Prepared by:	Jazmin Horvet, Cameron Blair & Rachel Ellison, Environmental Assessment Services, LLC
Report Period:	December 16th to December 31st, 2023
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	Trap Install	6/16/2023	6/16/2023	1
Breitenbush River RST	Operation	6/16/2023	11/30/2023	167
Breitenbush River RST	Trapping Efficiency (749 fish)	6/21/2023	6/21/202	1
Breitenbush River RST	Trapping Efficiency (763 fish)	7/6/2023	7/6/2023	1
Breitenbush River RST	Trapping Efficiency (791 fish)	8/2/2023	8/2/2023	1
Breitenbush River RST	Trapping Efficiency (756 fish)	9/20/2023	9/20/2023	1
Breitenbush River RST	Trapping Efficiency (789 fish)	10/5/2023	10/5/2023	1
Breitenbush River RST	Trapping Efficiency (750 fish)	10/25/2023	10/25/2023	1
Breitenbush River RST	Trapping Efficiency (750 fish)	11/10/2023	11/10/2023	1
Breitenbush River RST	Trapping Efficiency (900 fish)	11/21/2023	11/21/2023	1
Big Cliff Dam RST	Operation	10/15/2023	12/31/2023	78
Big Cliff Dam Tailrace	Trapping Efficiency (633 fish)	10/25/2023	10/25/2023	1
Big Cliff Dam Tailrace	Trapping Efficiency (527 fish)	11/16/2023	11/16/2023	1
Big Cliff Dam Tailrace	Trapping Efficiency (500 fish)	11/21/2023	11/21/2023	1
Big Cliff Dam Tailrace	Trapping Efficiency (550 fish)	12/28/2023	12/28/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trap Install	4/19/2023	4/19/2023	1
Detroit Head of Reservoir- North Santiam River RST	Operation	5/4/2023	11/30/2023	210
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (539 fish)	6/6/2023	6/6/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (750 fish)	6/20/2023	6/20/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (750 fish)	7/6/2023	7/6/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (750 fish)	8/2/2023	8/2/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency	9/6/2023	9/6/2023	1

	(700 fish)			
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (750 fish)	10/5/2023	10/5/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (757 fish)	10/25/2023	10/25/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (813 fish)	11/10/2023	11/10/2023	1
Detroit Head of Reservoir- North Santiam River RST	Trapping Efficiency (1014 fish)	11/21/2023	11/21/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Highline Install	4/25/2023	4/25/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trap Install	4/26/2023	4/26/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Operation	5/4/2023	11/30/2023	210
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (1000 dead, 750 alive)	6/7/2023	6/7/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (750 fish)	7/28/2023	7/28/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (749 fish)	8/30/2023	8/30/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (741 fish)	9/27/2023	9/27/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (750 fish)	10/11/2023	10/11/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (750 alive, 1,000 dead)	10/11/2023	10/11/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (750 alive, 1,000 dead)	10/31/2023	10/31/2023	1
Green Peter Head of Reservoir- Middle Santiam River RST	Trapping Efficiency (749 alive)	11/15/2023	11/15/2023	1
Green Peter Tailrace- Middle Santiam River RST	Operation	12/1/2023	12/31/2023	31
Green Peter Tailrace- Middle Santiam River RST	Trapping Efficiency (1,000 alive)	12/8/2023	12/8/2023	1
Green Peter Tailrace- Middle Santiam River RST	Trapping Efficiency (1,000 alive)	12/19/2023	12/19/2023	1
Foster Dam Head of Reservoir- South Santiam River RST	Operation	12/1/2023	12/31/2023	31
Fall Creek Head of Reservoir RST	Install	12/27/2023	12/27/2023	1
Fall Creek Dam Tailrace RST	Operation	10/1/2023	12/31/2023	92
Fall Creek Dam Tailrace RST	Trapping Efficiency (1,020 fish)	10/3/2023	10/3/2023	1
Fall Creek Dam Tailrace RST	Trapping Efficiency (1,011 fish)	10/17/2023	10/17/2023	1
Cougar Dam RST	Operation	12/1/2023	12/31/2023	31
Cougar Dam- Regulating Outlet	Trapping Efficiency (505 fish)	12/18/2023	12/18/2023	1
Cougar Dam Head of Reservoir	Operation	12/1/2023	12/31/2023	0
Lookout Dam Tailrace RSTs	Operation	8/01/2023	12/31/2023	152
Lookout Dam Tailrace Spill	Trapping Efficiency (3,634 fish)	9/13/0223	9/13/0223	1
Lookout Dam Tailrace Spill	Trapping Efficiency (3,998 fish)	9/14/2023	9/14/2023	1
Lookout Dam Tailrace Spill	Trapping Efficiency (4,042 fish)	10/25/2023	10/25/2023	1
Lookout Dam Tailrace Spill	Trapping Efficiency (4,005 fish)	11/16/2023	11/16/2023	1

Lookout Dam Tailrace Spill	Trapping Efficiency (4,002 fish)	12/6/2023	12/6/2023	1
Lookout Dam Tailrace Spill	Trapping Efficiency (4,005 fish)	12/7/2023	12/7/2023	1
Lookout Dam Tailrace Spill	Trapping Efficiency (4,006 fish)	12/13/2023	12/13/2023	1
Lookout Dam Tailrace Spill	Trapping Efficiency (4,005 fish)	12/14/2023	12/14/2023	1
Lookout Dam Tailrace Powerhouse	Trapping Efficiency (16,007 fish)	12/20/2023	12/20/2023	1
Hills Creek Dam RSTs	Operation	9/15/2023	12/31/2023	107
Hills Creek Dam Powerhouse	Trapping Efficiency (510 fish)	9/27/2023	9/27/2023	1
Hills Creek Dam Powerhouse	Trapping Efficiency (503 fish)	10/31/2023	10/31/2023	1
Hills Creek Dam Regulating Outlet Route	Trapping Efficiency (504 fish)	11/21/2023	11/21/2023	1
Hills Creek Dam Regulating Outlet Route	Trapping Efficiency (504 fish)	11/29/2023	11/29/2023	1
Hills Creek Dam Regulating Outlet Route	Trapping Efficiency (505 fish)	12/26/2023	12/26/2023	1
Hills Creek Head of Reservoir RST	Trap Install	5/9/2023	5/9/2023	1
Hills Creek Head of Reservoir RST	Operation	5/9/2023	6/30/2023	52
Hills Creek Head of Reservoir RST	Removal	6/30/2023	6/30/2023	1
Hills Creek Head of Reservoir RST	Trapping Efficiency (519 fish)	5/18/2023	5/18/2023	1
Hills Creek Head of Reservoir RST	Trapping Efficiency (760 fish)	6/19/2023	6/19/2023	1

Table 2. Sampling Dates for Reporting Period

Site	Total Sampling Period Start	Current Reporting Period Start	Current Reporting Period End	Days Sampled This Period	Total Days Sampled
Breitenbush River	6/16/2023	N/A	N/A	N/A	147
Big Cliff Dam	10/15/2023	12/16/2023	12/31/2023	10	63
Detroit Head of Reservoir	5/4/2023	N/A	N/A	N/A	191
Green Peter Head of Reservoir	5/4/2023	N/A	N/A	N/A	188
Green Peter Tailrace	12/1/2023	12/16/2023	12/31/2023	16	31
Foster Dam Head of Reservoir	12/1/2023	N/A	N/A	N/A	N/A
Fall Creek Dam Tailrace	10/1/2023	12/16/2023	12/31/2023	0	61
Cougar Dam PH	12/1/2023	12/16/2023	12/31/2023	16	19
Cougar Dam RO	12/1/2023	12/16/2023	12/31/2023	16	31
Cougar Dam Head of Reservoir	12/1/2023	N/A	N/A	N/A	N/A
Dexter Dam Tailrace	12/16/2023	12/16/2023	12/31/2023	16	16
Lookout Point Dam PH	8/1/2023	12/16/2023	12/31/2023	16	134
Lookout Point Dam Spill	8/1/2023	12/16/2023	12/31/2023	16	134
Lookout Point Head of Reservoir	12/16/2023	12/16/2023	12/31/2023	14	14
Hills Creek Dam PH	9/15/2023	12/16/2023	12/31/2023	16	107
Hills Creek Dam RO	9/15/2023	12/16/2023	12/31/2023	15	106
Hills Creek Head of Reservoir RST	5/9/2023	N/A	N/A	N/A	52

Table 3. Willamette Valley Rotary Screw Trap Monitoring Catch Summary

Site	Species	Catch (Reporting Period)	Recaptures (Reporting Period)	Total Catch
Breitenbush River RST	CHS	N/A	N/A	377
Breitenbush River RST	STW	N/A	N/A	356
Big Cliff Dam Tailrace	CHS	14	56	704
Big Cliff Dam Tailrace	STW	1	0	251
Detroit Head of Reservoir- North Santiam River RST	CHS	N/A	N/A	10,252
Detroit Head of Reservoir- North Santiam River RST	STW	N/A	N/A	594
Green Peter Head of Reservoir- Middle Santiam River RST	CHS	N/A	N/A	25
Green Peter Head of Reservoir- Middle Santiam River RST	STW	N/A	N/A	0
Green Peter Tailrace	CHS	0	3	0
Green Peter Tailrace	STW	0	0	0
Foster Dam Head of Reservoir	CHS	N/A	N/A	N/A
Foster Dam Head of Reservoir	STW	N/A	N/A	N/A
Cougar Dam	CHS	132	2	431
Cougar Dam Head of Reservoir	CHS	N/A	N/A	N/A
Fall Creek Head of Reservoir	CHS	N/A	N/A	N/A
Fall Creek Dam Tailrace	CHS	0	0	89
Dexter Dam Tailrace	CHS	3	49	3
Lookout Point Dam	CHS	15	29	87
Lookout Point Head of Reservoir	CHS	5	9	5
Hills Creek Dam	CHS	31	10	644
Hills Creek Head of Reservoir RST	CHS	N/A	N/A	93

Summary of Rotary Screw Trap Data

For this contract, traps were operated at the following 15 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, Foster Dam Head of Reservoir, Fall Creek Dam Tailrace, Fall Creek Head of Reservoir, Cougar Dam Tailrace, Cougar Dam Head of Reservoir, 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. This report reflects research conducted starting October 16th 2023 but will include season totals from January 1st, 2023 onward.

