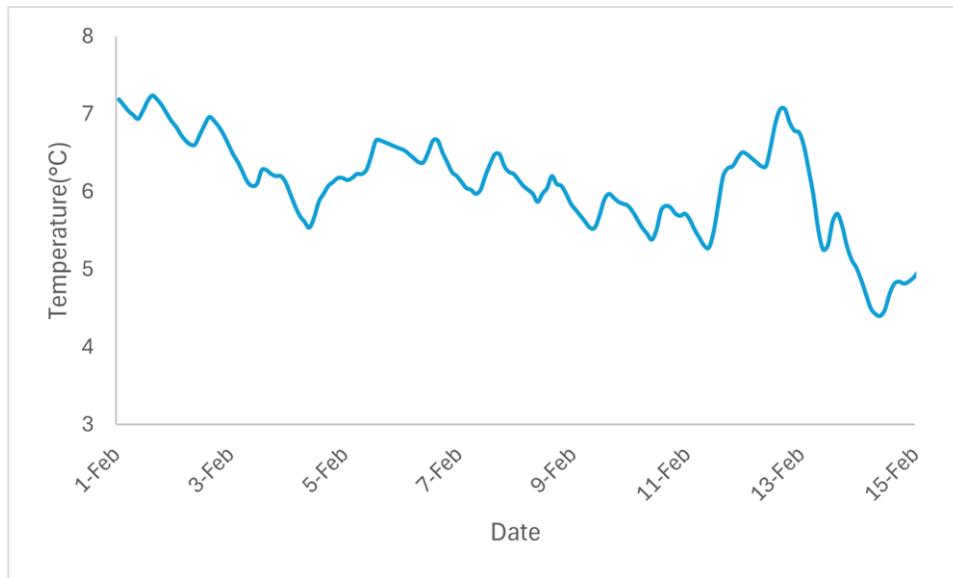


Figure 80. Temperature at RST (Lookout Point Head of Reservoir).

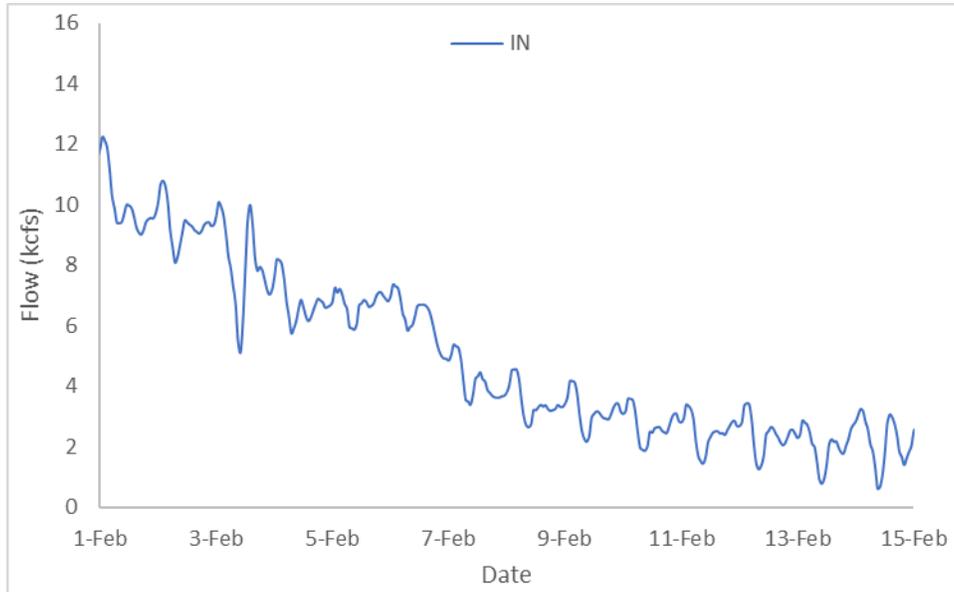


Figure 81. Hourly Flows (Lookout Point Head of Reservoir site).

Middle Fork Willamette River– Hills Creek Head of Reservoir

The Hills Creek Head of Reservoir RST was installed on January 26th, 2024 and began sampling on February 1st. All natural origin *O. mykiss* captured at this site will be reported as Winter Steelhead.

Target Species

This reporting period began on February 1st, 2024 and ended on February 15th, 2024. There were a total of 20 Chinook Salmon (CHS) captured during the 15-day sampling period (Figure 82). The RST began sampling for the season on February 2nd following repairs made to the highline anchor that prevented sampling from beginning on February 1st. The RST was raised into the non-sampling position on February 7th due a failure in the cable that supported the loop line system. The RST was lowered back into the sampling position February 8th after repairs were completed. Sampling duration was 93.3% of the reporting period for the RST. Figure 83 shows length frequency data to-date. Table 64 provides life stage, length, and weight data for all Chinook Salmon and Winter Steelhead that have been caught at the Hills Creek Head of Reservoir site to-date and for the reporting period.

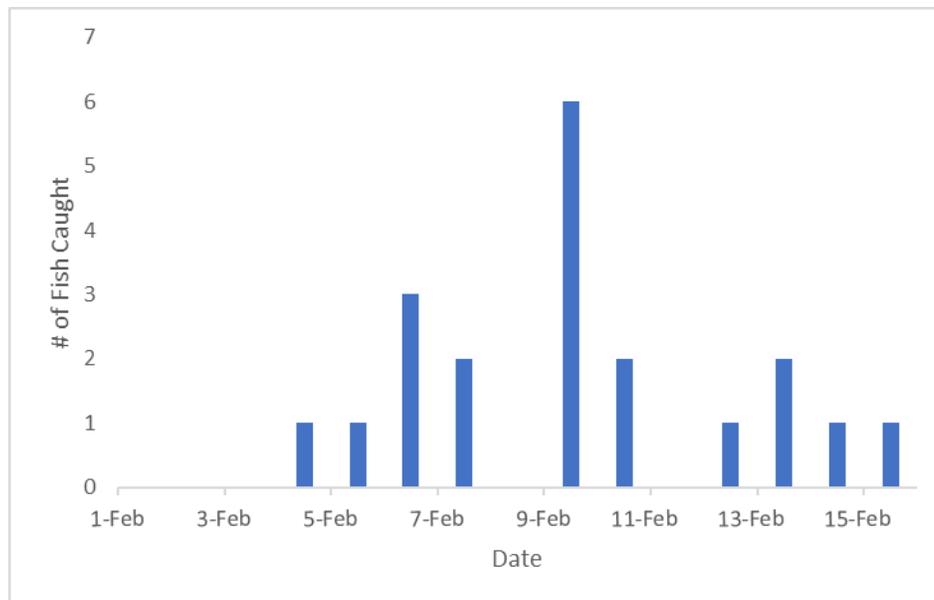


Figure 82. Chinook and Winter Steelhead Captured per day 2/1/2024 to 2/15/2024 (Hills Creek Head of Reservoir).

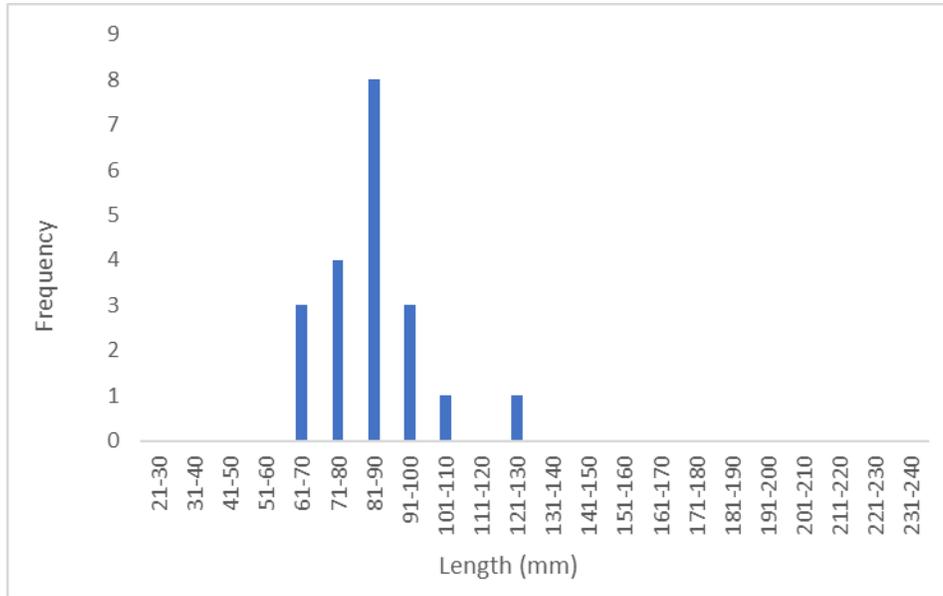


Figure 83. Length Frequency of Juvenile Chinook Sampled Season To-Date (Hills Creek Head of Reservoir).

Table 64. Descriptive Statistics of Target Species Captured at Hills Creek Head of Reservoir To-Date

To-Date (Since February 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Hills Creek Head of Reservoir	5ft	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	19	62	105	82.8	2.3	10.0	5.4
		CHS	Smolt	1	122	122	122.0	17.5	17.5	17.5

Fish that were missing heads or caudal fins are not included in length and weight calculations.

February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)			Weight (g)		
					Min	Max	Mean	Min	Max	Mean
Hills Creek Head of Reservoir	5ft	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	19	62	105	82.8	2.3	10.0	5.4
		CHS	Smolt	1	122	122	122.0	17.5	17.5	17.5

Fish that were missing heads or caudal fins are not included in length and weight calculations.

Trapping Efficiency

On 2/15/2024 761 adipose and right ventral fin clipped fish were released above the trap site to evaluate the trapping efficiency of the 5 ft RST. 0 fish were recaptured for an efficiency of 0.0%.

Hills Creek Head of Reservoir	Release #	Recapture #	Capture Efficiency
5ft Trap	761	0	0.0% (0/761)

Run of River Trapping Efficiency

Run of river fish captured in the RST have been caudal clipped, PIT tagged or VIE tagged, and released upstream to perform run of river trapping efficiency trials. Only fish large enough to be safely VIE marked have been used for run of river efficiency trials. This year, 0 Spring Chinook have been caudal clipped and released upstream for the purpose of conducting run of river trapping efficiency trials. Release numbers and recaptures for this reporting period are summarized below.

Run of river trapping efficiency has been discontinued until daily catch rates increase.

Table 65. Run of River Trapping Efficiency (Hills Creek Head of Reservoir).

Hills Creek Head of Reservoir	Release (Current Reporting Period) #	Recapture (Current Reporting Period) #
Chinook	0	0

Injuries and Copepod Infection

Partial descaling <20% was observed in 14 of the 20 Chinook captured (70.0%), 2 displayed descaling >20% (10.0%), 6 displayed body injury (30.0%), 0 had eye injuries (0.0%), 1 had copepods present in the branchial cavity (5.0%) and 4 had copepods on fins (20.0%). 0 Chinook displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%). Injury data summarized in Table 66.

Table 66. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period (Hills Creek Head of Reservoir).

Site	Species	# Fish Collected	# DSC* <20%	# DSC* >20%	# with Body Injuries	# with Eye Injuries	# with COP* In B.C.	# with COP* on Fins	Mortalities
Hills Creek Head of Reservoir	Chinook	20	14	2	6	0	1	4	0

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

Collected DNA and Scale Samples

For the reporting period, DNA was collected from 20 Spring Chinook. Scales were collected from 20 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling or were too damaged.

PIT Tags

19 Spring Chinook were PIT tagged during this reporting period. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

A total of 1 Spring Chinook has been VIE marked with fluorescent elastomer in 2024. VIE tag color is changed every month to distinctly mark groups of fish by capture date. No fish with VIE marks have been detected at downstream RST sites to date. Fish still showing an egg sac are not VIE marked. A summary of VIE marked fish is shown below.

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
02/01/2024-02/15/2024	Chinook	Head	Yellow	1	0

Non-Target Species

13 non-target species were captured during this reporting period. A summary of non-target fish capture is provided in Table 67.

Table 67. Summary of Non-target Species (Hills Creek Head of Reservoir).

Species	5 ft Capture	5 ft Mortality	Season Total	Season Total Mortality
Bull Trout	1	0	1	0
Lamprey	1	0	1	0
O. mykiss	1	0	1	0
Redside Shiner	1	1	1	1
Largescale Sucker	1	0	1	0
Sculpin	8	0	8	0
Dace	0	0	1	0
Totals	13	1	13	1

Stream Statistics

Basic stream statistics at the Hills Creek Head of Reservoir site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14144800. Gage height (feet) is the only flow metric available at this gage. During the reporting period, daily maximum values for gage height ranged from 9.4 ft to 11.6 ft (Figure 84).

Stream temperatures were recorded every 2 hours for the length of the report period for the RST (Figure 85). Temperature probes for the trap did not operate normally this reporting period. Sampling data is supplemented from the USGS probe upstream from the trap.

Catch per unit of effort (CPUE) data are summarized in

Table 68. Gage height and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 68. Summary of CPUE, Hills Creek Head of Reservoir.

	Chinook
Description	5 ft
Catch	20
Effort (hrs)	283.5
CPUE (fish/hr)	0.07

Middle Fork Willamette River NR Oakridge, OR - 14144800

February 1, 2024 - February 15, 2024

Gage height, feet

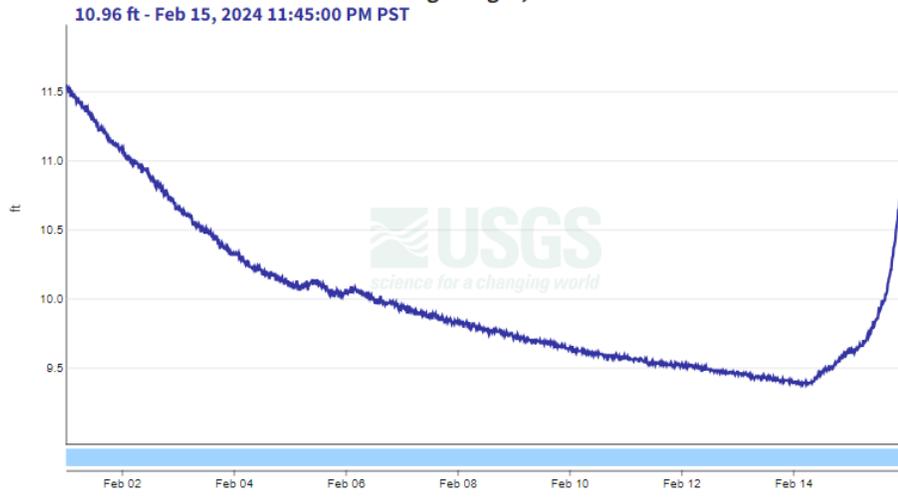


Figure 84. Gage Height (feet); Hills Creek Head of Reservoir, Near Oakridge, OR

Middle Fork Willamette River NR Oakridge, OR - 14144800

February 1, 2024 - February 15, 2024

Temperature, water, degrees Celsius



Figure 85. Temperature at RST (Hills Creek Head of Reservoir)

Middle Fork Willamette – Hills Creek Dam

The RSTs in the Hills Creek Dam Tailrace began sampling under contract W9127N19D0009 on September 15, 2023. Sampling at Hills Creek Dam Tailrace prior to September 15, 2023 was conducted by EAS for the USACE under contract W9127N19D0007.

Target Species

The reporting period began February 1st, 2024 and ended on February 15th, 2024. There were a total of 3 Chinook salmon captured during the 15-day sampling period (Figure 86). The RO RST was raised into the non-sampling position on January 23rd due to increasing flows and unsafe access. The RO RST was lowered into the sampling position on February 6th after flows returned below safety thresholds. Sampling duration for the RO RST was 66.7% and 100% for the PH RST for the reporting period. Table 69 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Hills Creek Dam site to-date and Figure 87 shows length frequency data to-date.

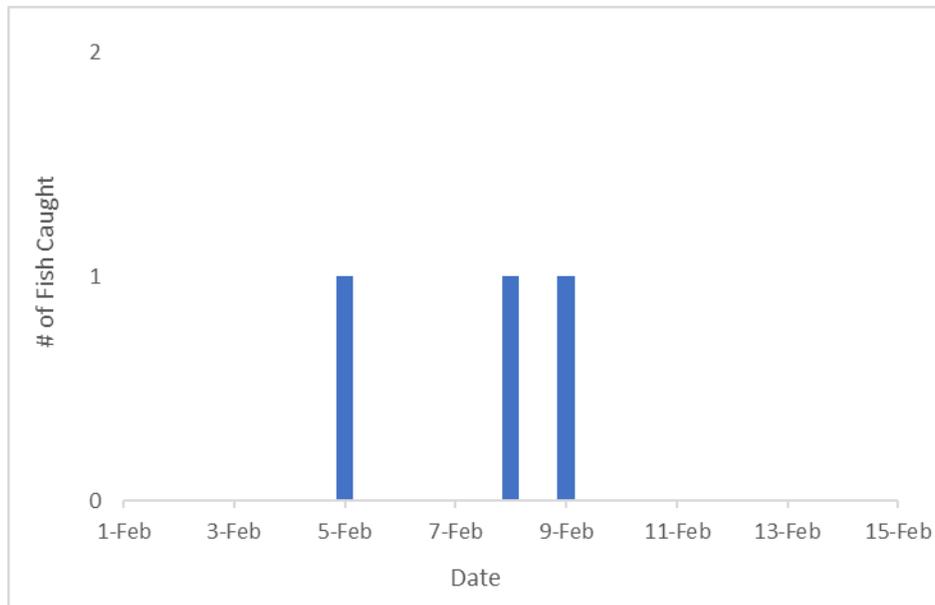
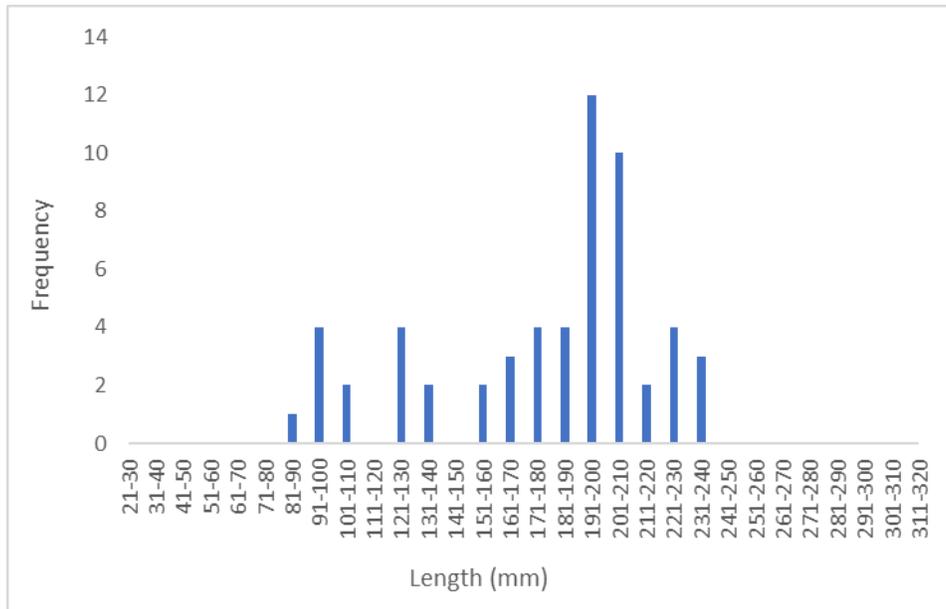


Figure 86. Chinook Captured per day 2/1/2024 to 2/15/2024 (Hills Creek Dam Tailrace).



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

Figure 87. Length Frequency of Juvenile Chinook Sampled in 2024 (Hills Creek Dam).

Table 69. Descriptive Statistics of Target Species Captured at Hills Creek Dam To-Date and for the Reporting Period.

To-Date (Since Jan. 1, 2024)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Hills Creek	RO	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	1	93	93	93.0	8.4	8.4	8.4
		CHS	Smolt	22	100	231	172.0	10.5	115.7	63.4
Hills Creek	PWR	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	1	90	90	90.0	6.5	6.5	6.5
		CHS	Smolt	33	94	237	187.6	5.1	136.9	80.9
February 1-15, 2024										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Hills Creek	RO	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	1	100	100	100.0	10.5	10.5	10.5
Hills Creek	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	2	99	164	131.5	5.1	45.6	25.4

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

Trapping Efficiency

A total of 503 juvenile Chinook were adipose clipped, left ventral clipped and released on 1/23/24 below Hills Creek PWR to evaluate the efficiency of the screw trap. A total of 8 fish were recaptured in the traps for an efficiency of 1.6%. 0 fish were recaptured at the 5 ft RO trap for a trapping efficiency of 0.0% and 8 were captured in the PH trap for an efficiency of 1.6%. The RO trap was not sampling during this trapping efficiency trial due to high flow.

Hills Creek Dam	Release #	Recapture #	Capture Efficiency
PWR Trap	N/A	8	1.6% (8/503)
RO Trap	N/A	N/A	N/A

24-Hour Post Collection Holding Trial

3 Chinook captured in the RSTs were held during this reporting period. 2 fish were held from the PWR RST and 1 fish held was from the RO RST. 0 hold fish died from the PWR RST (0.0%). 0 of the fish from RO RST died during holding (0.0%). Due to the recent ice storms, 7 Chinook were tagged and released instead of held.

Injuries and Copepod Infection

There was 1 Chinook captured in the RO RST. Partial descaling <20% was observed on 1 of 1 Chinook collected at the RO RST (100.0%), and descaling >20% was observed on 0 Chinook collected (0.0%). 1 displayed body injuries (100.0%) and 1 had eye injuries (100.0%). 0 of the RO RST Chinook had copepods present in the branchial cavity (0.0%) and 0 had copepods present on fins (0.0%). There were 0 mortalities (0.0%). 0 of the fish captured in the RO RST displayed Gas Bubble Disease (0.0%).

There were 2 Chinook captured in the Powerhouse channel RST. Partial descaling <20% was observed on 1 of the 2 Chinook collected at the PWR RSTs (50.0%). Descaling >20% was observed on 0 of the Chinook collected (0.0). 1 PWR RST fish had bodily injury (50.0%) and 0 had eye injuries (0.0%). 1 of the fish had copepods present in the branchial cavity (50.0%) and 0 had copepods present on fins (0.0%). 0 fish displayed Gas Bubble Disease (0.0%). There were 0 chinook mortalities collected in the PWR RST (0.0%).

Injuries are displayed in Table 70. To date injury data can be found in Appendix A.

Table 70. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period. (Hills Creek 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
Hills Creek	RO	1	1	0	1	1	0	0	0
Hills Creek	PWR	2	1	0	1	0	1	0	0

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

Collected DNA and Scale Samples

For the reporting period, DNA was collected from 3 Spring Chinook. Scales were collected from 3 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling or were too damaged.

PIT Tags

0 Spring Chinook were PIT tagged during this reporting period. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

VIE tag color and locations are changed every month to distinctly mark groups of fish by capture date. The first 60 target fish per week are prioritized for the 24-Hour Post Collection Holding Study. These fish are not tagged to not bias the results of the holding study. Fish still showing an egg sac are not VIE marked. A summary of VIE marked fish at the Hills Creek Dam site is available in Table 71. More information regarding VIE marked fish can be found in Appendix D.

Table 71. Summary of VIE marked Chinook at the Hills Creek Dam site in 2024.

Date Tagged	Tag Location	VIE Color	# Tagged	# Recaptured to Date
N/A	Head	Green	0	0

Non-Target Species

117 non-target fish were captured at Hills Creek during the reporting period; the data is summarized below in Table 72. Of the 52 clipped Chinook captured, 51 were PIT tagged fish from bulk marked releases, 1 was adipose clipped fish that are likely from ODFW releases in Hills Creek Reservoir.

Table 72. Summary of Non-target Species (Hills Creek Dam).

Species	RO Capture	RO Mortality	PWR Capture	PWR Mortality	Season Total	Season Total Mortality
Bass Unknown	0	0	0	0	0	0
Bluegill	2	0	0	0	37	23
Brook Lamprey	0	0	0	0	0	0
Brown Bullhead	0	0	1	1	1	1
Chinook (clipped)	10	1	42	7	242	90
Crappie	12	10	18	11	131	109
Cutthroat	0	0	0	0	2	1
Dace	0	0	3	0	8	4
Largemouth Bass	0	0	0	0	0	0
Largescale Sucker	0	0	2	0	19	4
Mountain Whitefish	0	0	2	0	3	0
Northern Pikeminnow	0	0	0	0	0	0
<i>O. mykiss</i> (clipped)	0	0	0	0	3	0
<i>O. mykiss</i>	1	0	12	0	21	1
Pumpkinseed	0	0	0	0	0	0
Redside Shiner	0	0	0	0	0	0
Sculpin	4	0	8	0	13	1
Smallmouth Bass	0	0	0	0	0	0
Spotted Bass	0	0	0	0	1	0
Unknown	0	0	0	0	0	0
Walleye	0	0	0	0	0	0
Totals	29	11	88	19	481	234

Stream Statistics

Basic stream statistics at the Hills Creek site were calculated from data downloaded from the U.S. Geological Survey stream gauge numbers 14145110 and 14145500. Gauge height (feet) is the only metric provided at this gauge. Total dissolved gas saturation data was received from gauge 14145500, 1.4 rkms downstream of the trap. During the reporting period, daily maximum values for instantaneous gauge height ranged from 1223.6 ft to 1229.5 ft. Figure 88 shows instantaneous gauge height.

Total dissolved gas saturation ranged from 103 to 124% during the reporting period. Figure 89 shows total dissolved gas saturation.

Stream temperatures were recorded every two hours using temperature probes at the Hills Creek Dam RST's during this reporting period (Figure 90 and Figure 91).

Flows through the PWR and RO during the reporting period are displayed in Figure 92. Catch per unit of effort (CPUE) data are summarized in Table 73. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 73. Summary of Chinook CPUE, Hills Creek Dam.

Description	Chinook	
	RO (5ft)	PWR (8ft)
Catch	1	2
Effort (hrs)	219.4	365.4
CPUE (fish/hr)	0.004	0.005

Hills Creek Dam Tailwater Near Oakridge, OR - 14145110

February 1, 2024 - February 15, 2024
Gage height, feet

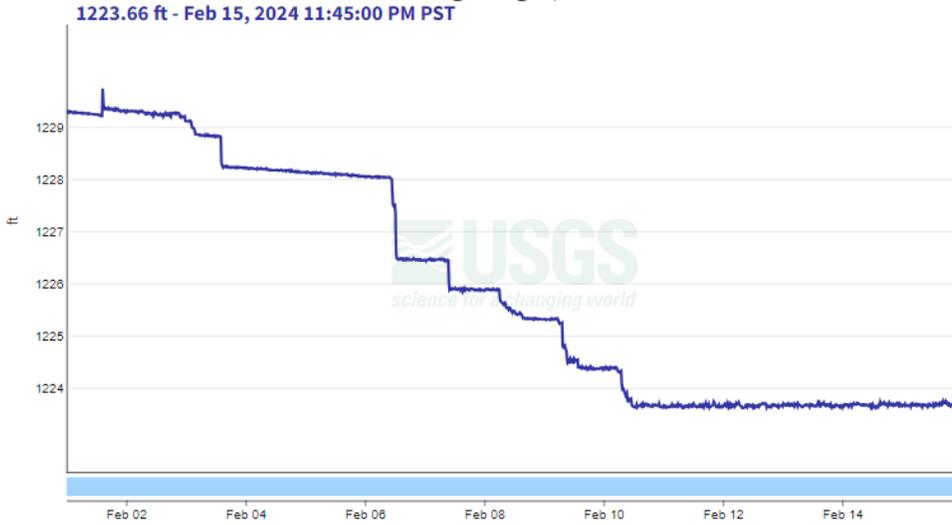


Figure 88. Gauge Height (feet); below Hills Creek Dam PWR - Middle Fork Willamette River.

MF Willamette River Abv Salt Crk, Near Oakridge, Or - 14145500

February 1, 2024 - February 15, 2024

Total partial pressure of dissolved gases, water, unfiltered, percent of saturation

104 % - Feb 15, 2024 11:00:00 PM PST



Figure 89. Total Dissolved Gas Saturation (%); below Hills Creek Dam – Middle Fork Willamette River.

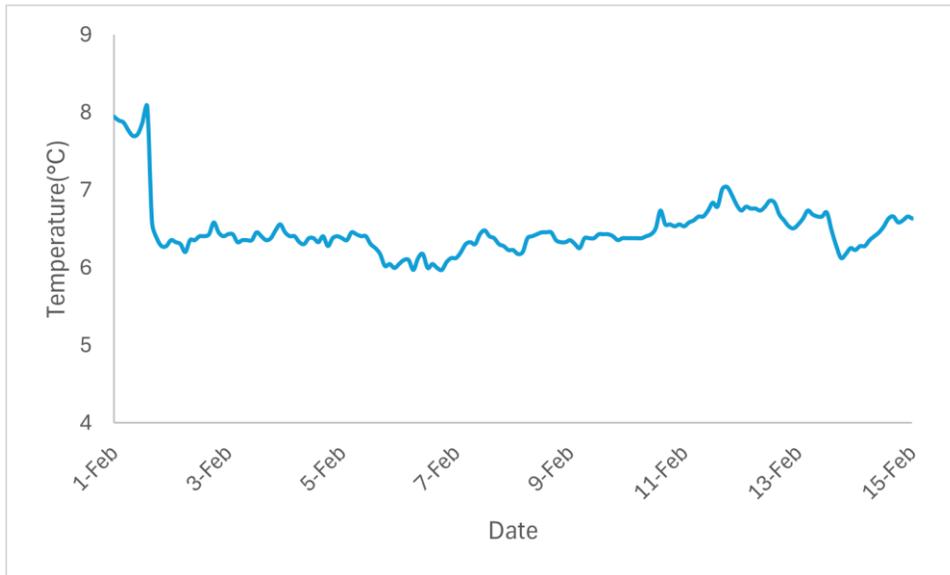


Figure 90. Temperature at Hills Creek RST PWR (Hills Creek Dam).

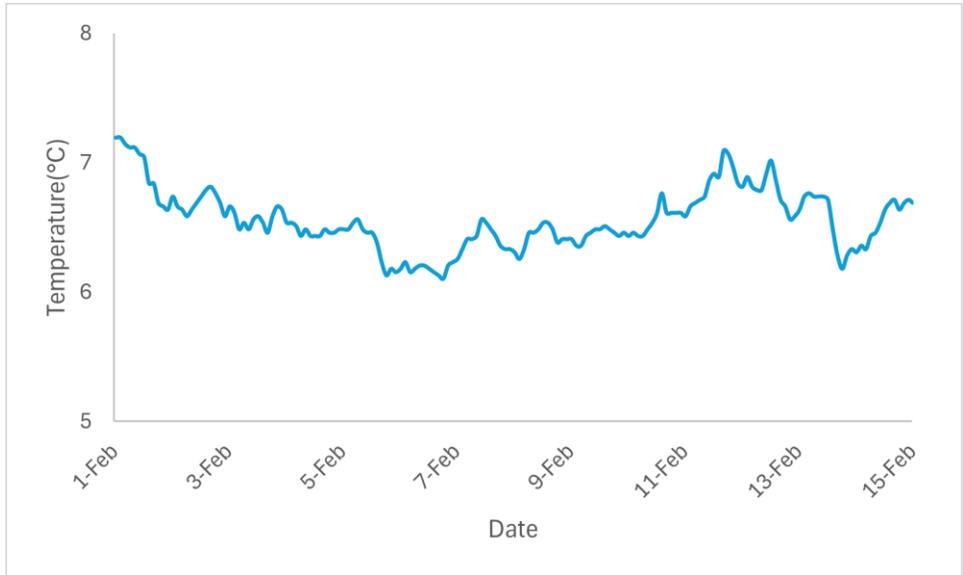


Figure 91. Temperature at Hills Creek RO RST (Hills Creek Dam).

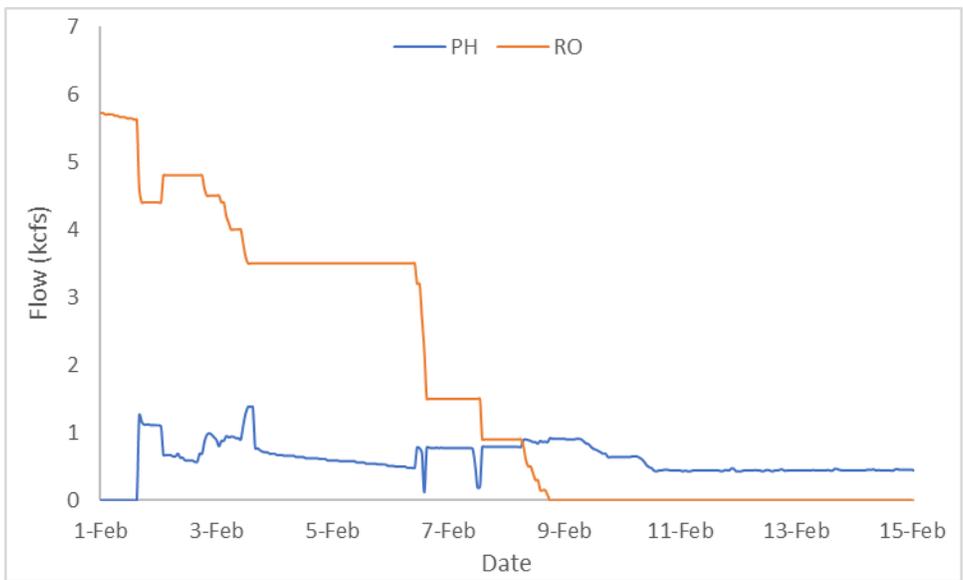


Figure 92. Hourly Flows PWR vs. RO (Hills Creek Dam).

Issues Encountered

Increased flow at Lookout Point Head of Reservoir, Fall Creek Head of Reservoir, and Hills Creek Head of Reservoir caused damage to the RSTs during this reporting period. All traps have been repaired and have resumed fishing at the time of this report.

Continued evacuations from Big Cliff, Green Peter, Lookout, and Hills Creek Reservoirs caused outages at below dam sites due to high flow exceeding safety thresholds. All traps have resumed fishing at the time of this report.

Upcoming USACE Support Services

A site visit to explore options for the south shore anchor at Big Cliff Dam has been scheduled for February 27th, 2024.

Appendix A Chinook (CHS) To-Date

Chinook Injuries to Date (01-01-2024 to 02-15-2024)																							
Site/Target/Lifestage	#NXI	#MUNK	#DS<2	#DS>2	#FUN	#BKD	#HO	#FID	#PRD	#TEA	#HBO	#BO	#COP	#HBP	#BRU	#FVB	#HIN	#OPD	#POP	#GBD	#BVT	#BLO	#EYB
Big Cliff Dam			37	11	1			43		2			25	1	4	4	1	11		1	3	1	3
8 ft			37	11	1			43		2			25	1	4	4	1	11		1	3	1	3
Parr			3					3					1										
Smolt			34	11	1			40		2			24	1	4	4	1	11		1	3	1	3
Breitenbush River	211	1	20	3	1			21	1	9			1		3	3	6	11	6				1
5 ft	211	1	20	3	1			21	1	9			1		3	3	6	11	6				1
Fry	211	1	3	3				6	1	9					3	3	6	11	6				1
Parr			1										1										
Smolt			16		1			15															
Cougar Dam	3		413	134	70		2	478	2	22			225	13	35	50	37	93	20	193	24	18	74
PH1	2		94	12	25			91	1	3			27	2	3	3	4	15	2	1	1	3	
Fry	1																						
Parr	1		23	8	1			25		1			11		1	2	1	7	1				1
Smolt			71	4	24			66	1	2			16	2	2	1	3	8	1	1	1	2	
PH2	1		50	9	15			52		2			9			3	1	4		2	2	1	1
Parr	1		11	3	3			9					2			2		1					
Smolt			39	6	12			43		2			7			1	1	3		2	2	1	1
RO			269	113	30		2	335	1	17			189	11	32	44	32	74	18	190	21	14	73
Parr			79	35	6			92		3			42	4	11	8	10	19	6	48	5	3	27
Smolt			190	78	24		1	243	1	14			147	7	21	36	22	55	11	142	16	11	45
(blank)							1												1				1
Cougar Dam HOR	8		51	9	7			56					1		3		1	11	1				
5 ft	8		51	9	7			56					1		3		1	11	1				
Fry	3																						
Parr	5		8	1				7					1					1					
Smolt			43	8	7			49							3		1	10	1				

Chinook (CHS) To-Date (Continued)

Detroit HOR	162	1	12	6	1		23	5			2	2	6	10	10				1
5 ft	162	1	12	6	1		23	5			2	2	6	10	10				1
Fry	161	1	1	6			13	5			2	2	6	9	10				1
Parr	1		3				2												
Smolt			8		1		8							1					
Dexter Dam TR			204	31	24		229	9		13	3	4	8	24	3	56	1		9
5 ft			204	31	24		229	9		13	3	4	8	24	3	56	1		9
Parr			21	1	1		21	2		1			2	1		1			1
Smolt			183	30	23		208	7		12	3	4	6	23	3	55	1		8
Fall Creek Dam TR			88	8	5		96	1			1	5	3	6		20			1
8 ft			88	8	5		96	1			1	5	3	6		20			1
Parr			5				5												
Smolt			83	8	5		91	1			1	5	3	6		20			3
Fall Creek HOR			165	27	1		167	1			1			6					2
8 ft			165	27	1		167	1			1			6					2
Smolt			165	27	1		167	1			1			6					2
Foster Dam HOR	16	1	46				44	1			1			10					
5 ft	16	1	46				44	1			1			10					
Fry	16	1									1			1					
Parr			1				1												
Smolt			45				43	1						9					
Green Peter HOR	266		2	5			6	2			5		3	7	2				1
5 ft	266		2	5			6	2			5		3	7	2				1
Fry	266		1	1			2	2			5		3	7	2				1
Parr			1																
Smolt				4			4												
Green Peter TR	1		10	2			10				1		3						
8 ft	1		10	2			10				1		3						
Fry	1												1						
Parr			1				1												
Smolt			9	2			9					1		2					