The Detroit Head of Reservoir – North Santiam RST and Green Peter Head of Reservoir – Middle Santiam RST were installed on April 19th and 26th, respectively. The RSTs at Detroit Head of Reservoir – North Santiam and Green Peter Head of Reservoir – Middle Santiam rivers started sampling on May 4th once permits were received. The Hills Creek Head of Reservoir RST on the upper Middle Fork Willamette River was installed and began sampling on May 9th. Sampling concluded at the Hills Creek Head of Reservoir site on June 30th and was removed for the remainder of the year. The RST for the Breitenbush River was installed on June 16th and began sampling on the same day.

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. This report reflects research conducted starting August 1st, 2023 but will include season totals from January 1st, 2023 onward.

The RSTs in the Hills Creek Dam Tailrace began sampling under contract W9127N19D0009 on September 15th, 2023. Sampling at Hills Creek Dam Tailrace prior to September 15th, 2023 was conducted by EAS for the USACE under contract W9127N19D0007. This report reflects research conducted starting September 15th, 2023 but will include season totals from January 1st, 2023 onward.

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. This report reflects research conducted starting September 30th, 2023 but will include season totals from January 1st, 2023 onward.

The RSTs in the Green Peter Dam Tailrace, Foster Dam Head of Reservoir, Cougar Dam Tailraces, and Cougar Dam Head of Reservoir began sampling under contract W9127N19D0009 on December 1st, 2023. Sampling prior to December 1st, 2023 was conducted by EAS for the USACE under contract W9127N19D0007. This report reflects research conducted starting December 1st, 2023 but will include season totals from January 1st, 2023 onward.

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 were raised to the non-sampling position on November 30th, 2023 for the end of Winter sampling. These traps will resume sampling on February 1st, 2024.

The RSTs at Dexter Dam Tailrace and Lookout Point Head of Reservoir began sampling under contract W9127N19D0009 on December 16th, 2023. Sampling at these sites prior to December 16th, 2023 was

conducted by EAS for the USACE under contract W9127N19D0007. This report reflects research conducted starting December 16th, 2023 but will include season totals from January 1st, 2023 onward.

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.

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.

FIGURE 1
Breitenbush River

RST Locations

500 Feet

N

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 2
Big Cliff Dam

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 3
North Santiam Above Detroit

RST Locations

500 Feet

N

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 4 Middle Santiam River

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES

Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 5 Green Peter Tailrace - Middle Santiam River

RST Locations

500 Feet

N

EAS ENVIRONMENTAL ASSESSMENT SERVICES

Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 6 Foster Dam Head of Reservoir - South Santiam River

RST Locations

500 Feet

N

EAS ENVIRONMENTAL ASSESSMENT SERVICES

Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 7
Cougar Dam

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 8
Cougar Dam Head of Reservoir

RST Locations

500 Feet

N

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 9
Fall Creek Head of Reservoir

RST Locations

500 Feet

N

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 10
Fall Creek Dam Tailrace

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 11
Dexter Dam Tailrace

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 12 Lookout Dam Tailrace

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES

Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 13
Lookout Point Head of Reservoir

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 14
Middle Fork Willamette Above Hills Creek

RST Locations

500 Feet

N

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

FIGURE 15
Hills Creek Dam

RST Locations

500 Feet

EAS ENVIRONMENTAL ASSESSMENT SERVICES
Wholly Owned Subsidiary of Natives of Kodiak

Breitenbush River

The Breitenbush River RST was installed on June 16th, 2023 and began sampling the same day. All natural origin *O. mykiss* captured at this site will be reported as Winter Steelhead.

The Breitenbush River trap was raised to the non-sampling position on December 1st at the end of Winter sampling. It will resume sampling on February 1st. Table 4 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Breitenbush River site to-date and Figure 16 shows length frequency data to-date.

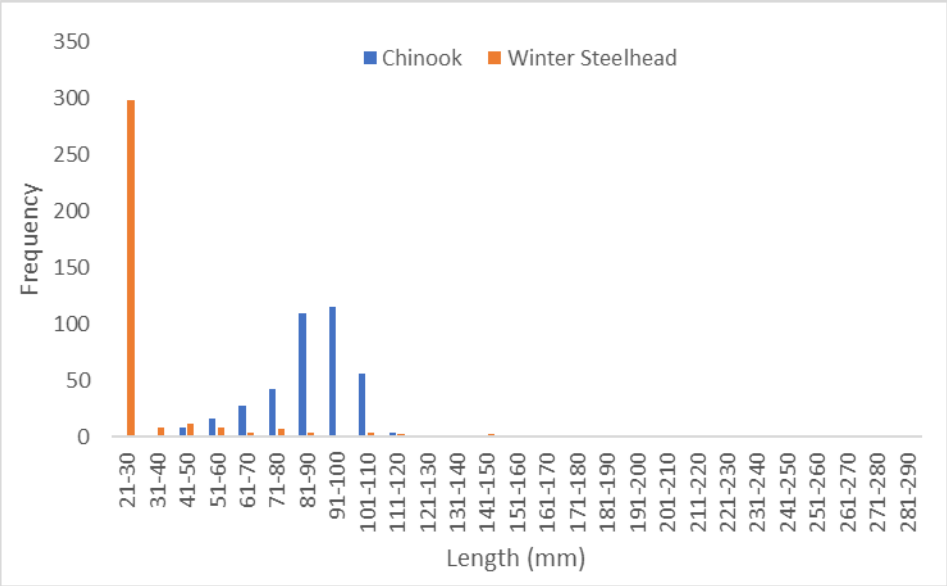


Figure 16. Length Frequency of Juvenile Chinook Sampled Season To-Date (Breitenbush River).

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

To-Date (Since June 16, 2023)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Breitenbush River	5ft	CHS	Fry	10	44	57	48.8	N/A	N/A	N/A
		CHS	Parr	220	46	110	82.1	1.4	16.1	6.6
		CHS	Smolt	147	74	114	96.7	4.3	15.5	9.7
		STW	Fry	312	21	47	27.1	N/A	N/A	N/A
		STW	Parr	36	43	125	70.6	1.1	21.5	5.7
		STW	Smolt	8	118	199	148.6	15.2	92	36.8

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

Trapping Efficiency

Information regarding trapping efficiency trials at the Breitenbush River site is available in appendix C.

Run of River Trapping Efficiency

This year, 138 Spring Chinook and 2 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.

PIT Tags

More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
6/16/2023-6/30/2023	Chinook	Head	Pink	23	0
7/1/2023-7/15/2023	Chinook	Head	Green	2	0
7/16/2023-7/31/2023	Chinook	Head	Green	2	0
7/16/2023-7/31/2023	*O. mykiss*	Head	Green	7	0
8/1/2023-8/15/2023	Chinook	Head	Yellow (2x)	1	0
8/1/2023-8/15/2023	*O. mykiss*	Head	Yellow (2x)	3	0
8/16/2023-8/31/2023	Chinook	Head	Yellow (2x)	2	0
8/16/2023-8/31/2023	*O. mykiss*	Head	Yellow (2x)	5	0
9/1/2023-9/15/2023	*O. mykiss*	Head	Red (2x)	2	0
9/16/2023-9/30-2023	Chinook	Head	Red (2x)	4	0
10/16/2023-10/31/2023	*O. mykiss*	Head	Blue (2x)	1	0
11/1/2023-11/15/2023	*O. mykiss*	Head	Orange (2x)	1	0

Non-Target Species

A summary of non-target fish capture is provided in Table 5.

Table 5. Summary of Non-target Species (Breitenbush River).

Species	Season Total	Season Total Mortality
Kokanee	0	0
Chinook (clipped)	2	0
Cutthroat Trout	3	0
O. mykiss (clipped)	11	5
Sculpin	12	2
Dace	1	0
Totals	**29**	**7**

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. This report reflects research conducted starting October 16th, 2023 but will include season totals from January 1st, 2023 onward.

Target Species

This reporting period began on December 16th and ended on December 31st. There were a total of 14 Chinook Salmon (CHS) and 1 Winter Steelhead (STW) captured during the 16-day sampling period (Figure 17). The RST was raised to a non-sampling position on December 11th due to high flow resulting from the atmospheric rivers. It resumed sampling on December 22nd when flow receded below the 5,000 cfs safety threshold for sampling. Sampling duration was 62.5% for the RST. Table 6 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 18 shows length frequency data to-date.