Chinook (CHS) To-Date (Continued)

Hills Creek Dam	1	180	137	47		308	1	22		9	235	11	65	91	39	56	8	10	40	19	60	
PH	1	115	103	32		213		14		7	157	9	47	57	25	35	6	5	27	14	37	
Parr		2				2																
Smolt	1	113	103	32		211		14		7	157	9	47	57	25	35	6	5	27	14	37	
RO		65	34	15		95	1	8		2	78	2	18	34	14	21	2	5	13	5	23	
Parr		1				1																
Smolt		64	34	15		94	1	8		2	78	2	18	34	14	21	2	5	13	5	23	
Hills Creek HOR	3	14	2	1		6					4		1			1						
5 ft	3	14	2	1		6					4		1			1						
Fry		1									1											
Parr	3	13	2	1		5					3		1			1						
Smolt						1																
Lookout Dam TR		226	23	17		229	6			1	31		5	12	5	23	2	19	1		9	
PH1		82	2	5		74	2			1	11		3	2	2	4				1	2	
Parr		1																				
Smolt		81	2	5		74	2			1	11		3	2	2	4				1	2	
PH2		136	18	10		144	4				19		2	10	2	17	1	18			6	
Parr		5				4								1		1						
Smolt		131	18	10		140	4				19		2	9	2	16	1	18			6	
Spill		8	3	2		11					1				1	2	1	1			1	
Parr			1			1									1	1	1					
Smolt		8	2	2		10					1					1		1			1	
Lookout Point HOR		5	1			6									1							
5 ft		4	1			5																
Parr		1	1			2																
Smolt		3				3																
8 ft		1				1									1							
Smolt		1				1									1							
Grand Total	671	3	1473	399	175	2	1722	4	80	10	535	25	129	172	110	272	52	299	70	40	161	

Chinook (CHS) During Reporting Period

Chinook Injuries During Reporting Period 02-01-2024 to 02-15-2024																							
Site/Trap/Lifestage	#NXI	#DS<2	#DS>2	#FUN	#BKD	#COP	#HO	#PRD	#HBO	#BO	#HBP	#BRU	#HIN	#FVB	#POP	#GBD	#TEA	#BLO	#BVT	#FID	#MUNK	#OPD	#EYB
Big Cliff Dam		5	1			4								1						6		1	
8 ft		5	1			4								1						6		1	
Parr		1				1														1			
Smolt		4	1			3								1						5		1	
Breitenbush River	209	5	3			1	1					3	6	3	6		8	1		6	1	11	
5 ft	209	5	3			1	1					3	6	3	6		8	1		6	1	11	
Fry	209	3	3				1					3	6	3	6		8	1		6	1	11	
Parr		1				1																	
Smolt		1																					
Cougar Dam	3	195	82	28		179	1				10	28	26	43	10	142	12	6	20	223		56	61
PH 1	2	30		2		23					1	3		2						17		3	
Fry	1																						
Parr	1	15		1		10						1		2						9		1	
Smolt		15		1		13					1	2								8		2	
PH 2	1	9	1	1		5								3		1			1	5		2	
Parr	1	6				2								2						1			
Smolt		3	1	1		3								1		1			1	4		2	
RO		156	81	25		151	1				9	25	26	38	10	141	12	6	19	201		51	61
Parr		58	32	5		37					3	10	9	8	4	42	3	2	5	75		17	24
Smolt		98	49	20		114	1				6	15	17	30	6	99	9	4	14	126		34	37
Cougar Dam HOR	8	7				1														5			
5 ft	8	7				1														5			
Fry	3																						
Parr	5	7				1														5			
Detroit HOR	162	4	6									2	6	2	10		5			15	1	9	1
5 ft	162	4	6									2	6	2	10		5			15	1	9	1
Fry	161	1	6									2	6	2	10		5			13	1	9	1
Parr	1	3																		2			
Dexter Dam TR		3	1			3								1		2				4		1	
5 ft		3	1			3								1		2				4		1	
Parr		1				1														1			
Smolt		2	1			2							1		2					3		1	
Fall Creek Dam TR		2																		2		1	
8 ft		2																		2		1	
Smolt		2																		2		1	

Chinook Injuries During Reporting Period 02-01-2024 to 02-15-2024																							
Site/Trap/Lifestage	#NXI	#DS<2	#DS>2	#FUN	#BKD	#COP	#HO	#PRD	#HBO	#BO	#HBP	#BRU	#HIN	#FVB	#POP	#GBD	#TEA	#BLO	#BVT	#FID	#MUNK	#OPD	#EYB
Fall Creek HOR	3															1			1				
8 ft		3																		1			
Smolt		3																		1			
Foster Dam HOR	16											1									1	1	
5 ft	16											1										1	1
Fry	16											1										1	1
Green Peter HOR	262	2	1									5	3		2		2		1	2		7	
5 ft	262	2	1									5	3		2		2		1	2		7	
Fry	262	1	1									5	3		2		2		1	2		7	
Parr		1																					
Hills Creek Dam	1	2				1						1								2			1
PH	1	1				1														1			
Smolt	1	1				1														1			
RO	1											1								1			1
Smolt	1											1								1			1
Hills Creek HOR	3	14	2	1		4						1								6		1	
5 ft	3	14	2	1		4						1								6		1	
Fry		1				1																	
Parr	3	13	2	1		3						1										1	
Smolt																							
Grand Total	664	242	96	29		193		2			10	41	42	49	28	144	28	7	21	272	3	88	63

Steelhead (*O. mykiss*) To Date

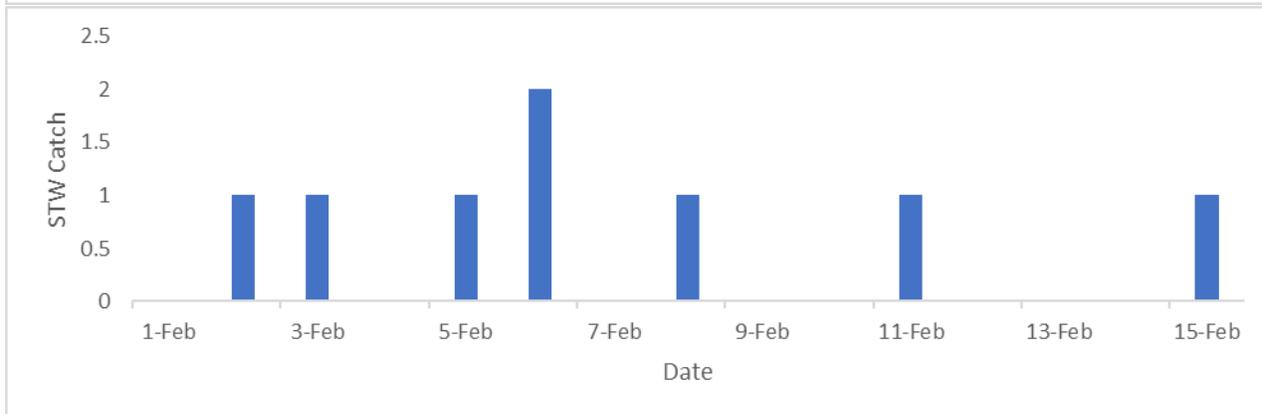
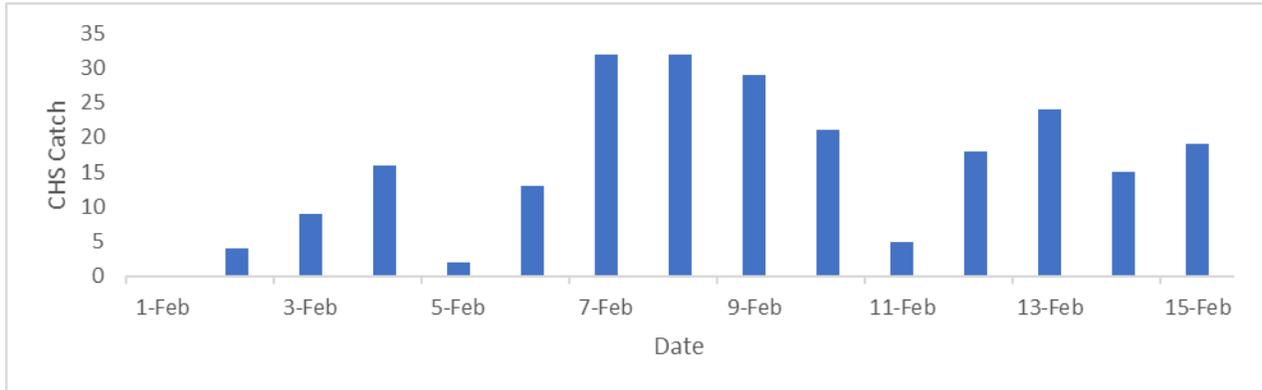
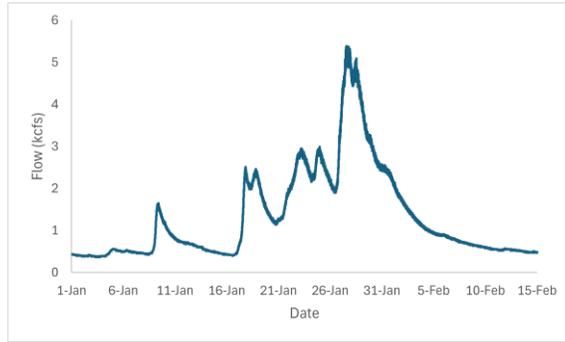
O. Mykiss Injuries to Date (01-01-2024-02-15-2024)																							
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Big Cliff Dam			1					1					1				1						
8 ft			1					1					1				1						
Smolt			1					1					1				1						
Breitenbush River	3		2		1			4	1				1										
5 ft	3		2		1			4	1				1										
Fry	1																						
Parr	1		2		1			4	1				1										
Smolt	1																						
Detroit HOR	3							3					1										
5 ft	3							3					1										
Parr	3							3					1										
Foster Dam HOR	4																						
5 ft	4																						
Parr	4																						
Grand Total	10		3		1			8	1				3				1						

Steelhead (*O. mykiss*) During Reporting Period

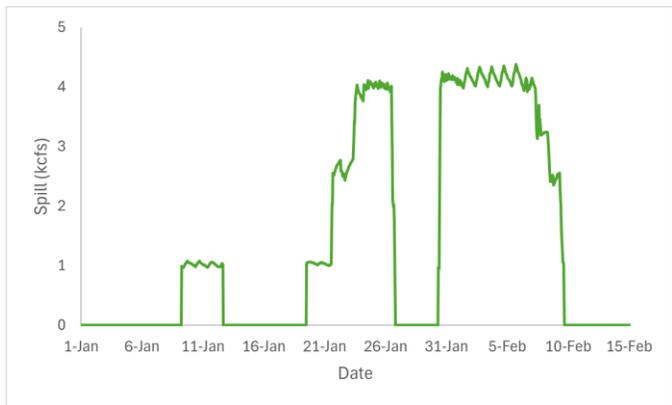
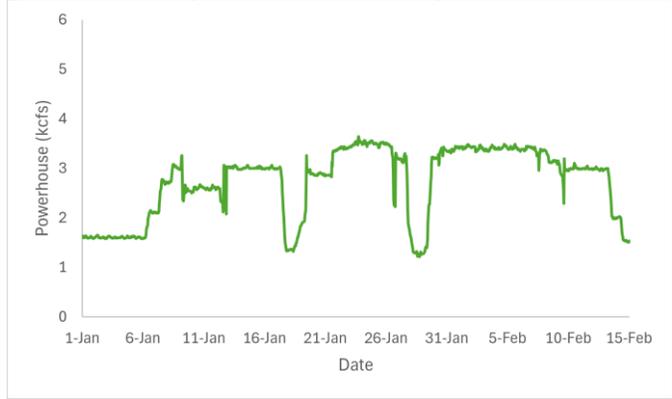
O. Mykiss Injuries During Reporting Period 02-01-2024 to 02-15-2024																							
Site/Trap/Lifestage	#NXI	#DS<2	#DS>2	#FUN	#BKD	#COP	#HO	#PRD	#HBO	#BO	#HBP	#BRU	#HIN	#FVB	#POP	#GBD	#TEA	#BLO	#BVT	#FID	#MUNK	#OPD	#EYB
Breitenbush River	3	2		1		1		1												4			
5 ft	3	2		1		1		1												4			
Fry	1																						
Parr	1	2		1		1		1												4			
Smolt	1																						
Detroit HOR	3					1															3		
5 ft	3					1															3		
Parr	3					1															3		
Foster Dam HOR	4																						
5 ft	4																						
Parr	4																						
Grand Total	10	2		1		2		1												7			

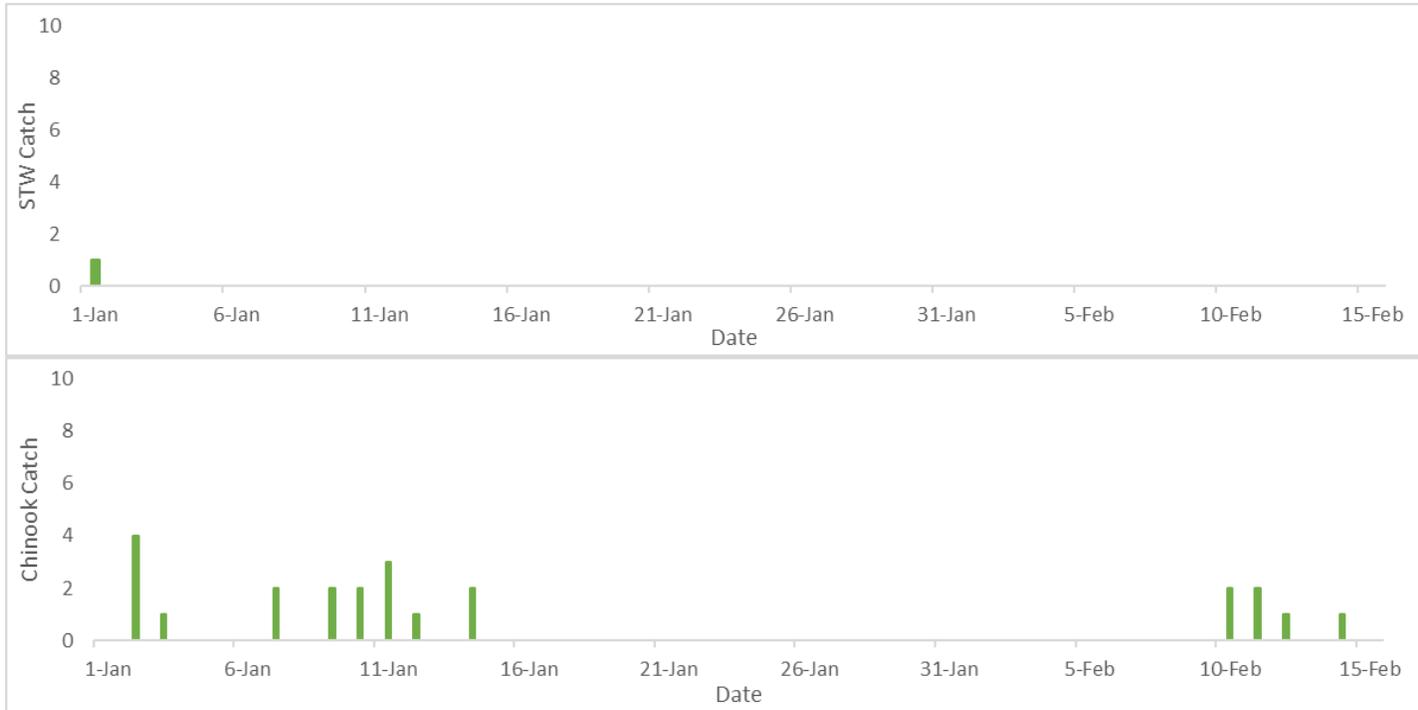
Appendix B

Breitenbush River Operational and Capture Data in 2024

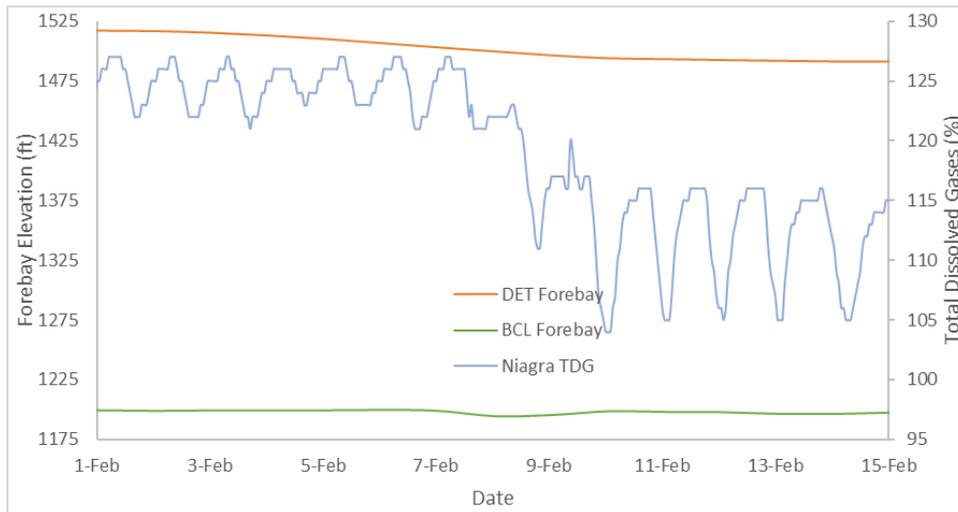


Big Cliff Dam Operational and Capture Data in 2024

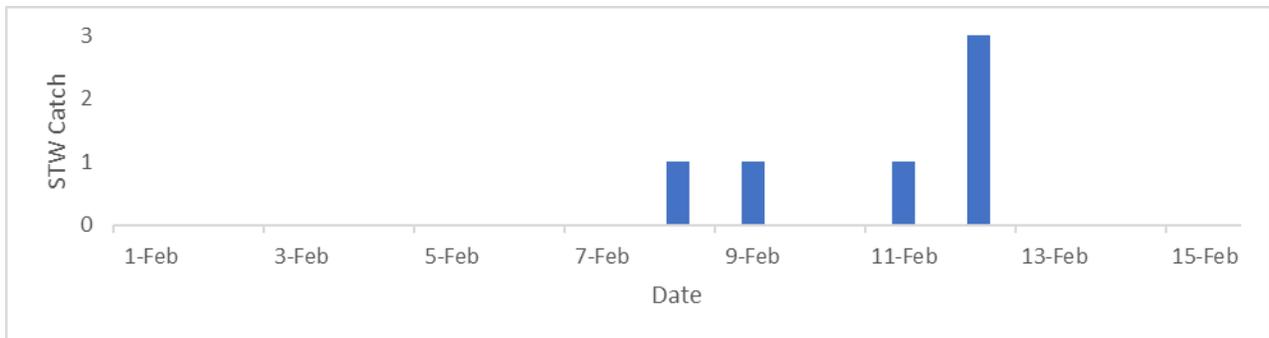
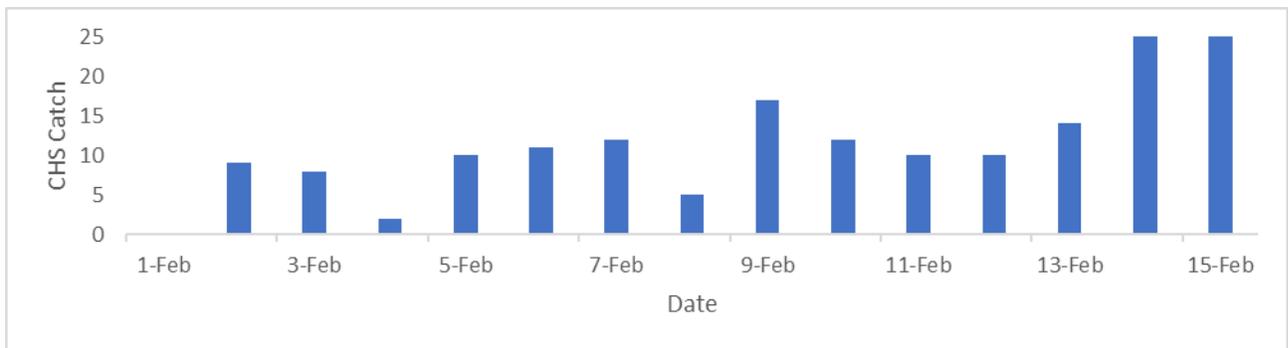
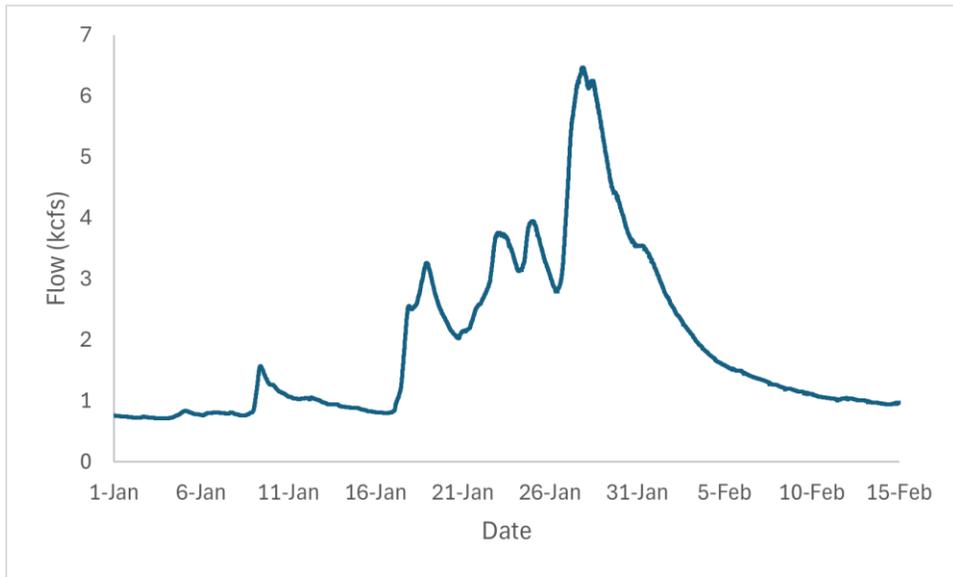




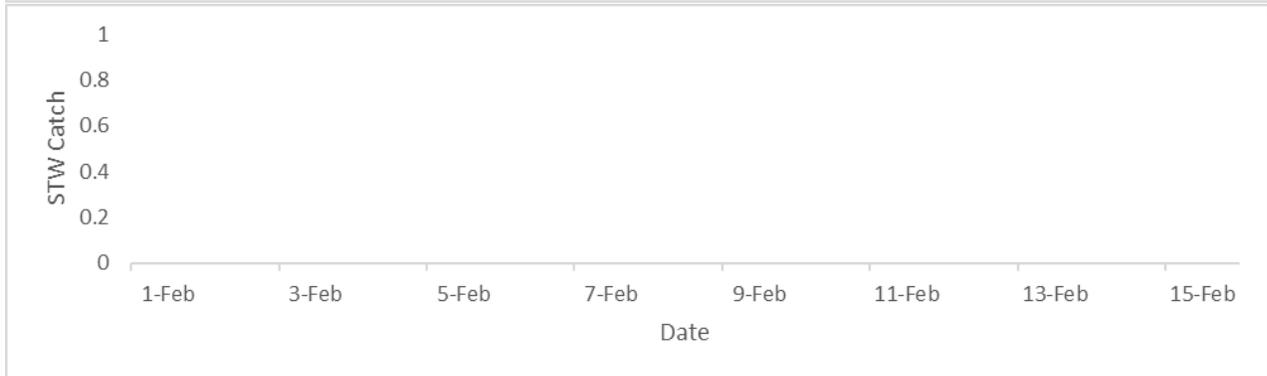
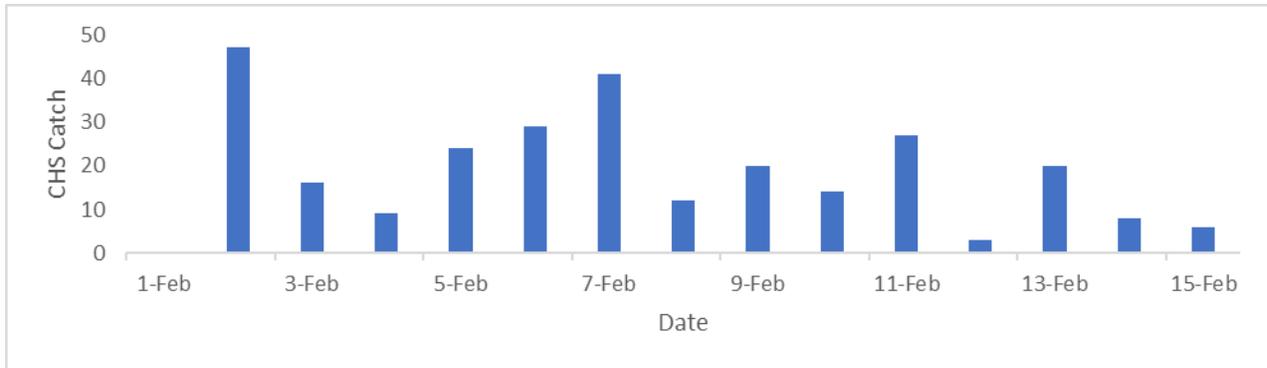
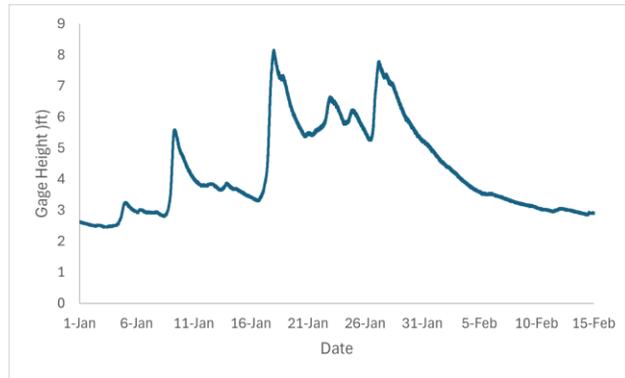
Detroit and Big Cliff Forebay Elevations vs. Niagara Total Dissolved Gases



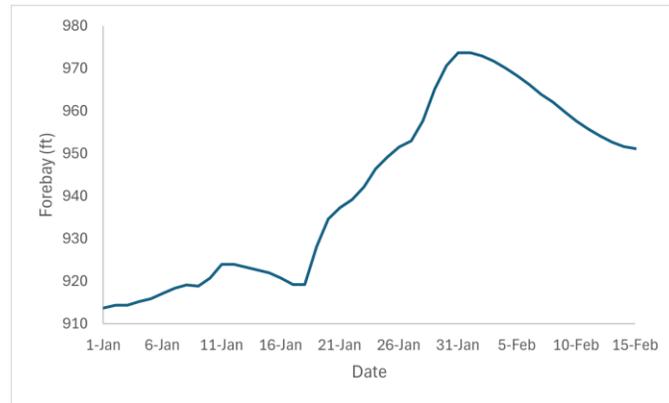
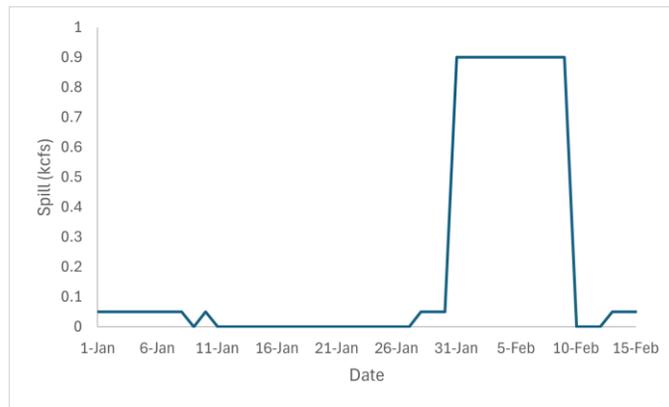
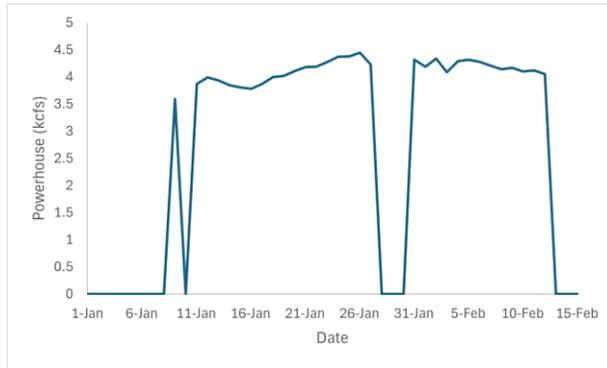
Detroit Head of Reservoir Flow and Capture Data in 2024

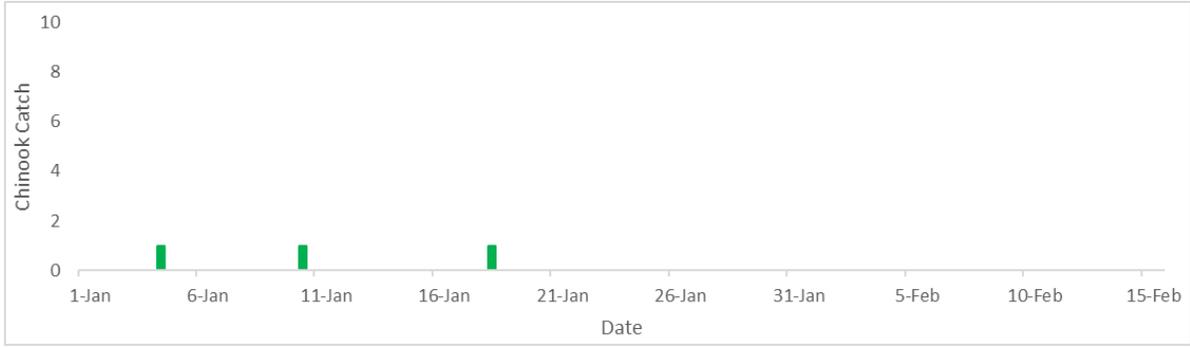


Green Peter Head of Reservoir-Middle Santiam River Operational and Capture Data in 2024

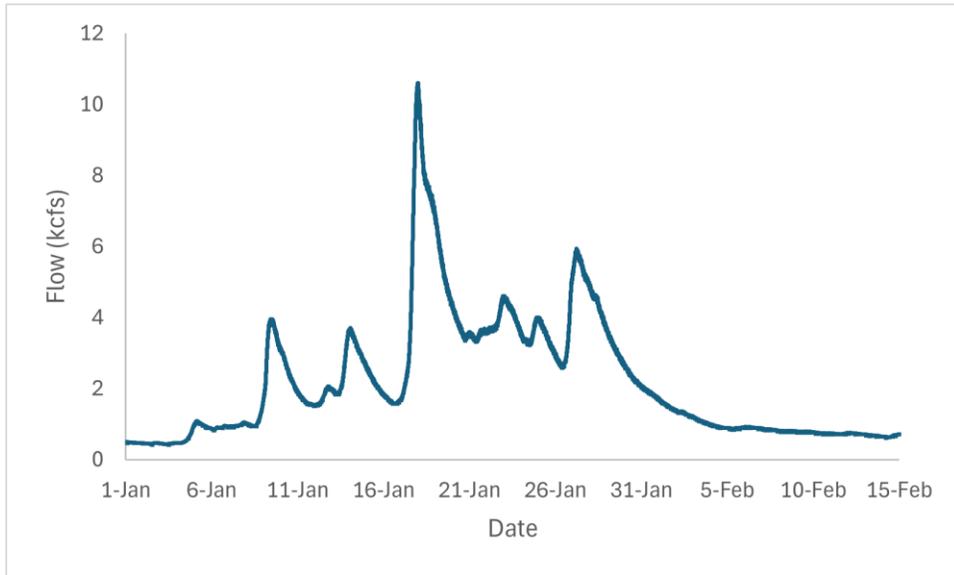


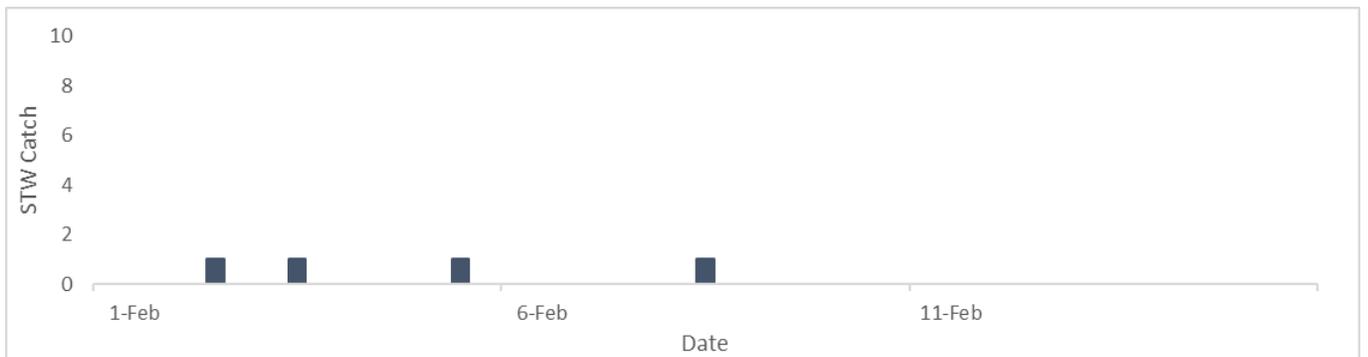
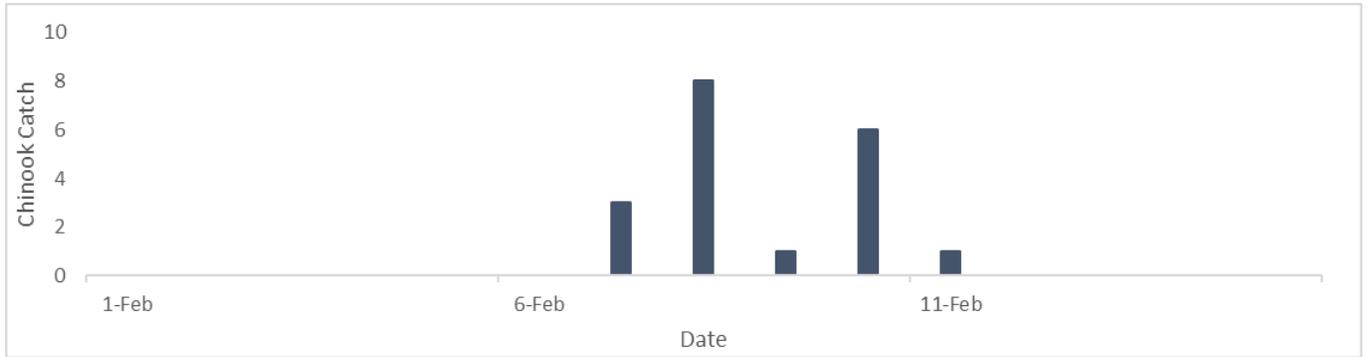
Green Peter Dam Tailrace Operational and Capture Data in 2024



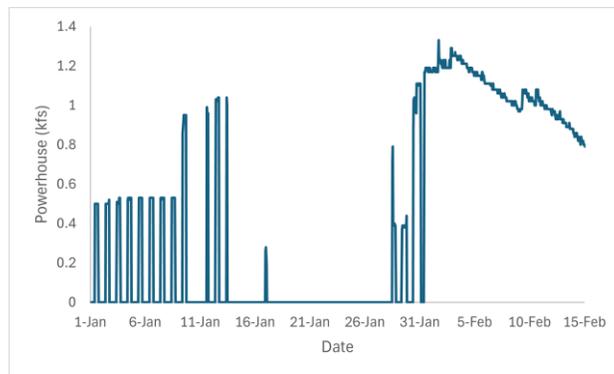


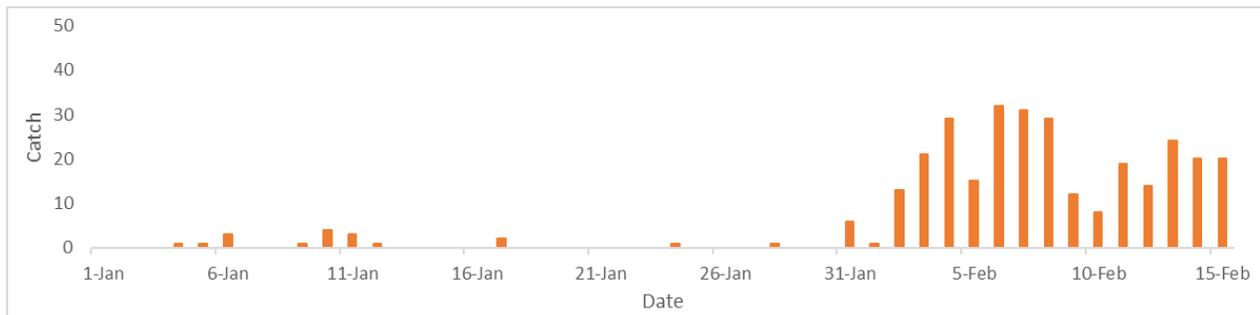
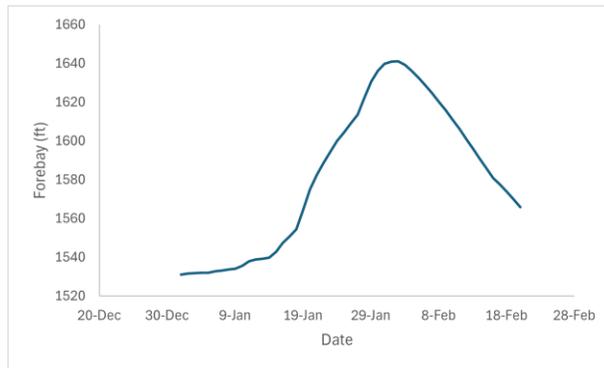
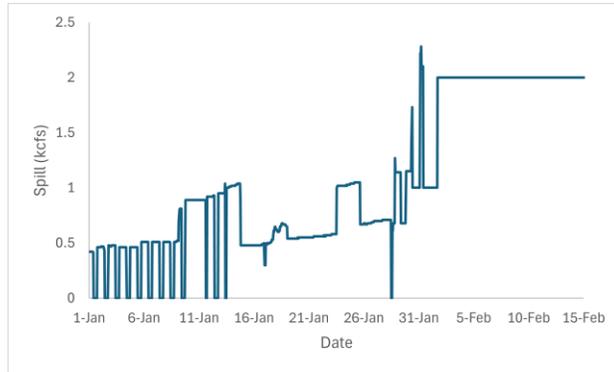
Foster Head of Reservoir Operational and Capture Data in 2024