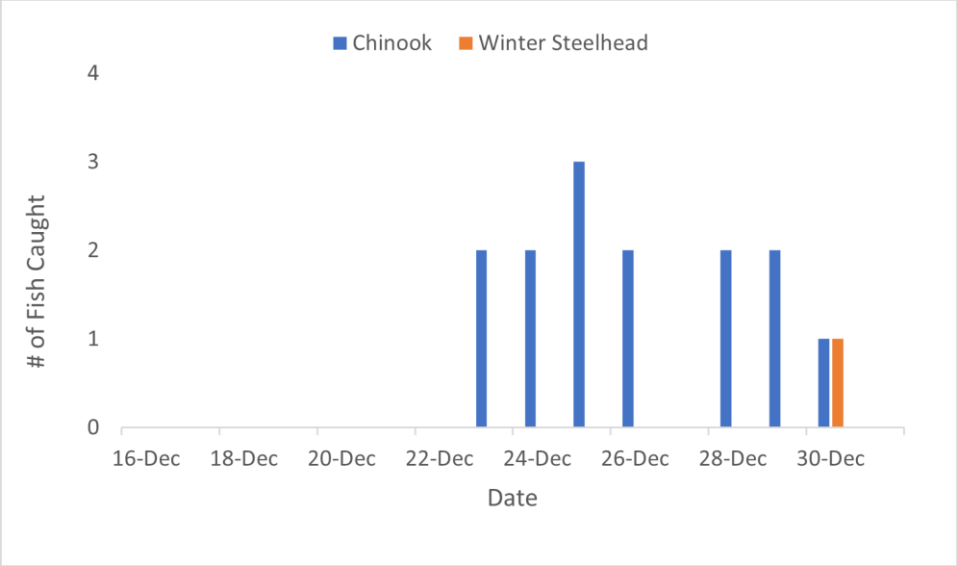


Figure 17. Chinook and Winter Steelhead Captured per day 12/16/2023 to 12/31/2023 (Big Cliff).

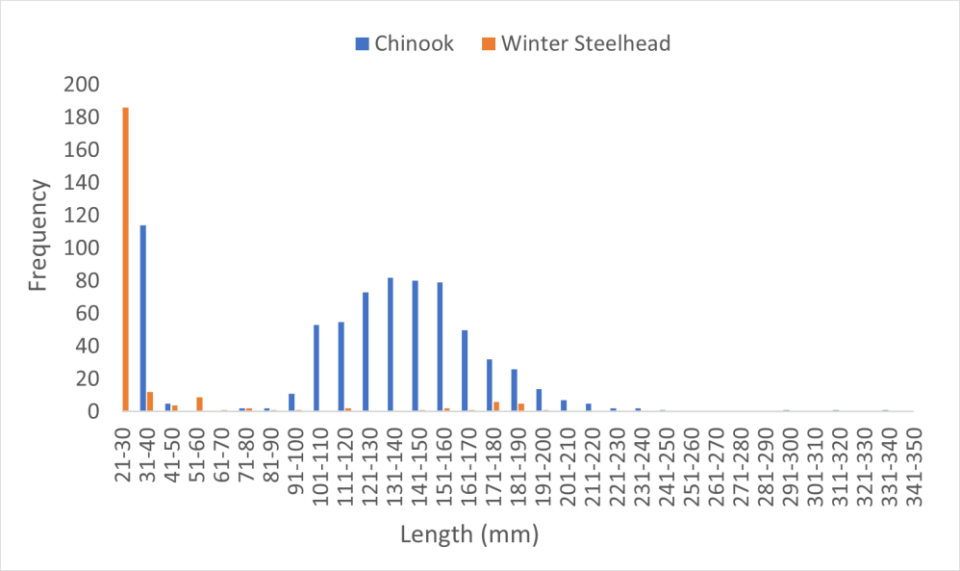


**Figure does not include fish without heads*

Figure 18. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled in 2023 (Big Cliff).

Table 6. Descriptive Statistics of Target Species Captured at Big Cliff Dam Season To-Date and for the reporting period.

To-Date (Since Jan. 1, 2023)											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Big Cliff	PWR	CHS	Fry	120	29	47	36.2	N/A	N/A	N/A	
		CHS	Parr	13	49	112	92.5	1.1	15.8	9.4	
		CHS	Smolt	571	85	340	145.7	7.4	328.5	37.0	
		STW	Fry	202	24	56	28.7	N/A	N/A	N/A	
		STW	Parr	16	47	120	70.6	1.3	18.6	5.1	
		STW	Smolt	33	145	335	209.1	21.5	254.4	90.5	

December 16-31, 2023										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Big Cliff	PWR	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Smolt	14	91	178	137.4	7.4	55.3	27.4
		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	157	157	157.0	36.4	36.4	36.4

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

Trapping Efficiency

On 12/28/2023, 550 bismarck-brown dyed and adipose clipped juvenile hatchery chinook were released below Big Cliff Dam. 56 fish were recaptured for an efficiency of 10.2%.

Big Cliff Dam	Release #	Recapture #	Capture Efficiency
8ft Trap	550	56	10.2% (56/550)

24-Hour Post Collection Holding Trial

14 Spring Chinook and 1 Winter Steelhead were captured during the current reporting period and held for 24 hours. 1 Chinook (7.1%) and 0 Winter Steelhead (0.0%) died in holding.

Injuries and Copepod Infection

Partial descaling <20% was observed in 13 of the 14 Chinook captured (92.9%), 0 displayed descaling >20% (0.0%), 11 displayed body injury (78.6%), 0 had eye injury (0.0%), 11 had copepods present in the branchial cavity (78.6%) and 2 had copepods on fins (14.3%). 0 Chinook displayed gas bubble disease (0.0%). There were 0 mortalities (0.0%).

Partial descaling <20% was observed on 1 of the 1 Winter Steelhead captured (100.0%) and 0 displayed descaling >20% (0.0%), 1 displayed body injury (100.0%), 0 had eye injury (0.0%), 1 had copepods present in the branchial cavity (100.0%) and 0 had copepods on fins (0.0%). 1 Winter Steelhead displayed gas bubble disease (Level 1) (100.0%). There were 0 mortalities (0.0%). Injury data is summarized in Table 7.

Table 7. 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	14	13	0	11	0	11	2	0
	Winter Steelhead	1	1	0	1	0	1	0	0

Collected DNA and Scale Samples

DNA was collected from 14 Spring Chinook and 1 Winter Steelhead for the reporting period. Scales were collected from 14 Spring Chinook and 1 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. More information regarding PIT tagged fish can be found in Appendix D.

Non-Target Species

14 non-targets were captured during this sampling period. A summary of non-target species catch and mortality numbers for 2023 are listed in Table 8. All of the 8 clipped Chinook captured were adipose clipped only.

Table 8. Summary of Non-target Species (Big Cliff Dam).

Species	PWR Capture	PWR Mortality	Season Total*	Season Total Mortality*
Bluegill	0	0	86	47
Brown Bullhead	0	0	6	2
Dace	0	0	1	0
Chinook (Adult)	0	0	3	1
Chinook (clipped)	8	2	67	2
Cutthroat Trout	0	0	0	0
Kokanee	2	0	177	29
Kokanee (clipped)	4	2	18	7
O. mykiss (clipped)	0	0	6	2
Pumpkinseed	0	0	55	8
Unknown	0	0	1	1
Mountain Whitefish	0	0	8	1
Sculpin	0	0	2	1
Totals	**14**	**4**	**430**	**103**

**Season totals include sampling completed on the RST project in 2023.*

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 1,109.3 to 1,116.2 feet (mean: 1,112.0 feet) during the reporting period. Figure 19 shows instantaneous gauge height.

Total dissolved gas saturation ranged from 104 to 124% during the reporting period (mean: 112.5%). Figure 20 shows total dissolved gas saturation.

Stream temperatures were recorded every 2 hours for the length of the reporting period at the RST (Figure 21). The temperature probe for the trap operated normally throughout this reporting period.

Flows through the Powerhouse and Spill during the reporting period averaged 2,226.7 and 1,051.5 cubic feet per second (cfs), respectively (Figure 22). Catch per unit of effort (CPUE) data are summarized in Table 9, 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 9. Summary of salmonid CPUE, Big Cliff Dam.

Description	Chinook	Winter Steelhead
Catch	14	1
Effort (hrs)	212.7	212.7
CPUE (fish/hr)	0.065	0.005

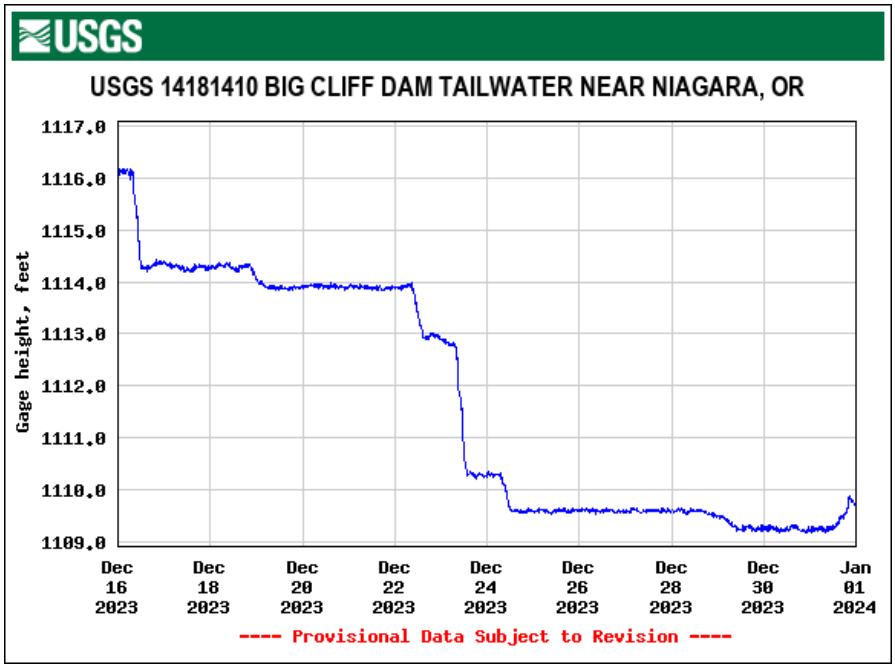


Figure 19. Gauge height (ft); below Big Cliff Dam.

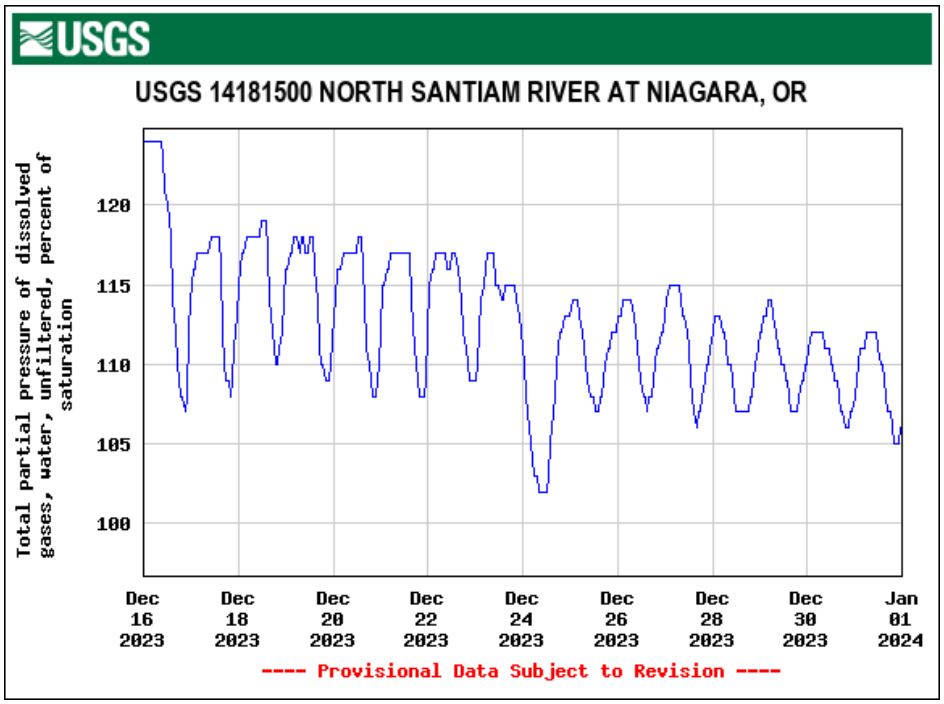


Figure 20. Total Dissolved Gas Saturation (%); below Big Cliff Dam.

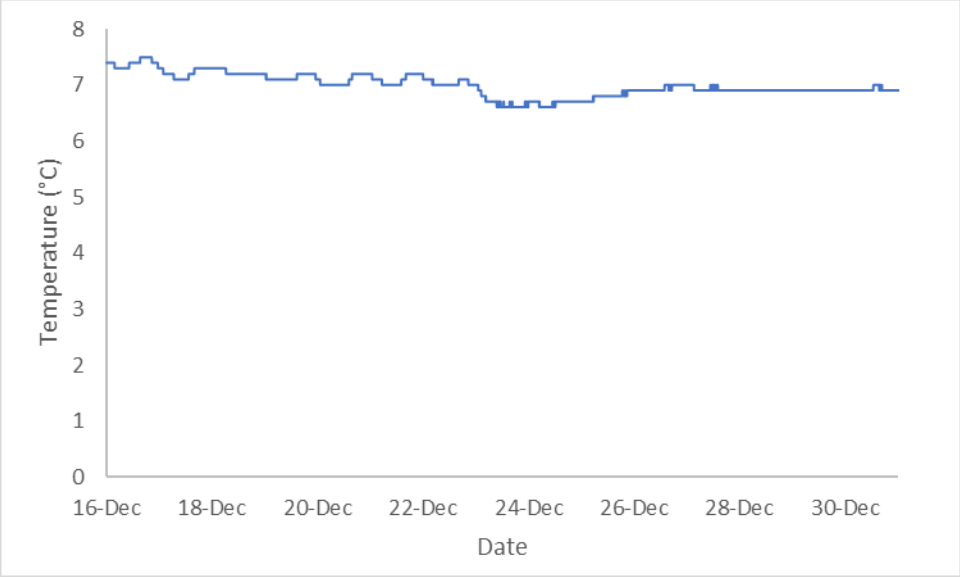


Figure 21. Temperature at RST (Big Cliff Dam).

Note: HOBO logger was not attached to trap upon recent high flow reductions. USGS gage data was used to supplement.

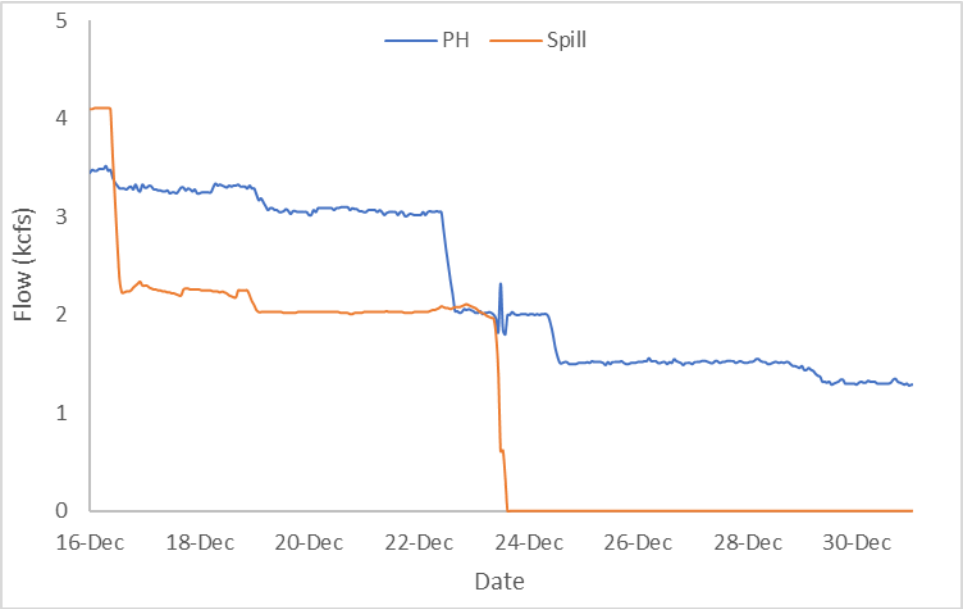


Figure 22. Hourly Flows PWR vs. Spill (Big Cliff Dam).

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.

The Detroit Head of Reservoir trap was raised to the non-sampling position on December 1st at the end of Winter sampling. It will resume sampling on February 1st. Table 10 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Detroit Head of Reservoir site to-date and Figure 23 shows length frequency data to-date.

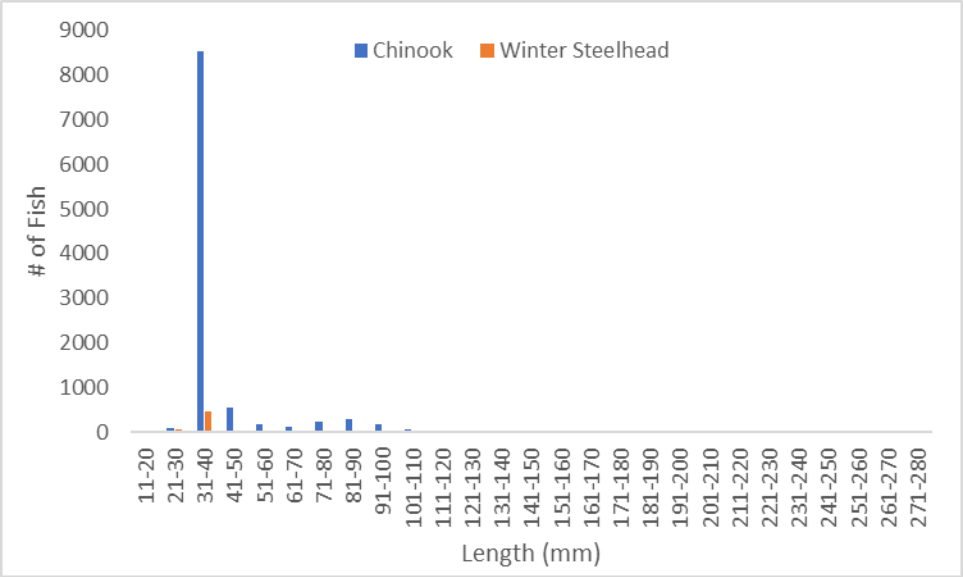


Figure 23. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled Season To-Date (Detroit Head of Reservoir).