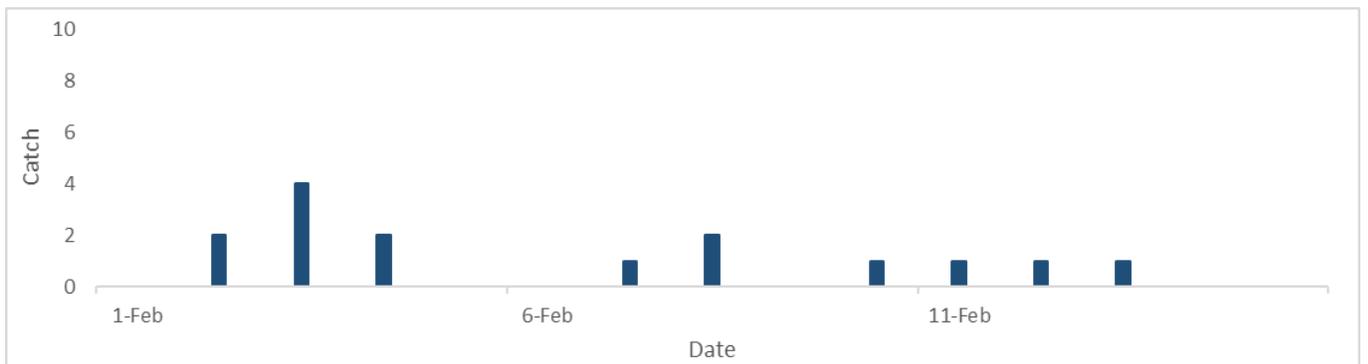
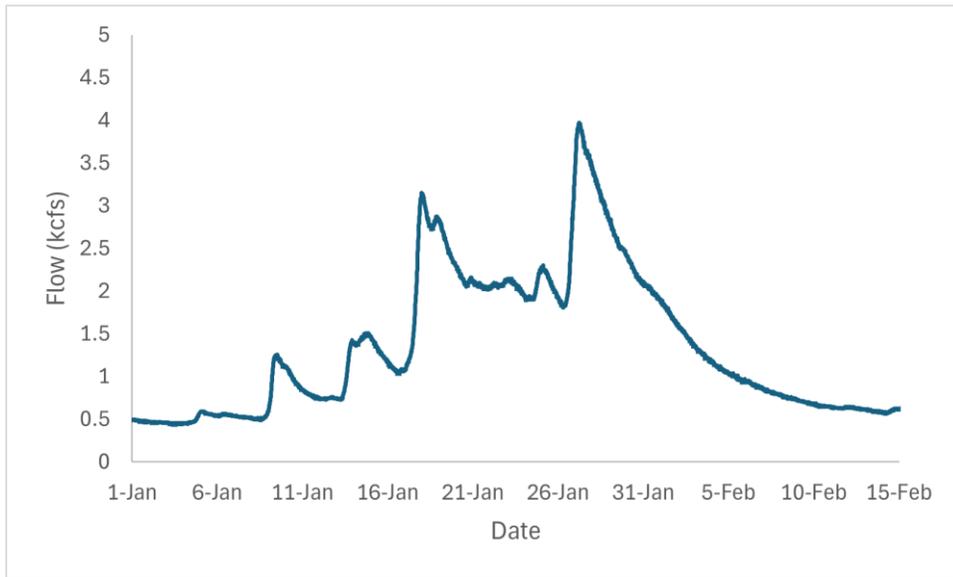


Cougar Dam Tailrace Operational and Capture Data in 2024

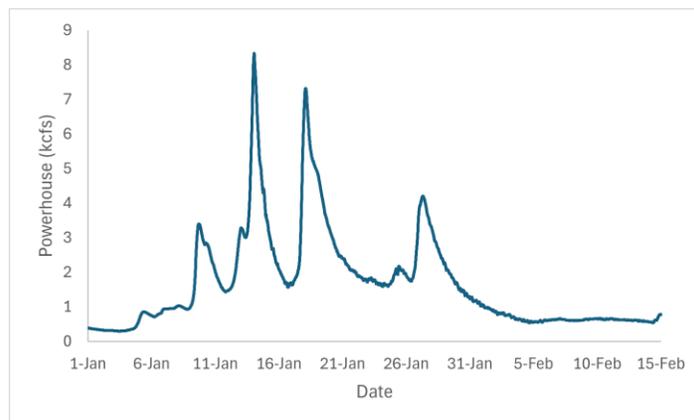


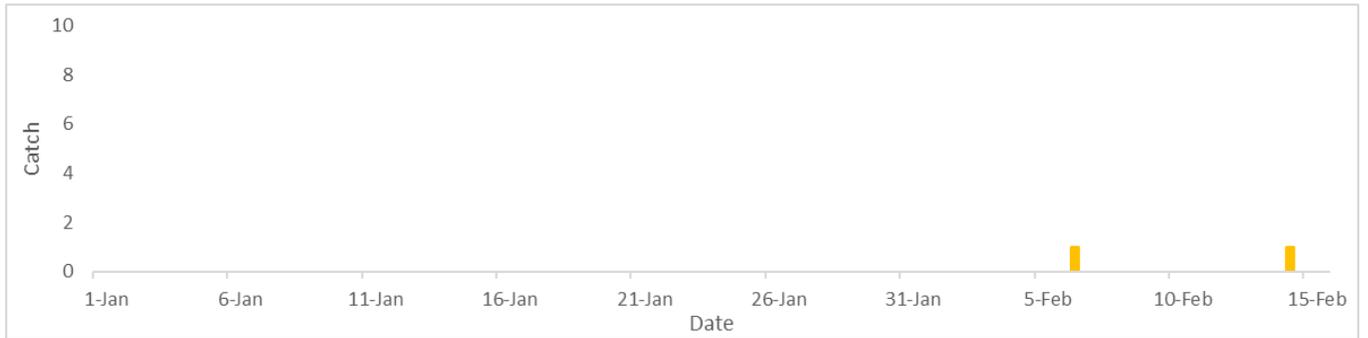
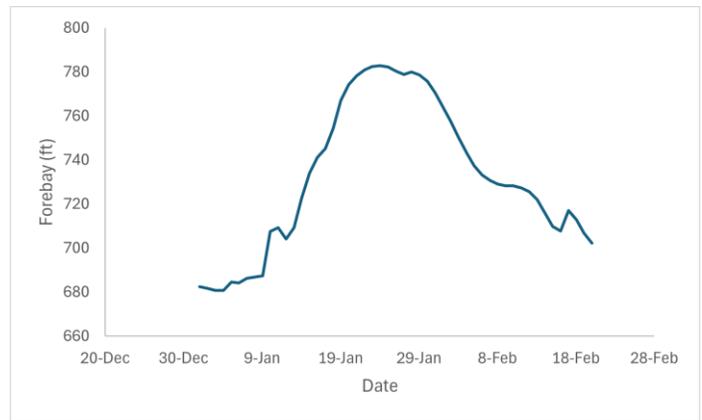
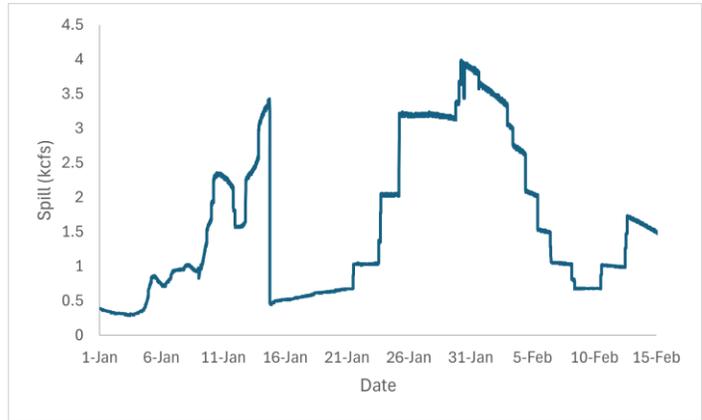


Cougar Head of Reservoir Operational and Capture Data in 2024

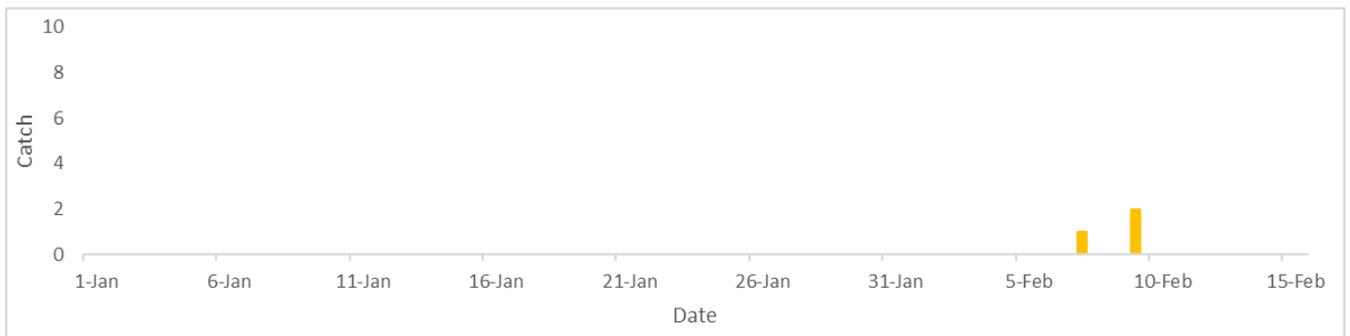
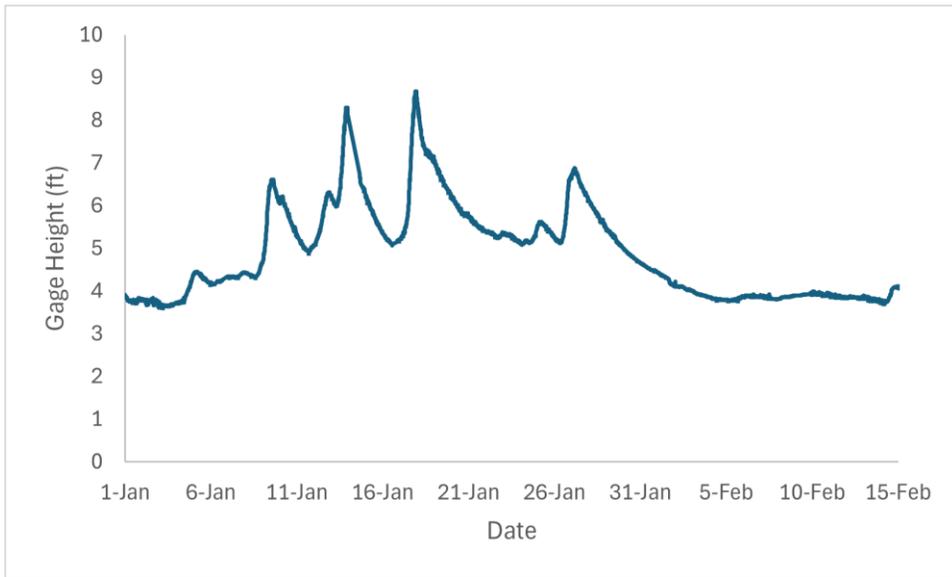


Fall Creek Dam Tailrace Operational and Capture Data in 2024

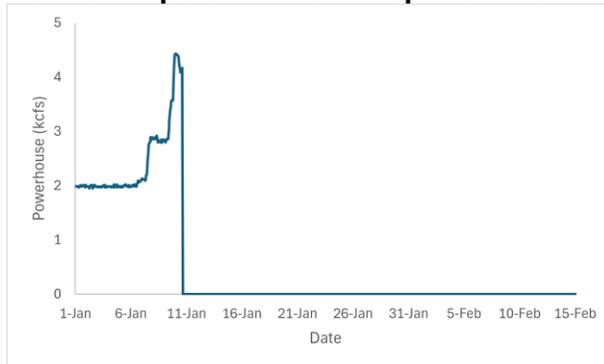


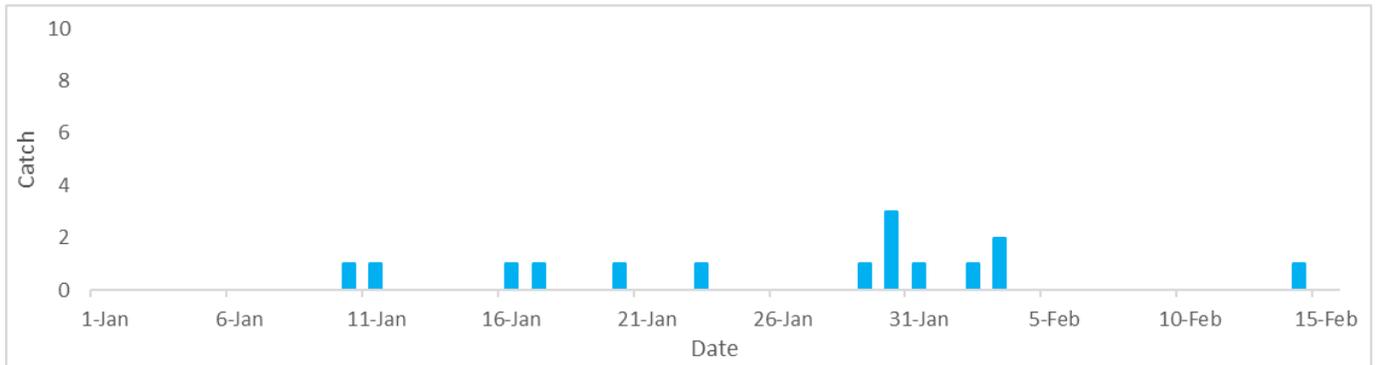
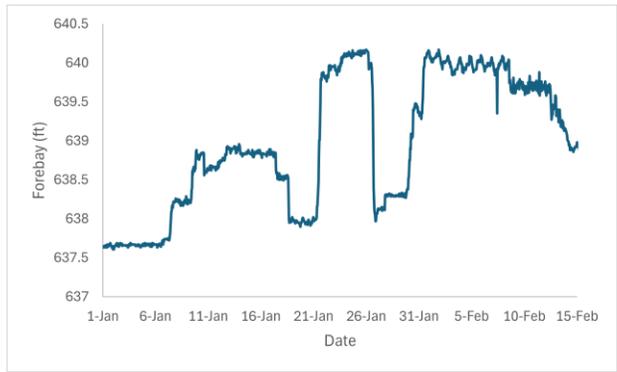
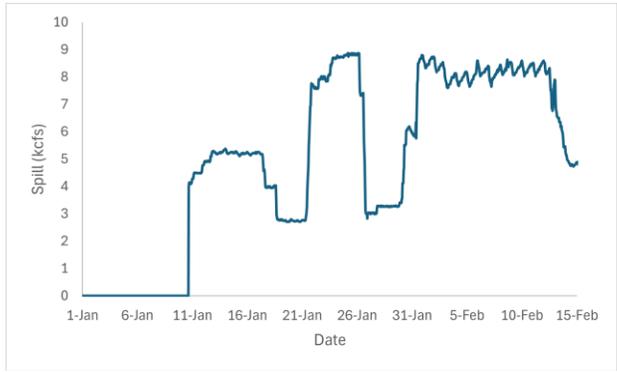


Fall Creek Head of Reservoir Operational and Capture Data in 2024

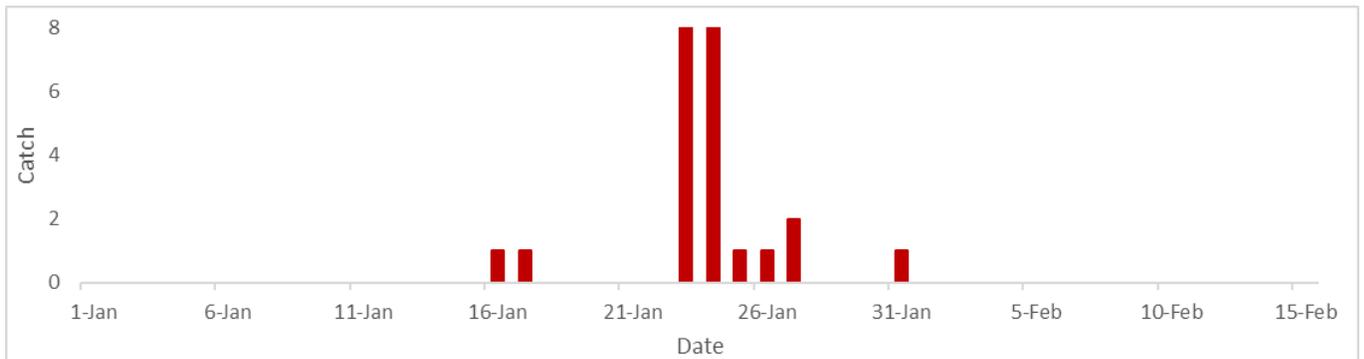
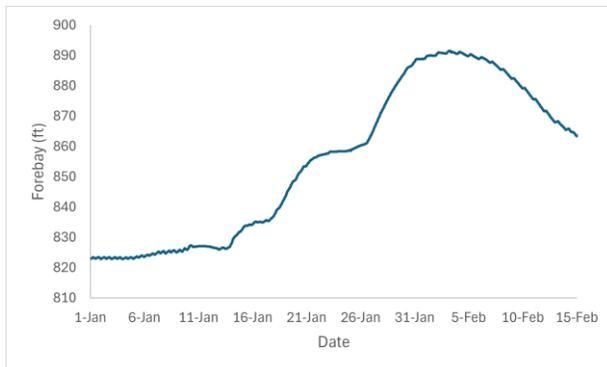
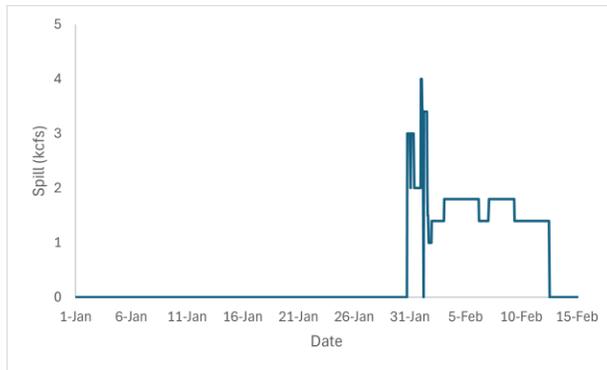
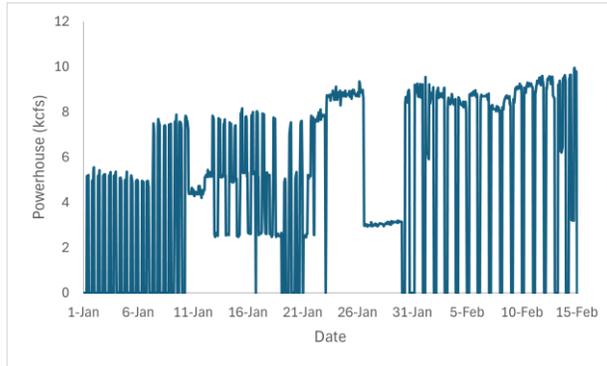