Table 10. Descriptive Statistics of Target Species Captured at Detroit Head of Reservoir Season To-Date.

To-Date (Since May 04, 2023)											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Detroit HOR	5ft	CHS	Fry	9119	28	60	35.5	N/A	N/A	N/A	
		CHS	Parr	906	41	110	72.5	1.0	12.8	4.5	
		CHS	Smolt	227	61	117	93.3	2.4	18.2	9.0	
		STW	Fry	550	17	54	34.4	N/A	N/A	N/A	
		STW	Parr	40	45	112	65.7	1.0	15.4	3.9	
		STW	Smolt	4	169	408	248.8	53.4	95.6	71.8	

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

Trapping Efficiency

Information regarding trapping efficiency trials at the Detroit Head of Reservoir site to-date is available in appendix C.

Run of River Trapping Efficiency

This year, 300 Spring Chinook and 6 Winter Steelhead have been caudal clipped and released upstream for the purpose of conducting run of river trapping efficiency trials.

PIT Tags

More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

Visible Implant Elastomer (VIE) trials commenced at the Detroit Head of Reservoir – North Santiam River site on 5/5/2023. Since then, 5,434 Chinook and 334 Winter Steelhead have been VIE marked with fluorescent elastomer. No fish with VIE marks have been detected at downstream RST sites to date.

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
5/01/2023-5/15/2023	Chinook	Right Dorsal	Orange	889	0
5/01/2023-5/15/2023	*O. mykiss*	Right Dorsal	Orange	60	0
5/16/2023- 5/31/2023	Chinook	Right Dorsal	Orange	2,700	0
5/16/2023- 5/31/2023	*O. mykiss*	Right Dorsal	Orange	237	0
6/1/2023-6/15/2023	Chinook	Right Dorsal	Pink	1048	0
6/1/2023-6/15/2023	*O. mykiss*	Right Dorsal	Pink	21	0
6/16/2023-6/30/2023	Chinook	Right Dorsal	Pink	539	0
7/1/2023-7/15/2023	Chinook	Right Dorsal	Green	110	0
7/16/2023-7/31/2023	Chinook	Right Dorsal	Green	74	0
7/16/2023-7/31/2023	*O. mykiss*	Right Dorsal	Green	1	0
8/1/2023-8/15/2023	Chinook	Right Dorsal	Yellow (2x)	25	0
8/1/2023-8/15/2023	*O. mykiss*	Right Dorsal	Yellow (2x)	7	0
8/16/2023-8/31/2023	Chinook	Right Dorsal	Yellow (2x)	21	0
8/16/2023-8/31/2023	*O. mykiss*	Right Dorsal	Yellow (2x)	3	0
9/1/2023-9/15/2023	Chinook	Right Dorsal	Red (2x)	20	0
9/16/2023-9/30/2023	Chinook	Right Dorsal	Red (2x)	4	0
9/16/2023-9/30/2023	*O. mykiss*	Right Dorsal	Red (2x)	2	0
10/1/2023-10/15/2023	Chinook	Right Dorsal	Blue (2x)	1	0
10/16/2023-10/31/2023	*O. mykiss*	Right Dorsal	Blue (2x)	2	0
10/16/2023-10/31/2023	Chinook	Right Dorsal	Blue (2x)	2	0
11/1/2023-11/15/2023	*O. mykiss*	Right Dorsal	Orange (2x)	3	0
11/16/2023-11/30/2023	Chinook	Right Dorsal	Orange (2x)	3	0

Non-Target Species

To-date non-target data is summarized below in Table 11.

Table 11. Summary of Non-target Species (Detroit Head of Reservoir).

Species	Season Total	Season Total Mortality
Kokanee	81	1
Chinook (clipped)	31	0
Cutthroat Trout	4	1
Sculpin	16	3
Mountain Whitefish	5	0
O. mykiss (clipped)	9	2
Dace	3	0
Northern Pikeminnow	1	0
Unknown	2	1
Totals	**152**	**8**

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.

The Green Peter Head of Reservoir trap was raised to the non-sampling position on December 1st at the end of Winter sampling. It will resume sampling on February 1st. Table 12 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Green Peter Head of Reservoir site to-date and figure 24 shows length frequency data to-date.

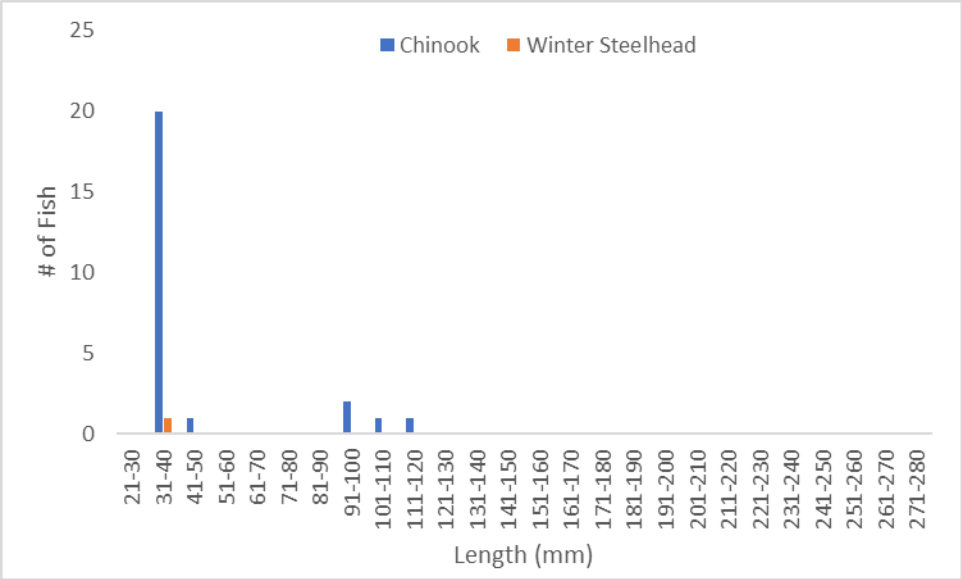


Figure 24. Length Frequency of Juvenile Chinook Sampled Season To-Date (Green Peter Head of Reservoir – Middle Santiam River).

Table 12. Descriptive Statistics of Target Species Captured at Green Peter Head of Reservoir – Middle Santiam River Season To-Date.

To-date (since May 04, 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	21	33	45	36.4	N/A	N/A	N/A
		CHS	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Smolt	4	98	114	105.5	11.3	18.0	13.9
		STW	Fry	1	36	36	36	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

Information regarding trapping efficiency trials at the Detroit Head of Reservoir site to-date is available in appendix C.

PIT Tags

More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

Visible Implant Elastomer (VIE) trials commenced at the Green Peter Head of Reservoir – Middle Santiam River site on 5/5/2023. VIE tag color and locations are changed every month to distinctly mark groups of fish by capture date. Since then, 15 Chinook and 1 Winter Steelhead have been VIE marked with fluorescent elastomer. No fish with VIE marks have been detected at downstream RST sites to date. Fish still showing an egg sac are not VIE marked.

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
5/01/2023-5/15/2023	Chinook	Right Dorsal	Orange	14	0
5/01/2023-5/15/2023	*O. mykiss*	Right Dorsal	Orange	1	0
5/16/2023-5/31/2023	Chinook	Right Dorsal	Orange	1	0

Non-Target Species

To-date non-target data is summarized below in Table 13.

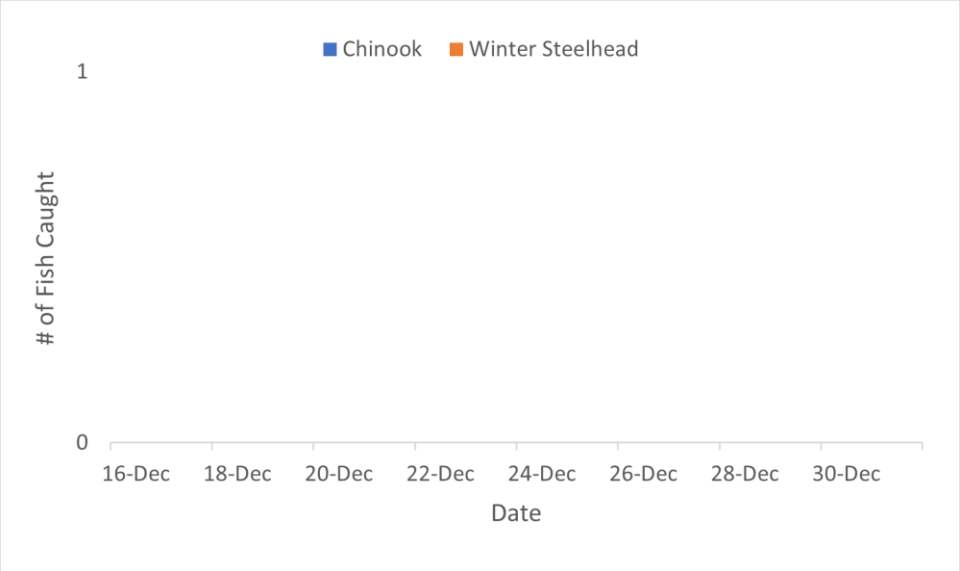
Table 13. Summary of Non-target Species (Green Peter Head of Reservoir – Middle Santiam River).