Dexter Dam Operational and Capture Data in 2024

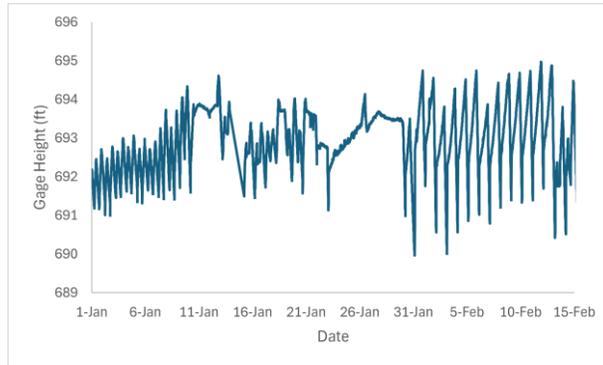




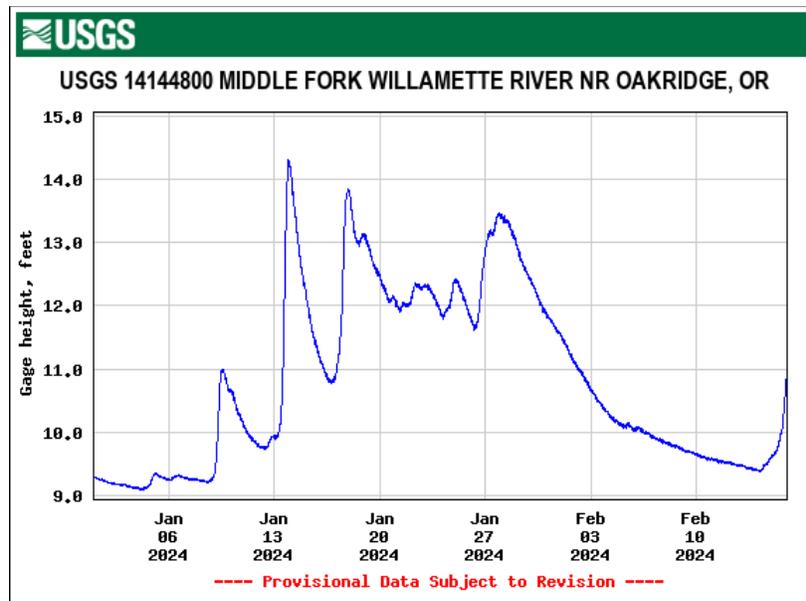
Lookout Dam Operational and Capture Data in 2024

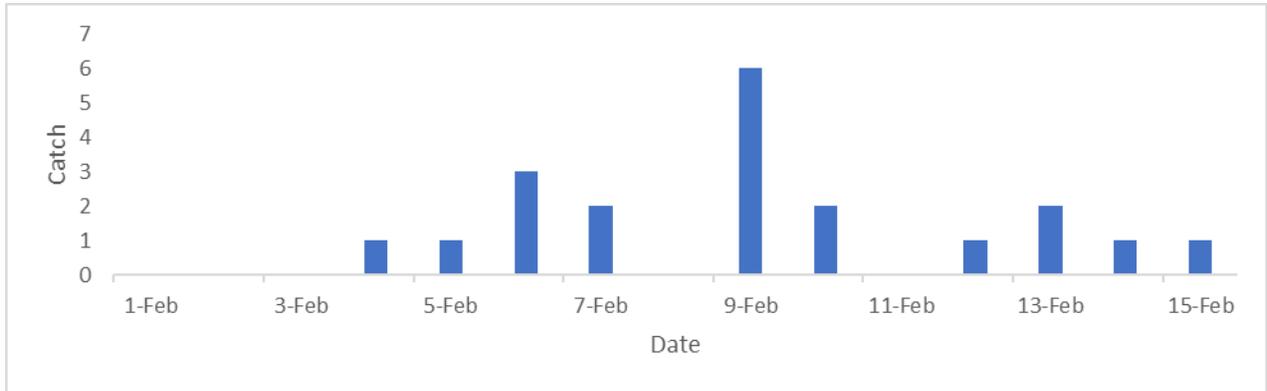


Lookout Point Head of Reservoir Operational and Capture Data in 2024

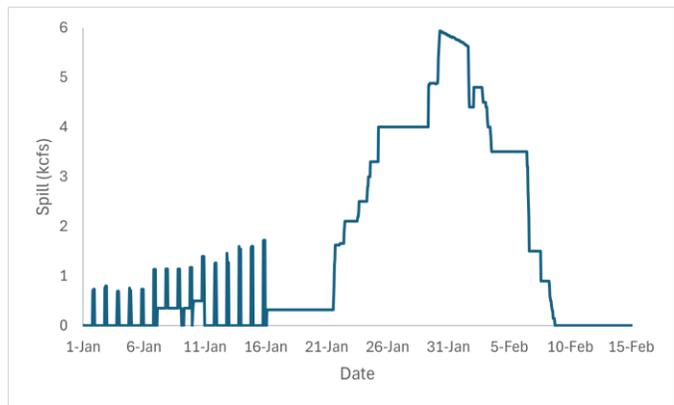
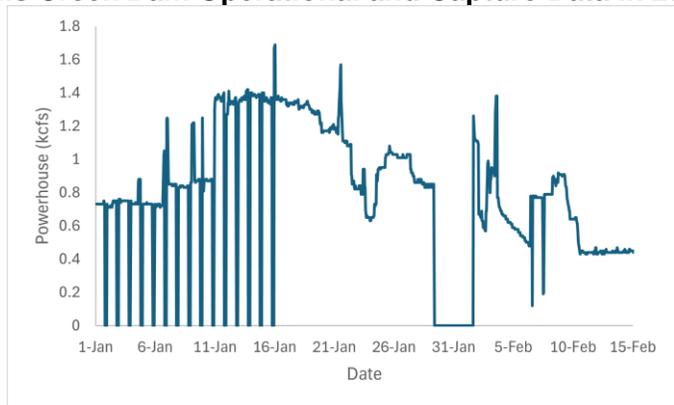


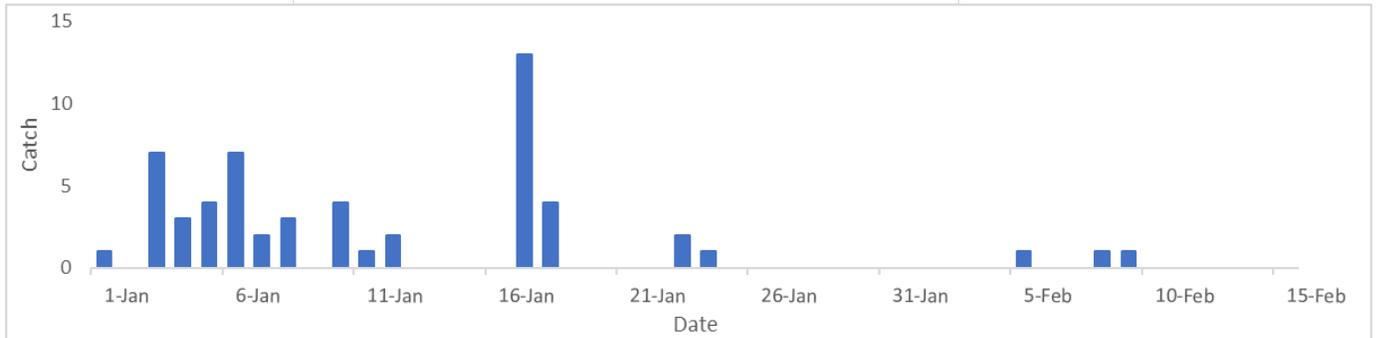
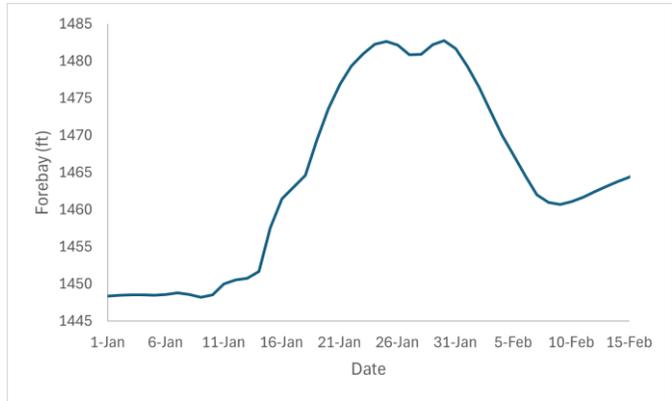
Hills Creek Head of Reservoir-Middle Fork Willamette River Operational and Capture in 2024





Hills Creek Dam Operational and Capture Data in 2024





Appendix C

Release Location	Date of Release	# of Fish Released	# of Fish Recaptured	% Efficiency
Breitenbush River	6/21/2023	749	53	7.1%
Breitenbush River	7/6/2023	763	25	3.3%
Breitenbush River	8/2/2023	791	12	1.5%
Breitenbush River	9/20/2023	756	7	0.9%
Breitenbush River	10/5/2023	789	18	2.3%
Breitenbush River	10/25/2023	750	51	6.8%
Breitenbush River	11/10/2023	750	152	20.3%
Breitenbush River	11/21/2023	900	55	6.1%
Breitenbush River	2/7/2024	750	15	2.0%
Big Cliff Dam Tailrace*	12/22/2021	997	39	3.9%
Big Cliff Dam Tailrace*	5/25/2022	995	21	2.1%
Big Cliff Dam Tailrace*	8/9/2022	1000	92	9.2%
Big Cliff Dam Tailrace*	9/30/2022	995	48	4.8%
Big Cliff Dam Tailrace*	10/13/2022	500	15	3.0%
Big Cliff Dam Tailrace*	10/24/2022	535	25	4.7%
Big Cliff Dam Tailrace*	11/2/2022	949	40	4.2%
Big Cliff Dam Tailrace*	11/16/2022	509	15	2.9%
Big Cliff Dam Tailrace*	12/14/2022	502	60	12.0%
Big Cliff Dam Tailrace*	12/19/2022	1010	92	9.1%
Big Cliff Dam Tailrace*	12/21/2022	1014	33	3.3%
Big Cliff Dam Tailrace*	12/27/2022	704	47	6.7%
Big Cliff Dam Tailrace*	12/29/2022	452	22	4.9%
Big Cliff Dam Tailrace*	1/25/2023	500	56	11.2%
Big Cliff Dam Tailrace*	2/17/2023	499	38	7.6%
Big Cliff Dam Tailrace**	3/7/2023	2,968	61	2.1%
Big Cliff Dam Tailrace*	3/10/2023	541	112	20.7%
Big Cliff Dam Tailrace*	4/28/2023	498	34	6.8%
Big Cliff Dam Tailrace*	5/23/2023	500	6	1.2%
Big Cliff Dam Tailrace*	6/21/2023	500	8	1.6%
Big Cliff Dam Tailrace*	7/5/2023	500	33	6.6%
Big Cliff Dam Tailrace*	8/3/2023	474	42	8.9%
Big Cliff Dam Tailrace*	9/19/2023	424	64	15.1%
Big Cliff Dam Tailrace*	10/6/2023	500	56	11.2%
Big Cliff Dam Tailrace	10/25/2023	633	99	15.6%
Big Cliff Dam Tailrace	11/16/2023	527	0	0.0%
Big Cliff Dam Tailrace	11/21/2023	500	30	6.0%
Big Cliff Dam Tailrace	12/28/2023	550	56	10.2%
Big Cliff Dam Tailrace	2/14/2024	500	16	3.2%
Detroit Head of Reservoir- North Santiam River	6/6/2023	540	28	5.2%
Detroit Head of Reservoir- North Santiam River	6/20/2023	750	61	8.1%
Detroit Head of Reservoir- North Santiam River	7/6/2023	750	13	1.7%
Detroit Head of Reservoir- North Santiam River	8/2/2023	750	19	2.5%
Detroit Head of Reservoir- North Santiam River	9/6/2023	700	19	2.7%
Detroit Head of Reservoir- North Santiam River	10/5/2023	750	24	3.2%
Detroit Head of Reservoir- North Santiam River	10/25/2023	757	72	9.5%
Detroit Head of Reservoir- North Santiam River	11/10/2023	813	91	11.2%
Detroit Head of Reservoir- North Santiam River	11/21/2023	1,014	111	10.9%
Detroit Head of Reservoir- North Santiam	2/7/2024	749	8	1.1%
Green Peter Head of Reservoir- Middle Santiam (dead fish)	6/7/2023	1,000	0	0.0%
Green Peter Head of Reservoir- Middle Santiam	6/7/2023	750	1	0.1%
Green Peter Head of Reservoir- Middle Santiam	7/28/2023	750	0	0.0%
Green Peter Head of Reservoir- Middle Santiam	8/30/2023	749	0	0.0%
Green Peter Head of Reservoir- Middle Santiam	9/27/2023	741	0	0.0%
Green Peter Head of Reservoir- Middle Santiam	10/11/2023	750	0	0.0%
Green Peter Head of Reservoir- Middle Santiam	10/31/2023	750	0	0.0%
Green Peter Head of Reservoir- Middle Santiam (dead fish)	10/31/2023	1,000	0	0.0%
Green Peter Head of Reservoir- Middle Santiam	11/15/2023	749	1	0.1%
Green Peter Head of Reservoir- Middle Santiam	2/8/2024	753	4	0.5%
Green Peter Dam Tailrace- Spill*	3/29/2022	643	4	0.6%
Green Peter Dam Tailrace- Spill*	4/30/2022	518	9	1.7%
Green Peter Dam Tailrace- Spill*	5/11/2023	999	9	0.9%

Green Peter Dam Tailrace- Spill (dead fish) *	5/11/2023	1,001	0	0.0%
Green Peter Dam Tailrace- PWR*	5/25/2023	1,000	10	1.0%
Green Peter Dam Tailrace- PWR*	6/30/2023	1,000*	9	0.90%
Green Peter Dam Tailrace- PWR*	6/30/2023	1,000	10	1.00%
Green Peter Dam Tailrace- PWR*	7/27/2023	1,009	13	1.3%
Green Peter Dam Tailrace- PWR*	8/16/2023	1,008	7	0.7%
Green Peter Dam Tailrace- PWR*	8/31/2023	1,000	8	0.8%
Green Peter Dam Tailrace- PWR*	10/4/2023	1,005	0	0.0%
Green Peter Dam Tailrace*	11/1/2023	1,000	22	2.2%
Green Peter Dam Tailrace*	11/14/2023	1,000	7	0.7%
Green Peter Dam Tailrace- Spill*	11/29/2023	1,000	28	2.8%
Green Peter Dam Tailrace- Spill (dead fish) *	11/29/2023	3,999	11	0.3%
Green Peter Dam Tailrace*	12/8/2023	1,000	25	2.5%
Green Peter Dam Tailrace- Spill*	12/19/2023	1,000	3	0.3%
Green Peter Dam Tailrace- PWR	1/9/2024	1,003	9	0.9%
Foster Dam Head of Reservoir*	9/29/2022	1,063	0	0.0%
Foster Dam Head of Reservoir*	10/25/2022	821	116	14.1%
Foster Dam Head of Reservoir*	11/1/2022	1006	263	26.1%
Foster Dam Head of Reservoir*	11/9/2022	1007	68	6.8%
Foster Dam Head of Reservoir*	11/15/2022	1009	55	5.5%
Foster Dam Head of Reservoir*	11/22/2022	933	163	17.5%
Foster Dam Head of Reservoir*	2/27/2023	1,002	21	2.1%
Foster Dam Head of Reservoir*	3/9/2023	995	62	6.2%
Foster Dam Head of Reservoir*	3/15/2023	1,025	0	0.0%
Foster Dam Head of Reservoir*	5/11/2023	985	20	2.0%
Foster Dam Head of Reservoir*	6/2/2023	1,003	79 ^a	7.9%
Foster Dam Head of Reservoir*	6/29/2023	1,000	22	2.2%
Foster Dam Head of Reservoir*	7/27/2023	989	0	0.0%
Foster Dam Head of Reservoir*	8/31/2023	1,000	0	0.0%
Foster Dam Head of Reservoir*	9/27/2023	1,000	6	0.6%
Foster Dam Head of Reservoir*	10/10/2023	1,016	55	5.4%
Foster Dam Head of Reservoir*	11/14/2023	1,000	102	10.2%
Foster Dam Head of Reservoir*	11/22/2023	1,001	79	7.9%
Foster Dam Head of Reservoir	2/2/2024	1,005	46	4.6%
Cougar Dam Powerhouse Channel*	1/19/2022	997	37	3.7%
Cougar Dam Powerhouse Channel*	4/20/2022	1000	67	6.7%
Cougar Dam Powerhouse Channel*	7/19/2022	535	148	27.7%
Cougar Dam Powerhouse Channel*	8/11/2022	949	29	3.1%
Cougar Dam Powerhouse Channel*	1/12/2023	843	159	18.9%
Cougar Dam Powerhouse Channel*	3/23/2023	500	49	9.8%
Cougar Dam Powerhouse Channel*	3/30/2023	497	95	19.1%
Cougar Dam Powerhouse Channel*	4/18/2023	297	14	4.7%
Cougar Dam Powerhouse Channel*	5/10/2023	499	5	1.0%
Cougar Dam Powerhouse Channel*	6/6/2023	507	65	12.8%
Cougar Dam Powerhouse Channel*	7/26/2023	510	63	12.4%
Cougar Dam Powerhouse Channel*	9/21/2023	500	53	10.6%
Cougar Dam Powerhouse Channel*	10/11/2023	500	83	16.6%
Cougar Dam Powerhouse Channel	1/30/2024	502	69	13.8%
Cougar Dam Powerhouse Channel	2/7/2024	493	44	8.9%
Cougar Dam Regulating Outlet Channel*	1/19/2022	995	26	2.6%
Cougar Dam Regulating Outlet Channel*	4/20/2022	995	16	1.6%
Cougar Dam Regulating Outlet Channel*	5/15/2022	500	64	12.8%
Cougar Dam Regulating Outlet Channel*	10/14/2022	509	49	9.6%
Cougar Dam Regulating Outlet Channel*	11/22/2022	504	24	4.8%
Cougar Dam Regulating Outlet Channel*	12/13/2022	502	42	8.4%
Cougar Dam Regulating Outlet Channel*	12/15/2022	1010	56	5.5%
Cougar Dam Regulating Outlet Channel*	12/20/2022	1014	61	6.0%
Cougar Dam Regulating Outlet Channel*	12/28/2022	704	14	2.0%
Cougar Dam Regulating Outlet Channel*	1/30/2023	509	6	1.2%
Cougar Dam Regulating Outlet Channel*	3/23/2023	511	3	0.6%
Cougar Dam Regulating Outlet Channel*	3/30/2023	491	31	6.3%
Cougar Dam Regulating Outlet Channel*	4/18/2023	501	2	0.4%
Cougar Dam Regulating Outlet Channel*	5/10/2023	499	0	0.0%
Cougar Dam Regulating Outlet Channel*	10/11/2023	518	14	2.7%

Cougar Dam Regulating Outlet Channel*	11/8/2023	508	43	8.5%
Cougar Dam Regulating Outlet Channel*	11/30/2023	505	26	5.1%
Cougar Dam Regulating Outlet Channel	12/18/2023	505	2	0.4%
Cougar Dam Regulating Outlet Channel	1/11/2024	505	65	12.9%
Cougar Dam Regulating Outlet Channel	2/7/2024	505	9	1.8%
Cougar Dam Head of Reservoir*	5/19/2022	498	23	4.6%
Cougar Dam Head of Reservoir*	6/23/2022	486	7	1.4%
Cougar Dam Head of Reservoir*	9/22/2022	551	56	10.2%
Cougar Dam Head of Reservoir*	10/5/2022	608	47	7.7%
Cougar Dam Head of Reservoir*	11/10/2022	704	33	4.7%
Cougar Dam Head of Reservoir*	11/16/2022	719	28	3.9%
Cougar Dam Head of Reservoir*	11/23/2022	752	48	6.4%
Cougar Dam Head of Reservoir*	11/29/2022	620	48	7.7%
Cougar Dam Head of Reservoir*	4/14/2023	506	10	2.0%
Cougar Dam Head of Reservoir*	5/10/2023	508	7	1.4%
Cougar Dam Head of Reservoir*	5/16/2023	497	23	4.6%
Cougar Dam Head of Reservoir*	6/8/2023	510	23	4.5%
Cougar Dam Head of Reservoir*	7/27/2023	758	27	3.6%
Cougar Dam Head of Reservoir**	8/30/2023	5,151	127	2.5%
Cougar Dam Head of Reservoir*	9/21/2023	745	41	5.5%
Cougar Dam Head of Reservoir*	10/19/2023	750	42	5.6%
Cougar Dam Head of Reservoir*	11/14/2023	756	21	2.8%
Cougar Dam Head of Reservoir*	11/28/2023	760	67	8.8%
Cougar Dam Head of Reservoir	2/6/2024	768	53	6.9%
Fall Creek Dam Regulating Outlet*	6/8/2022	517	11	2.1%
Fall Creek Dam Regulating Outlet*	6/30/2022	513	0	0.0%
Fall Creek Dam Regulating Outlet*	7/13/2022	498	0	0.0%
Fall Creek Dam Regulating Outlet*	5/11/2023	998	0	0.0%
Fall Creek Dam Regulating Outlet*	6/28/2023	992	0	0.0%
Fall Creek Dam Regulating Outlet	10/3/2023	1,020	0	0.0%
Fall Creek Dam Regulating Outlet	10/17/2023	1,011	14	1.4%
Fall Creek Dam Regulating Outlet	7/11/2023	1,006	0	0.0%
Fall Creek Dam Regulating Outlet	1/22/2024	999	12	1.2%
Fall Creek Dam Regulating Outlet	2/13/2024	1,004	35	3.5%
Fall Creek Head of Reservoir*	5/5/2023	756	15	2.0%
Fall Creek Head of Reservoir*	5/10/2023	750	23	3.1%
Fall Creek Head of Reservoir*	5/18/2023	511	7	1.4%
Fall Creek Head of Reservoir*	5/24/2023	760	4	0.5%
Fall Creek Head of Reservoir	1/2/2024	755	137	18.1%
Fall Creek Head of Reservoir	2/2/2024	751	51	6.8%
Dexter Dam Powerhouse*	7/21/2022	976	2	0.2%
Dexter Dam Powerhouse*	10/26/2022	1007	1	0.1%
Dexter Dam Powerhouse*	11/1/2022	755	1	0.1%
Dexter Dam Powerhouse*	11/17/2022	991	4	0.4%
Dexter Dam Powerhouse*	12/6/2022	1010	10	1.0%
Dexter Dam Powerhouse*	12/15/2022	1025	1	0.1%
Dexter Dam Powerhouse*	3/16/2023	1,200	2	0.2%
Dexter Dam Powerhouse*	5/25/2023	4,003	14	0.3%
Dexter Dam Powerhouse*	6/7/2023	4,010	4	0.1%
Dexter Dam Powerhouse*	6/21/2023	4,028	15	0.4%
Dexter Dam Powerhouse*	7/6/2023	4,000	5	0.1%
Dexter Dam Powerhouse*	8/2/2023	1,505	3	0.2%
Dexter Dam Powerhouse*	8/23/2023	4,012	14	0.3%
Dexter Dam Powerhouse*	9/6/2023	4,037	13	0.3%
Dexter Dam Powerhouse*	10/4/2023	4,001	5	0.1%
Dexter Dam Powerhouse	12/28/2023	8,032	46	0.6%
Dexter Dam Powerhouse	1/9/2024	4,004	6	0.15%
Dexter Dam Spillway*	3/23/2022	988	2	0.2%
Dexter Dam Spillway*	5/4/2022	995	43	4.3%
Dexter Dam Spillway*	5/24/2022	1018	67	6.6%
Dexter Dam Spillway*	3/29/2023	1,199	5	0.4%
Dexter Dam Spillway*	10/24/2023	1,514	18	1.2%
Dexter Dam Spillway*	11/1/2023	1,506	9	0.6%
Dexter Dam Spillway*	11/22/2023	1,516	0	0.0%

Dexter Dam Spillway*	12/5/2023	4,006	10	0.2%
Dexter Dam Spillway*	12/12/2023	4,001	13	0.3%
Dexter Dam Spillway	2/8/2024	2,067	0	0.0%
Dexter Dam Spillway-Powerhouse	12/21/2023	4,005	3	0.1%
Lookout Dam Powerhouse*	4/13/2022	998	0	0.0%
Lookout Dam Powerhouse*	5/23/2023	3,999	32	0.8%
Lookout Dam Powerhouse*	6/1/2023	4,011	6	0.1%
Lookout Dam Powerhouse*	6/14/2023	4,010	4	0.1%
Lookout Dam Powerhouse*	6/28/2023	4,010	3	0.1%
Lookout Dam Powerhouse*	7/18/2023	4,012	9	0.2%
Lookout Dam Powerhouse	12/20/2023	16,007	29	0.2%
Lookout Dam Powerhouse	1/10/2024	17,553	3	0.02%
Lookout Dam Spillway	9/13/2023	3,636	0	0.0%
Lookout Dam Spillway	9/14/2023	3,998	0	0.0%
Lookout Dam Spillway	10/25/2023	4,042	0	0.0%
Lookout Dam Spillway	11/16/2023	4,005	12	0.3%
Lookout Dam Spillway	12/6/2023	8,007	18	0.2%
Lookout Dam Spillway	12/13/2023	8,011	148	1.8%
Lookout Point Head of Reservoir*	4/5/2022	993	53	5.3%
Lookout Point Head of Reservoir*	4/14/2022	987	19	1.9%
Lookout Point Head of Reservoir*	5/18/2022	1004	125	12.5%
Lookout Point Head of Reservoir*	7/20/2022	1005	9	0.9%
Lookout Point Head of Reservoir*	10/27/2022	506	9	1.8%
Lookout Point Head of Reservoir*	11/17/2022	510	0	0.0%
Lookout Point Head of Reservoir*	12/12/2022	510	0	0.0%
Lookout Point Head of Reservoir*	1/13/2023	516	10	1.9%
Lookout Point Head of Reservoir*	6/2/2023	760	15	2.0%
Lookout Point Head of Reservoir*	6/15/2023	765	6	0.8%
Lookout Point Head of Reservoir*	6/29/2023	769	2	0.3%
Lookout Point Head of Reservoir*	7/19/2023	765	0	0.0%
Lookout Point Head of Reservoir*	8/22/2023	677	13	1.9%
Lookout Point Head of Reservoir*	8/31/2023	751	0	0.0%
Lookout Point Head of Reservoir*	9/20/2023	787	1	0.1%
Lookout Point Head of Reservoir*	10/26/2023	755	0	0.0%
Lookout Point Head of Reservoir*	11/15/2023	755	3	0.4%
Lookout Point Head of Reservoir*	11/29/2023	760	2	0.3%
Lookout Point Head of Reservoir	12/19/2023	1,504	9	0.6%
Lookout Point Head of Reservoir	1/3/2023	1,505	2	0.1%
Lookout Point Head of Reservoir	2/14/2024	761	2	0.3%
Hills Creek Dam Powerhouse*	1/6/2022	596	20	3.4%
Hills Creek Dam Powerhouse*	2/16/2022	600	12	2.0%
Hills Creek Dam Powerhouse*	2/25/2022	604	6	1.0%
Hills Creek Dam Powerhouse*	12/7/2022	514	29	5.6%
Hills Creek Dam Powerhouse*	2/25/2023	519	15	2.9%
Hills Creek Dam Powerhouse*	4/26/2023	506	62	12.3%
Hills Creek Dam Powerhouse*	5/17/2023	505	57	11.3%
Hills Creek Dam Powerhouse*	6/3/2023	508	36	7.1%
Hills Creek Dam Powerhouse*	6/27/2023	507	22	4.3%
Hills Creek Dam Powerhouse	9/27/2023	510	9	1.8%
Hills Creek Dam Powerhouse	10/17/2023	509	8	1.6%
Hills Creek Dam Powerhouse	10/31/2023	503	8	1.6%
Hills Creek Dam Powerhouse	11/15/2023	500	46	9.2%
Hills Creek Dam Powerhouse	1/23/2024	503	8	1.6%
Hills Creek Dam Powerhouse- RO Trial*	1/6/2022	596	5	0.8%
Hills Creek Dam Powerhouse- RO Trial*	2/16/2022	600	0	0.0%
Hills Creek Dam Powerhouse- RO Trial*	2/25/2022	604	1	0.2%
Hills Creek Dam Powerhouse- RO Trial*	12/7/2022	514	3	0.6%
Hills Creek Dam Powerhouse- RO Trial*	2/25/2023	519	0	0.0%
Hills Creek Dam Powerhouse- RO Trial*	4/26/2023	506	12	2.4%
Hills Creek Dam Powerhouse- RO Trial*	5/17/2023	505	2	0.4%
Hills Creek Dam Powerhouse- RO Trial*	6/3/2023	508	2	0.4%
Hills Creek Dam Powerhouse- RO Trial*	6/27/2023	507	0	0.0%
Hills Creek Dam Powerhouse - RO Trial	9/27/2023	510	1	0.2%
Hills Creek Dam Powerhouse - RO Trial	10/17/2023	509	0	0.0%

Hills Creek Dam Powerhouse - RO Trial	10/31/2023	503	2	0.4%
Hills Creek Dam Powerhouse - RO Trial	11/15/2023	500	1	0.2%
Hills Creek Dam Regulating Outlet*	1/6/2022	605	13	2.1%
Hills Creek Dam Regulating Outlet*	2/16/2022	593	19	3.2%
Hills Creek Dam Regulating Outlet*	2/25/2022	625	6	1.0%
Hills Creek Dam Regulating Outlet*	12/13/2022	516	1	0.2%
Hills Creek Dam Regulating Outlet*	2/25/2023	478	0	0.0%
Hills Creek Dam Regulating Outlet*	6/13/2023	760	0	0.0%
Hills Creek Dam Regulating Outlet	11/21/2023	503	3	0.6%
Hills Creek Dam Regulating Outlet	11/29/2023	504	2	0.4%
Hills Creek Dam Regulating Outlet	12/26/2023	505	10	2.0%
Hills Creek Dam Regulating Outlet	1/4/2024	503	5	1.0%
Hills Creek Head of Reservoir	5/18/2023	519	44	8.5%
Hills Creek Head of Reservoir	6/19/2023	760	6	0.8%
Hills Creek Head of Reservoir	2/15/2024	761	0	0.0%

*Releases performed under the USACE RST contract, ** Trapping efficiency release performed by Cramer Fish Sciences

Appendix D

Summary of PIT Tagged Fish for Reporting Period

Site	Trap	Species	# of PIT Tagged Fish
Breitenbush River	5 ft	Chinook	2
Breitenbush River	5 ft	<i>O. mykiss</i>	5
Big Cliff Dam	8 ft	Chinook	0
Big Cliff Dam	8 ft	<i>O. mykiss</i>	0
Detroit Head of Reservoir – North Santiam	5 ft	Chinook	4
Detroit Head of Reservoir – North Santiam	5 ft	<i>O. mykiss</i>	2
Green Peter Head of Reservoir – Middle Santiam	5 ft	Chinook	1
Green Peter Head of Reservoir – Middle Santiam	5 ft	<i>O. mykiss</i>	0
Green Peter Tailrace- Middle Santiam	8 ft	Chinook	0
Green Peter Tailrace- Middle Santiam	8 ft	<i>O. mykiss</i>	0
Foster Head of Reservoir – South Santiam	5 ft	Chinook	0
Foster Head of Reservoir – South Santiam	5 ft	<i>O. mykiss</i>	4
Cougar Dam	PWR	Chinook	13
Cougar Dam	RO	Chinook	63
Cougar Dam Head of Reservoir	5 ft	Chinook	9
Fall Creek Head of Reservoir	8 ft	Chinook	3
Fall Creek Dam Tailrace	8 ft	Chinook	0
Dexter Dam Tailrace	5 ft	Chinook	0
Lookout Dam Tailrace	Spill	Chinook	0
Lookout Dam Tailrace	PWR	Chinook	1
Lookout Point Head of Reservoir	5 ft	Chinook	0
Hills Creek Head of Reservoir	5 ft	Chinook	19
Hills Creek Dam	RO	Chinook	0
Hills Creek Dam	PWR	Chinook	0

Summary of EAS VIE Marked Fish for Reporting Period

Site	Trap	VIE Mark Code	Species	# VIE
Breitenbush River	5 ft	HY	Chinook	126
Breitenbush River	5 ft	HY	<i>O. mykiss</i>	2
Detroit Head of Reservoir – North Santiam River	5 ft	RDY	Chinook	78
Detroit Head of Reservoir – North Santiam River	5 ft	RDY	<i>O. mykiss</i>	4
Green Peter Head of Reservoir – Middle Santiam River	5 ft	RDY	Chinook	177
Green Peter Head of Reservoir – Middle Santiam River	5 ft	RDY	<i>O. mykiss</i>	0
Cougar Dam Head of Reservoir	5 ft	RDY	Chinook	4
Fall Creek Head of Reservoir	8 ft	RDY	Chinook	0
Lookout Dam Tailrace	Spill	PY	Chinook	0
Lookout Dam Tailrace	PWR	PY	Chinook	0
Lookout Point Head of Reservoir	5 ft	RDY	Chinook	0
Hills Creek Head of Reservoir	5 ft	LDY	Chinook	1
Hills Creek Dam	RO	HY	Chinook	0
Hills Creek Dam	PWR	HY	Chinook	0

HY denotes location and color (Head Yellow)

List of Captured Fish Containing PIT Tags This Year

Site	Trap	PIT Tag	Date	Species
Big Cliff Dam	8 ft	3DD.003E4BA0C8	1/1/2024	Chinook
Big Cliff Dam	8 ft	3DD.003BEE0FF3	1/1/2024	Chinook
Hills Creek Dam	PH	3DD.003E4C0438	1/1/2024	Chinook
Hills Creek Dam	PH	3D6.15347FEE8D	1/2/2024	Chinook
Hills Creek Dam	PH	3D6.15347FF1E5	1/2/2024	Chinook
Hills Creek Dam	PH	3DD.003E4C2BC0	1/3/2024	Chinook
Hills Creek Dam	PH	3D6.1534843279	1/3/2024	Chinook
Hills Creek Dam	PH	3DD.003E55D20F	1/3/2024	Chinook
Hills Creek Dam	PH	3D6.1534831DCD	1/4/2024	Chinook
Hills Creek Dam	PH	3D6.15347FE844	1/4/2024	Chinook
Hills Creek Dam	RO	3DD.003E56706F	1/4/2024	Chinook
Big Cliff Dam	8 ft	3DD.003E560325	1/5/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAAA91	1/5/2024	Chinook
Hills Creek Dam	PH	3DD.0078DACDEF	1/5/2024	Chinook