Species	Season Total	Season Total Mortality
Kokanee	5	0
Cutthroat Trout	0	0
Chinook (clipped)	0	0
Dace	21	0
Largescale Sucker	1	0
Sculpin	10	0
Totals	**37**	**0**

Middle Fork Santiam– Green Peter Tailrace

Target Species

This reporting period began on December 16th and ended on December 31st. 0 Chinook Salmon (CHS) and 0 Winter Steelhead (STW) were captured during the 16-day sampling period. Sampling duration was 100% for the 8ft RST. Table 14 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 25 shows the daily capture numbers for Chinook and Winter Steelhead and Figure 26 shows length frequency data to date.



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

Figure 25. Chinook and Winter Steelhead Captured Per Day 12/16/2023 to 12/31/2023 (Green Peter Tailrace- Middle Santiam).

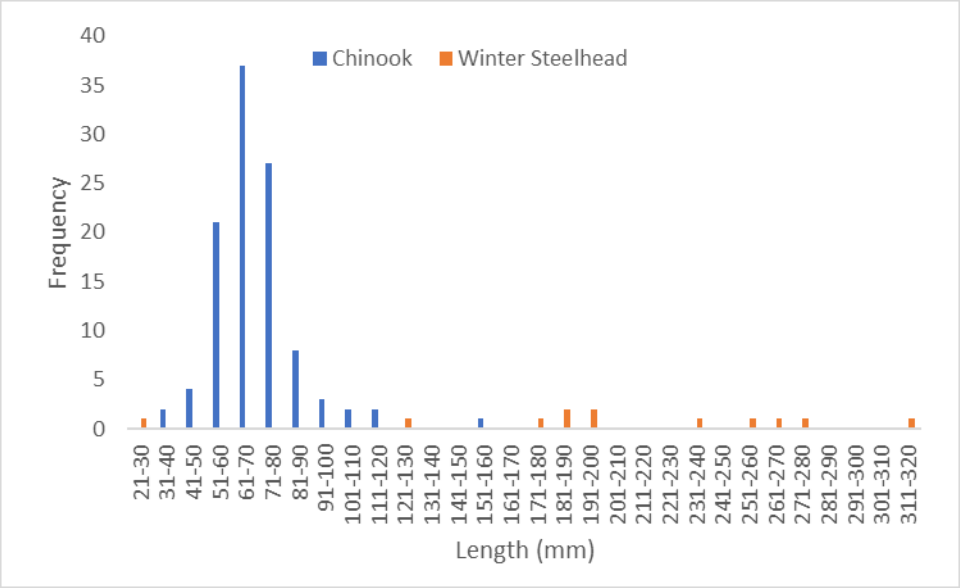


**Figure does not include fish without heads or fish used for trapping efficiency trials.*

Figure 26. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled in 2023 (Green Peter Tailrace- Middle Santiam River).

Table 14. Descriptive Statistics of Target Species Captured at the Green Peter Tailrace-Middle Santiam River Season To-Date.

To-Date (Since Jan. 1, 2023)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Green Peter Dam Tailrace	Spill	CHS	Fry	15	33	66	52.8	N/A	N/A	N/A
		CHS	Parr	84	44	120	69.3	1.1	18.9	4.0
		CHS	Smolt	8	73	155	103.9	3.3	35.3	12.5
		STW	Fry	1	29	29	29	N/A	N/A	N/A
		STW	Parr	0	N/A	N/A	N/A	N/A	N/A	N/A
		STW	Smolt	11	125	318	219.2	9.0	340.0	112.0
December 16-31, 2023										
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 12/19/2023, 1,000 juvenile hatchery Chinook (yearlings) were adipose fin clipped, upper caudal clipped, and released for fish trapping efficiency below Green Peter Dam. 3 Chinook were recaptured for a trap efficiency of 0.3%.

Green Peter Dam Tailrace	Release #	Recapture #	Capture Efficiency
8 ft Trap	1,000	3	0.3% (3/1000)

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 15, and target species injuries for the duration of the season are provided in Appendix A.

Table 15. 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

6 non-targets were captured during this sampling period. A summary of non-target species catch and mortality numbers for 2023 are listed in Table 16.

Table 16. Summary of Non-target Species (Green Peter Tailrace- Middle Santiam River).

Species	Capture	Mortality	Season Total Capture*	Season Total Mortality*
Bass Unknown	0	0	86	81
Bluegill	0	0	1474	243
Brown Bullhead	2	0	40	1
Chinook (clipped)	0	0	64	6
Crappie	0	0	903	250
Cutthroat Trout	0	0	1	0
Dace	0	0	5	1
Kokanee	3	0	24920	12713
Kokanee (clipped)	0	0	11	3
Largemouth Bass	0	0	1	0
Largescale Sucker	1	0	3	1
Mountain Whitefish	0	0	3	1
Northern Pikeminnow	0	0	5	0
O. mykiss (adults)	0	0	6	1
O. mykiss (clipped)	0	0	31	7
Sculpin	0	0	6	1
Smallmouth Bass	0	0	36	13
Spotted Bass	0	0	3	2
Unknown	0	0	3	1
Walleye	0	0	1	0
Totals	**6**	**0**	**27602**	**13325**

**Season totals include sampling completed on the RST project in 2023.*

Stream Statistics

Basic stream statistics at the Green Peter Dam Tailrace- Middle Santiam site were calculated from data downloaded from the U.S. Geological Survey stream gage number 14186110 and 14186200. Gage height (feet) is the only metric provided at gage 14186110. Total dissolved gas saturation data was received from gage number 14186200, 50 meters upstream of the trap. During the reporting period, daily maximum values for instantaneous gage height ranged from 692.1 feet to 700.7 feet (mean: 695.7 feet). Figure 27 shows instantaneous gage height.

Total dissolved gas saturation ranged from 102 to 126% (mean: 106.1%) during the reporting period. Figure 28 shows the total dissolved gas saturation.

Stream temperatures were recorded every 2 hours for the length of the report period for the RST (Figure 29). Temperature probes operated normally throughout this reporting period.

Flows through the Powerhouse and Spillway during the reporting period averaged 84.5 and 329.9 cubic feet per second (cfs) respectively (Figure 30). 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, Green Peter Tailrace- Middle Santiam River.

Description	Chinook	Winter Steelhead
Catch	0	0
Effort (hrs)	385.5	385.5
CPUE (fish/hr)	0	0

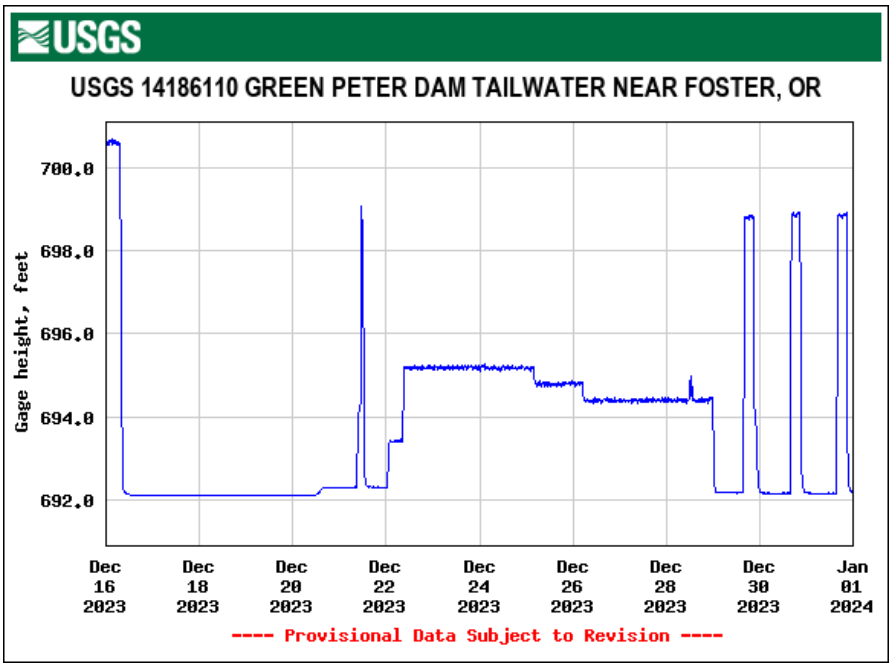


Figure 27. Gage Height (feet); below Green Peter Dam.

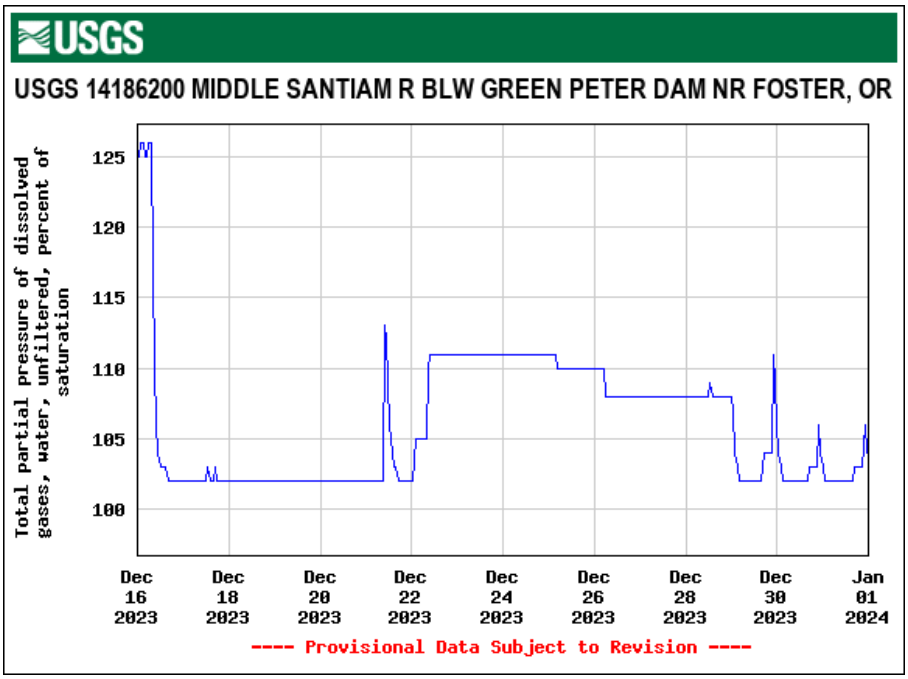


Figure 28. Total Dissolved Gas Saturation (%); below Green Peter Dam.

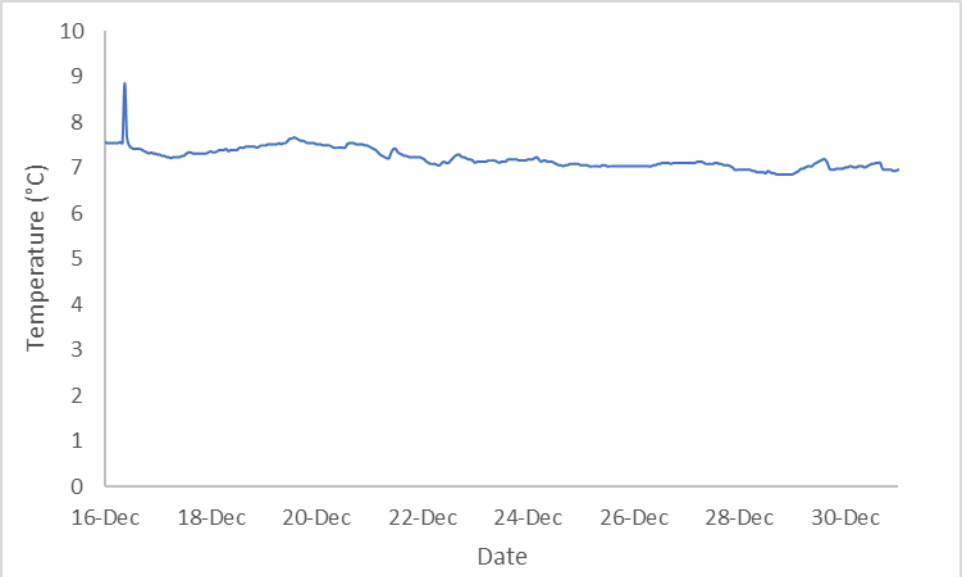


Figure 29. Temperature at RST (Green Peter Tailrace- Middle Santiam River).

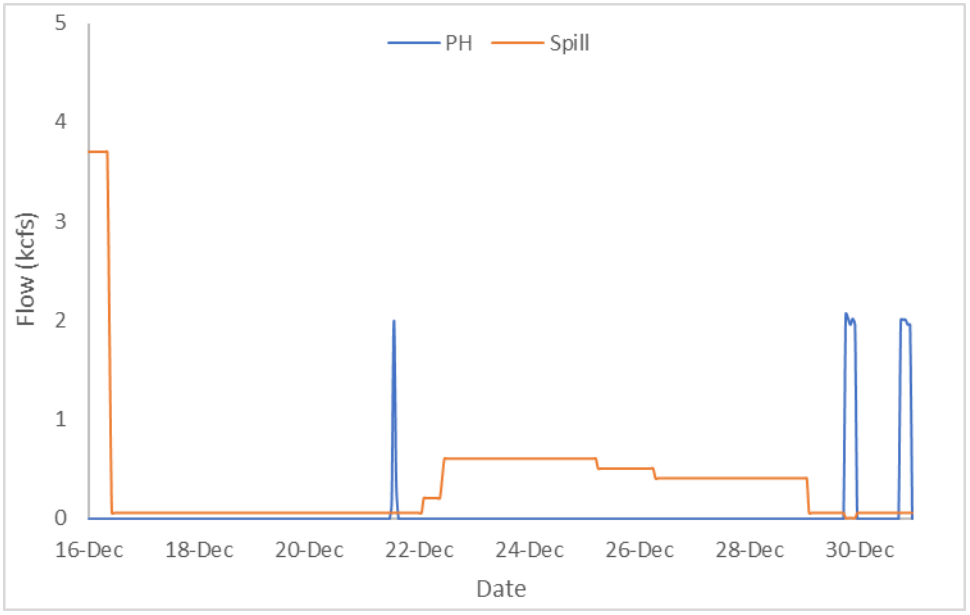


Figure 30. Hourly Flows PWR vs. Spill (Green Peter Dam).

South Fork Santiam– Foster Dam Head of Reservoir

The Foster Dam Head of Reservoir trap was raised to the non-sampling position on December 1st at the end of Winter sampling. It will resume sampling on February 1st. Table 18 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Foster Dam Head of Reservoir site to-date and figure 31 shows length frequency data to-date.

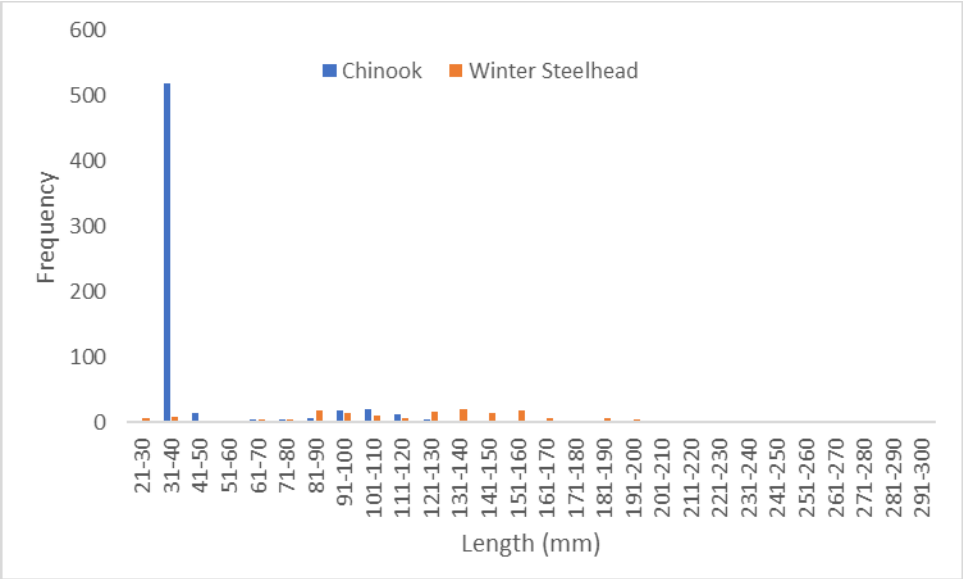


Figure 31. Length Frequency of Juvenile Chinook and Winter Steelhead Sampled in 2023 (Foster Dam Head of Reservoir- Santiam River).

Table 18. Descriptive Statistics of Target Species Captured at Foster Dam Head of Reservoir-South Santiam Season To-Date.

To-Date (Since Jan. 1, 2023)											
Site	Trap	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Foster Dam Head of Reservoir	5 ft	CHS	Fry	535	30	50	36.1	N/A	N/A	N/A	
		CHS	Parr	29	56	110	84.9	1.4	16.0	8.0	
		CHS	Smolt	45	87	134	108.3	7.4	24.3	13.9	
		STW	Fry	15	22	37	31.5	N/A	N/A	N/A	
		STW	Parr	56	51	134	91.1	1.4	28.0	10.4	
		STW	Smolt	91	87	199	145.1	6.8	91.0	33.0	

Trapping Efficiency

More information regarding trapping efficiency trials can be located in appendix C.

Run of River Trapping Efficiency

Run of river fish captured in the RST have been caudal clipped 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, 48 Spring Chinook and 70 Winter Steelhead have been marked and released upstream for the purpose of conducting run of river trapping efficiency trials.

PIT Tags

More information regarding PIT tagged fish can be found in Appendix D.

Non-Target Species

Non-target data is summarized below in Table 19.

Table 19. Summary of Non-target Species (Foster Dam Head of Reservoir).