Hills Creek Dam	PH	3DD.003E4C30C3	1/5/2024	Chinook
Hills Creek Dam	PH	3D6.1534843712	1/5/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAA800	1/6/2024	Chinook
Lookout Dam Tailrace	Spill	3DD.0078DCE9F6	1/6/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE73B	1/7/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAB9E5	1/7/2024	Chinook
Hills Creek Dam	PH	3DD.003E55DDF4	1/7/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCEF6E	1/7/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCB07B	1/7/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCB609	1/7/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCB611	1/7/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB312	1/7/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCEA1D	1/7/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB64D	1/7/2024	Chinook
Hills Creek Dam	PH	3DD.003E4C245C	1/8/2024	Chinook
Hills Creek Dam	PH	3D6.1534843517	1/8/2024	Chinook
Hills Creek Dam	PH	3DD.003E559503	1/8/2024	Chinook
Hills Creek Dam	RO	3DD.003E4C12A3	1/8/2024	Chinook
Cougar Dam	RO	3DD.003E50D42F	1/9/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E4C1A3C	1/9/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCEA78	1/9/2024	Chinook
Cougar Dam	RO	3DD.003E4FE1FC	1/10/2024	Chinook
Cougar Dam	RO	3DD.003E4FCB9F	1/10/2024	Chinook
Cougar Dam	RO	3DD.003E4FA012	1/10/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E5716DF	1/10/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE9A6	1/10/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCA483	1/10/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE1E4	1/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E4C2167	1/10/2024	Chinook
Hills Creek Dam	RO	3DD.003E4C1729	1/10/2024	Chinook
Hills Creek Dam	RO	3D6.15347FFAB2	1/10/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCF140	1/10/2024	Chinook
Cougar Dam	RO	3DD.003E4DD85B	1/11/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCDF3A	1/11/2024	Chinook
Hills Creek Dam	PH	3DD.0078DACB99	1/11/2024	Chinook
Hills Creek Dam	PH	3D6.15347FF3E7	1/11/2024	Chinook
Hills Creek Dam	RO	3DD.0078DAAE5B	1/11/2024	Chinook
Hills Creek Dam	RO	3DD.003E55DE58	1/11/2024	Chinook
Big Cliff Dam	8 ft	3DD.003E55C44B	1/12/2024	Chinook
Hills Creek Dam	PH	3DD.003E55D6F2	1/12/2024	Chinook
Hills Creek Dam	PH	3DD.0078DACE83	1/12/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAA850	1/12/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DC5B44	1/14/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE323	1/14/2024	Chinook
Hills Creek Dam	RO	3DD.003E56F830	1/17/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DC610F	1/17/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCA6DE	1/17/2024	Chinook
Hills Creek Dam	RO	3D6.1534831BE2	1/17/2024	Chinook
Hills Creek Dam	RO	3DD.003E55CC7F	1/17/2024	Chinook
Hills Creek Dam	RO	3DD.003E55CD7C	1/17/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCA657	1/17/2024	Chinook
Hills Creek Dam	RO	3DD.003E4DDFB7	1/17/2024	Chinook
Hills Creek Dam	PH	3D6.153483123C	1/17/2024	Chinook
Hills Creek Dam	PH	3DD.003E5676F0	1/17/2024	Chinook
Hills Creek Dam	PH	3DD.003E56CC28	1/17/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAB842	1/17/2024	Chinook
Hills Creek Dam	PH	3DD.003E5717A5	1/17/2024	Chinook
Hills Creek Dam	PH	3DD.003E4C31E6	1/17/2024	Chinook
Hills Creek Dam	RO	3DD.0078DABEE5	1/17/2024	Chinook
Cougar Dam	RO	3DD.003E4FEB64	1/18/2024	Chinook
Hills Creek Dam	RO	3D6.1534832393	1/18/2024	Chinook
Hills Creek Dam	PH	3DD.003E4FCFC7	1/18/2024	Chinook

Hills Creek Dam	PH	3DD.003E5713C7	1/20/2024	Chinook
Hills Creek Dam	RO	3DD.003E4C2C8B	1/20/2024	Chinook
Hills Creek Dam	PH	3DD.003E5671BC	1/21/2024	Chinook
Hills Creek Dam	RO	3DD.003E566AC4	1/21/2024	Chinook
Hills Creek Dam	RO	3DD.003E4C0CCA	1/21/2024	Chinook
Dexter Dam Tailrace	5 ft	3D6.15347FF30E	1/21/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E55318C	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCE22D	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E554218	1/22/2024	Chinook
Lookout Dam Tailrace	Spill	3DD.0078DCE6CB	1/22/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCEC1F	1/22/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCB032	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5533E5	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC6589	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC5AED	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC570E	1/22/2024	Chinook
Lookout Dam Tailrace	Spill	3DD.003E553E2F	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB3A3	1/22/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE18D	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC64C8	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCEF3A	1/22/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E553170	1/22/2024	Chinook
Hills Creek Dam	RO	3D6.15348317A1	1/22/2024	Chinook
Hills Creek Dam	RO	3DD.0078DAB6E2	1/22/2024	Chinook
Hills Creek Dam	RO	3DD.0078DAC416	1/22/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCE5C5	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCAC77	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB08B	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCB4EC	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DAAD61	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCAE62	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCDF67	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC62C2	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC65E4	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E553EDA	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC624F	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCA3A1	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC65DA	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCA76F	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC68CF	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E553E13	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E5532D5	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5535EC	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E55479E	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E353B5A	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCE2B6	1/23/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E553605	1/23/2024	Chinook
Hills Creek Dam	RO	3D6.1534843784	1/23/2024	Chinook
Hills Creek Dam	RO	3DD.0078DACBAF	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCE59B	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCAB61	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E5542D0	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC6165	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCE23D	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCB548	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC648C	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E55E4C7	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC5753	1/23/2024	Chinook

Lookout Dam Tailrace	PH 1	3DD.0078DCE297	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCF058	1/23/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCE52A	1/23/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC624A	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCAADE	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5541E4	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB0DF	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5539F2	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCAE10	1/24/2024	Chinook
Lookout Dam Tailrace	Spill	3DD.003E554343	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E55481D	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCDFA1	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5543CC	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC61E0	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E554172	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5538B7	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E554503	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC66D2	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCBCB9	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5535DA	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCE416	1/24/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E554200	1/24/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DC639A	1/24/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCB014	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCDEB6	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCE73A	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E553743	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCA84C	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCDF59	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5545D0	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC6705	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E554454	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC5EB6	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCA838	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCABAE	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E55332E	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCAD69	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCA7CE	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC8DF3	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCEAE3	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC8DFB	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCEADA	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCDFB3	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E554718	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E57127A	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCEAD6	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E5547B5	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCACB3	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E553C84	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E56C95D	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC64B6	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E553B96	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC78CE	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCE555	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC8A8A	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB582	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E554387	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5678A9	1/24/2024	Chinook

Lookout Dam Tailrace	PH 2	3DD.003E5547FB	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E553C1D	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC6423	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCDFBD	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC5A83	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3D6.15347FF292	1/24/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCEB88	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC6769	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCEE63	1/24/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC6535	1/25/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCF100	1/25/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC636A	1/25/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC8C67	1/25/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E553855	1/25/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DC5A32	1/25/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E554343	1/25/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCACAE	1/25/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DC5B3D	1/26/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E553DD7	1/26/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DCAA17	1/26/2024	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E5537FF	1/26/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E55392F	1/26/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5542EA	1/27/2024	Chinook
Cougar Dam	RO	3DD.003E4FD4F0	1/30/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5537CF	1/31/2024	Chinook
Cougar Dam	RO	3DD.003E50C70A	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB626	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E516407	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DD64C0	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC5867	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCB0C3	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E5170D7	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCA938	1/31/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC65F9	2/1/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E516F52	2/1/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DCE06F	2/1/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC5C49	2/1/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E4C0C4A	2/1/2024	Chinook
Cougar Dam	RO	3DD.003E4FB120	2/2/2024	Chinook
Cougar Dam	RO	3DD.003E4DE5AD	2/2/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E5162B7	2/2/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE0D4	2/2/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE169	2/2/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E5538C4	2/2/2024	Chinook
Cougar Dam	RO	3DD.003E569B29	2/3/2024	Chinook
Cougar Dam	RO	3DD.003E50C428	2/3/2024	Chinook
Cougar Dam	RO	3DD.003E4DE86A	2/3/2024	Chinook
Cougar Dam	RO	3DD.003E4FC716	2/3/2024	Chinook
Cougar Dam	RO	3DD.003E4DDABF	2/4/2024	Chinook
Cougar Dam	RO	3DD.003E4FCD98	2/4/2024	Chinook
Cougar Dam	RO	3DD.003E569EF3	2/4/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DD7565	2/4/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DD6050	2/4/2024	Chinook
Fall Creek Dam Tailrace	8 ft	3D6.1534844CC5	2/4/2024	Chinook
Cougar Dam	RO	3DD.003E569572	2/5/2024	Chinook
Cougar Dam	RO	3DD.003E4F9B0F	2/5/2024	Chinook
Cougar Dam	RO	3DD.003E4FA9D5	2/5/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DAB82D	2/5/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE416	2/5/2024	Chinook
Cougar Dam	RO	3DD.003E4FC8FA	2/6/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DD9231	2/6/2024	Chinook

Cougar Dam	RO	3DD.003E4FBF58	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E50B208	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E4DD8A5	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E4FE3E0	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E50D7EB	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E569D43	2/7/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DC6538	2/7/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DD0CAB	2/7/2024	Chinook
Hills Creek Dam	PH	3D6.153483160A	2/7/2024	Chinook
Hills Creek Dam	RO	3DD.003E56AA0B	2/7/2024	Chinook
Hills Creek Dam	RO	3DD.0078DAC2E3	2/7/2024	Chinook
Cougar Dam	PH 2	3DD.003E5280F6	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E4DE3DF	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E4FCF35	2/8/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E516AB4	2/8/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DCE90A	2/8/2024	Chinook
Hills Creek Dam	PH	3DD.003E515954	2/8/2024	Chinook
Hills Creek Dam	PH	3DD.003E50C930	2/8/2024	Chinook
Hills Creek Dam	PH	3DD.0078DABBF6	2/9/2024	Chinook
Hills Creek Dam	PH	3DD.003E567A61	2/9/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFDACF	2/9/2024	Chinook
Hills Creek Dam	PH	3DD.0078DC6F57	2/9/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFB239	2/9/2024	Chinook
Hills Creek Dam	PH	3DD.0078DC69F6	2/9/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAB7E7	2/9/2024	Chinook
Hills Creek Dam	PH	3DD.003E51561F	2/9/2024	Chinook
Hills Creek Dam	RO	3DD.003E51527D	2/9/2024	Chinook
Lookout Dam Tailrace	Spill	3DD.003E55972C	2/9/2024	Chinook
Cougar Dam	PH 1	3DD.003BE9EBF6	2/10/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E56A96F	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E515EC5	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFB7F0	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFE0C6	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFC562	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E55E90F	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E51598D	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E5719F1	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFC02E	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFDFE7	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFB1F6	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFB457	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAB555	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E56A58D	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E4C0FB8	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E55B645	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E5155F1	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFBC36	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E56738D	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFD397	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E5153CB	2/10/2024	Chinook
Hills Creek Dam	PH	3DD.003E4C248F	2/10/2024	Chinook
Hills Creek Dam	RO	3DD.0078DABAF0	2/10/2024	Chinook
Hills Creek Dam	RO	3DD.003E4DCA49	2/10/2024	Chinook
Hills Creek Dam	RO	3DD.0078DABFDD	2/10/2024	Chinook
Hills Creek Dam	RO	3DD.003E5607CB	2/10/2024	Chinook
Cougar Dam	RO	3DD.003E4FB24B	2/11/2024	Chinook
Cougar Dam	RO	3DD.003E4F9991	2/11/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFE942	2/11/2024	Chinook
Hills Creek Dam	PH	3DD.003E5674AB	2/11/2024	Chinook
Hills Creek Dam	PH	3D6.15347FF4F3	2/11/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAC2DF	2/11/2024	Chinook
Hills Creek Dam	PH	3DD.0078DAA9AC	2/11/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFFA5B	2/11/2024	Chinook
Hills Creek Dam	PH	3DD.003E4FB7B4	2/11/2024	Chinook

Hills Creek Dam	PH	3DD.003E4C0E5B	2/11/2024	Chinook
Cougar Dam	RO	3DD.003E4DDB90	2/12/2024	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DD33EF	2/12/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFC61B	2/12/2024	Chinook
Hills Creek Dam	PH	3DD.003E5660FC	2/12/2024	Chinook
Hills Creek Dam	RO	3DD.0078DFE507	2/12/2024	Chinook
Hills Creek Dam	RO	3DD.0078DFD0DC	2/12/2024	Chinook
Cougar Dam	RO	3DD.003E4FC547	2/13/2024	Chinook
Cougar Dam	RO	3DD.003E568FFA	2/13/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFEF61	2/13/2024	Chinook
Hills Creek Dam	PH	3DD.003E55AADB	2/13/2024	Chinook
Hills Creek Dam	PH	3DD.0078DD8D06	2/13/2024	Chinook
Cougar Dam	RO	3DD.003E56974C	2/14/2024	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DC5CA6	2/14/2024	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003BE9F184	2/15/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFCADD	2/15/2024	Chinook
Hills Creek Dam	PH	3DD.003E515B46	2/15/2024	Chinook
Hills Creek Dam	PH	3DD.0078DFBBF1	2/15/2024	Chinook

List of EAS PIT Tagged Fish for Reporting Period

Site	Trap	PIT Tag	Date	Species
Cougar Dam Head of Reservoir	5 ft	3DD.003E5280DE	2/2/2024	Chinook
Cougar Dam Head of Reservoir	5 ft	3DD.003E5280EF	2/2/2024	Chinook
Foster Dam Head of Reservoir- South Santiam River	5 ft	3DD.003BE9F5F7	2/2/2024	O. mykiss
Breitenbush River	5 ft	3DD.003BEE2A46	2/3/2024	O. mykiss
Foster Dam Head of Reservoir- South Santiam River	5 ft	3DD.003E528198	2/3/2024	O. mykiss
Cougar Dam Head of Reservoir	5 ft	3DD.003E5280FC	2/4/2024	Chinook
Cougar Dam Head of Reservoir	5 ft	3DD.003E5280D5	2/4/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F1AA	2/4/2024	Chinook
Breitenbush River	5 ft	3DD.003BEE2A73	2/5/2024	O. mykiss
Detroit Head of Reservoir- North Santiam River	5 ft	3DD.003BEE2A5F	2/5/2024	Chinook
Detroit Head of Reservoir- North Santiam River	5 ft	3DD.003BEE2A98	2/5/2024	Chinook
Foster Dam Head of Reservoir- South Santiam River	5 ft	3DD.003E528197	2/5/2024	O. mykiss
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F15A	2/5/2024	Chinook
Breitenbush River	5 ft	3DD.003BEE2A90	2/6/2024	O. mykiss
Cougar Dam	PH 2	3DD.003E528131	2/6/2024	Chinook
Cougar Dam	PH 2	3DD.003E5280F2	2/6/2024	Chinook
Cougar Dam	RO	3DD.003E52810D	2/6/2024	Chinook
Cougar Dam	RO	3DD.003E5280DF	2/6/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD22739	2/6/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD22744	2/6/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD2273A	2/6/2024	Chinook
Cougar Dam	PH 1	3DD.003E528104	2/7/2024	Chinook
Cougar Dam	PH 1	3DD.003E52811D	2/7/2024	Chinook
Cougar Dam	PH 1	3DD.003E52811C	2/7/2024	Chinook
Cougar Dam	PH 1	3DD.003E5280FB	2/7/2024	Chinook
Cougar Dam	PH 2	3DD.003E5280E9	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280F3	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E52811B	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E52812B	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280EC	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280DD	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280D7	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280E6	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280D8	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E528130	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E52811A	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280E3	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280F6	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E528127	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E528123	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280E4	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E528111	2/7/2024	Chinook

Cougar Dam	RO	3DD.003E528132	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E52810E	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E52811F	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280D1	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E52812A	2/7/2024	Chinook
Cougar Dam	RO	3DD.003E5280F7	2/7/2024	Chinook
Cougar Dam Head of Reservoir	5 ft	3DD.003E528105	2/7/2024	Chinook
Fall Creek Head of Reservoir	8 ft	3DD.003BE9F184	2/7/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F198	2/7/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F160	2/7/2024	Chinook
Breitenbush River	5 ft	3DD.003E527B04	2/8/2024	O. mykiss
Cougar Dam	PH 1	3DD.003E52810A	2/8/2024	Chinook
Cougar Dam	PH 2	3DD.003E528112	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280D4	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280F5	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280E1	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280FD	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280F9	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280D6	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280DA	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280FA	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E528125	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E52810C	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E528124	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E528109	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E5280D2	2/8/2024	Chinook
Cougar Dam	RO	3DD.003E52812F	2/8/2024	Chinook
Cougar Dam Head of Reservoir	5 ft	3DD.003E5280E7	2/8/2024	Chinook
Cougar Dam Head of Reservoir	5 ft	3DD.003E528118	2/8/2024	Chinook
Detroit Head of Reservoir- North Santiam River	5 ft	3DD.003E527B81	2/8/2024	O. mykiss
Foster Dam Head of Reservoir- South Santiam River	5 ft	3DD.003E528162	2/8/2024	O. mykiss
Cougar Dam	PH 1	3DD.003BE9EBD8	2/9/2024	Chinook
Cougar Dam	PH 1	3DD.003BE9EBF6	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E528106	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E5280DB	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E528120	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E528122	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E528115	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E5280D0	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E5280EB	2/9/2024	Chinook
Cougar Dam	RO	3DD.003E52812D	2/9/2024	Chinook
Fall Creek Head of Reservoir	8 ft	3DD.003BE9F1B0	2/9/2024	Chinook
Fall Creek Head of Reservoir	8 ft	3DD.003BE9F17A	2/9/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F195	2/9/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F174	2/9/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F15D	2/9/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F178	2/9/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BE9F177	2/9/2024	Chinook
Cougar Dam	PH 1	3DD.003BE9EC14	2/10/2024	Chinook
Cougar Dam	RO	3DD.003BE9EBE8	2/10/2024	Chinook
Cougar Dam	RO	3DD.003BE9EBF0	2/10/2024	Chinook
Cougar Dam	RO	3DD.003BE9EBEE	2/10/2024	Chinook
Cougar Dam	RO	3DD.003BE9EBE6	2/10/2024	Chinook
Cougar Dam	RO	3DD.003BE9EBE0	2/10/2024	Chinook
Cougar Dam	RO	3DD.003BE9EBEA	2/10/2024	Chinook
Cougar Dam Head of Reservoir	5 ft	3DD.003BE9EBD9	2/10/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD22E00	2/10/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD22E34	2/10/2024	Chinook
Cougar Dam Head of Reservoir	5 ft	3DD.003BD22737	2/11/2024	Chinook
Detroit Head of Reservoir- North Santiam River	5 ft	3DD.003E527BB4	2/12/2024	Chinook
Detroit Head of Reservoir- North Santiam River	5 ft	3DD.003E527B5B	2/12/2024	O. mykiss
Hills Creek Head of Reservoir	5 ft	3DD.003BD22E3B	2/12/2024	Chinook
Detroit Head of Reservoir- North Santiam River	5 ft	3DD.003E527B78	2/13/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD22E31	2/13/2024	Chinook

Hills Creek Head of Reservoir	5 ft	3DD.003BD22E47	2/13/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD22E33	2/14/2024	Chinook
Breitenbush River	5 ft	3DD.003E527B70	2/15/2024	Chinook
Breitenbush River	5 ft	3DD.003E527B6B	2/15/2024	Chinook
Breitenbush River	5 ft	3DD.003E527B92	2/15/2024	O. mykiss
Cougar Dam	PH 2	3DD.003BD3953D	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39546	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39530	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD3955C	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39549	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39559	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39564	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39551	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39519	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD39566	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD3955D	2/15/2024	Chinook
Cougar Dam	RO	3DD.003BD3955F	2/15/2024	Chinook
Green Peter Head of Reservoir- Middle Santiam River	5 ft	3DD.003E52815A	2/15/2024	Chinook
Hills Creek Head of Reservoir	5 ft	3DD.003BD22E2C	2/15/2024	Chinook
Hills Creek Head of Reservoir	5 ft	132592690	2/15/2024	Bull Trout