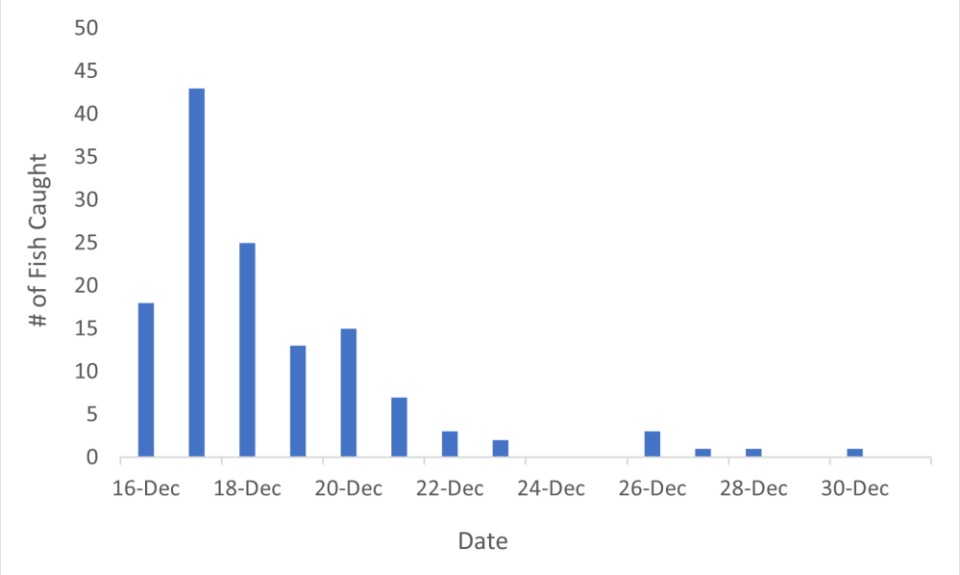
Species	Season Total*	Season Total Mortality*
Brook Lamprey	0	0
Cutthroat Trout	2	0
O.mykiss (clipped)	1	0
Dace	220	11
Largescale Sucker	33	20
Northern Pikeminnow	75	2
Sculpin	12	1
Unknown	4	3
Totals	**347**	**37**

**Season totals include sampling completed on the RST project in 2023.*

South Fork McKenzie – Cougar Dam

Target Species

This reporting period began on December 16th and ended on December 31st. There were a total of 132 Chinook Salmon (CHS) captured during the 16-day sampling period. Sampling duration was 100% for the RO RST and 100% for the Powerhouse RSTs. Table 20 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 32 shows the daily capture numbers for chinook and Figure 33 shows length frequency data to-date.



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

Figure 32. Chinook Captured Per Day 12/16/2023 to 12/31/2023 (Cougar Dam).

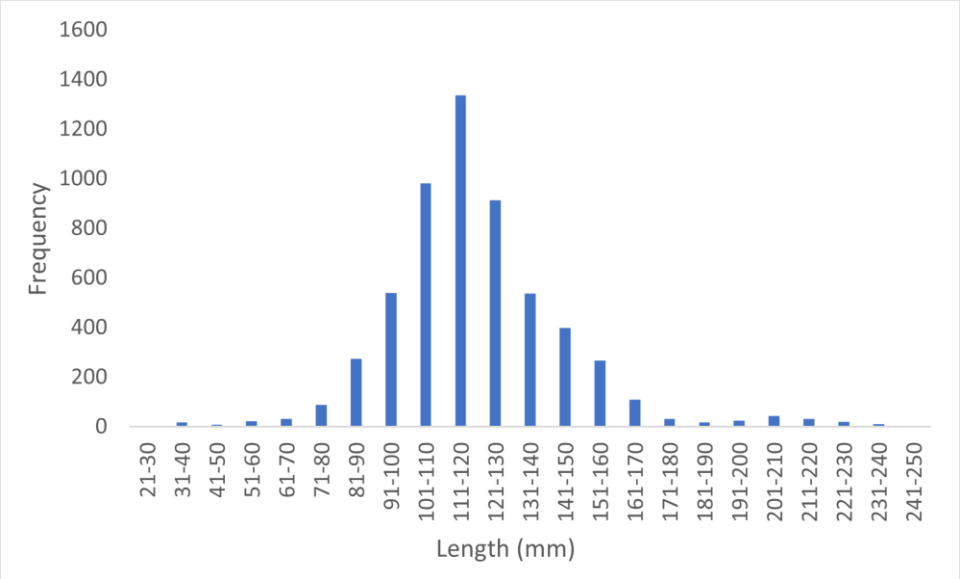


**Figure does not include fish without heads or fish used for trapping efficiency trials.*

Figure 33. Length Frequency of Juvenile Chinook Sampled in 2023 (Cougar Dam).

Table 20. Descriptive Statistics of Target Species Captured at Cougar Dam Season To-Date.

To-Date (Since Jan. 1, 2023)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam	RO	CHS	Fry	20	33	57	39.5	1	2.2	1.7
		CHS	Parr	271	62	135	89.7	2.0	29.2	8.6
		CHS	Smolt	4981	75	286	124.1	2.6	186.0	23.0
Cougar Dam	PWR	CHS	Fry	7	33	55	43.7	N/A	N/A	N/A
		CHS	Parr	162	50	103	79.9	1.1	15.0	6.3
		CHS	Smolt	258	65	196	113.3	3.4	80.0	17.2

December 16-31, 2023										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Cougar Dam	RO	CHS	Fry	1	57	57	57.0	1.9	1.9	1.9
		CHS	Parr	9	74	95	86.3	4.5	10.6	7.5
		CHS	Smolt	46	85	139	116.7	6.2	29.3	18.0
Cougar Dam	PWR	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	21	74	97	86.1	4.2	10.3	7.2
		CHS	Smolt	55	82	142	109.4	6.0	31.5	14.3

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

Trapping Efficiency

On 12/18/2023. 505 juvenile hatchery Chinook (yearlings) were adipose clipped, left vent clipped and released in the RO channel for a trapping efficiency trial. 2 fish were recaptured in the RO RST for an efficiency of 0.4%.

Cougar Dam	Release #	Recapture #	Capture Efficiency
PWR Route	N/A	N/A	0.0% (0/0)
RO Route	505	2	0.4% (2/505)

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. Numbers of fish released and recaptured by route for the reporting period are listed below.

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

Cougar Dam	Release (Current Reporting Period) #	Recapture (Current Reporting Period) #
PH	0	0
RO	0	0

24-Hour Post Collection Holding Trial

A total of 24 Chinook captured in the RSTs, 41 fish from the PWR RST and 23 from the RO RST, were held for ~24 hours in holding tanks and then evaluated for survival rates. In total, 1 of the 64 fish (1.6%) held during this period died during holding. 1 of the 41 PWR RST captured fish (2.4%) died during holding and 0 of the 23 RO RST captured fish (0.0%) died during holding.

Injuries and Copepod Infection

Partial descaling <20% was observed on 44 of the 56 Chinook collected at the RO RST (78.6%). Descaling >20% was observed on 11 of the Chinook (19.6%). There were 52 fish with bodily injuries (92.9%) and 7 had eye injuries (12.5%). 32 fish had copepods present in the branchial cavity (57.1%) and 32 had copepods present on fins (57.1%). 24 fish displayed Gas Bubble Disease (12 level 1, 9 level 2, 1 level 3 and 2 level 4) (42.9%). There were 11 chinook mortalities collected in the RO RST (19.6%).

Partial descaling <20% was observed on 70 of the 76 Chinook collected at the PWR RST (92.1%). Descaling >20% was observed on 4 of the Chinook (5.3%). There were 38 fish with bodily injuries (50.0%) and 5 had eye injuries (6.6%). 40 fish had copepods present in the branchial cavity (52.6%) and 31 had copepods present on fins (40.8%). 2 fish displayed Gas Bubble Disease (2 at level 1) (2.6%). There were 10 chinook mortalities collected in the PWR RST (13.2%).

Data is summarized below in Table 21. A summary of injuries observed during the reporting period, and for the duration of the season are provided in Appendix A.

Table 21. 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	56	44	11	52	7	32	32	11
Cougar Dam	PWR	76	70	4	38	5	40	31	10

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

Collected DNA and Scale Samples

DNA was collected from 132 Spring Chinook for the reporting period. Scales were collected from 132 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling or were too damaged to remove scales.

PIT Tags

47 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

58 non-target fish were captured during the reporting period; the data is summarized below in Table 22. Of the 53 clipped Chinook captured, 41 of them were PIT tagged fish from Bulk Mark releases above the dam, and 12 were fish released above the dam for trapping efficiency trials at the Cougar Head of Reservoir RST site.

Table 22. 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	1	0
Brook Lamprey	0	0	0	0	2	0
Bull Trout	0	0	0	0	2	0
Chinook (clipped)	31	4	22	7	1872	122
Chinook (Adult)	0	0	0	0	5	1
Cutthroat Trout	0	0	0	0	20	0
Dace	1	0	0	0	1786	0
Largescale Sucker	0	0	0	0	8	0
Mountain Whitefish	1	0	0	0	25	5
Northern Pikeminnow	0	0	0	0	0	0
O. mykiss	3	0	0	0	130	0
Pacific Lamprey	0	0	0	0	1	0
Sculpin	0	0	0	0	276	4
Smallmouth Bass	0	0	0	0	3	1
Spotted Bass	0	0	0	0	30	0
Unknown Bass	0	0	0	0	4	0
Totals	**36**	**4**	**22**	**7**	**4165**	**133**

**Season totals include sampling completed on the RST project in 2023.*

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 1,253.0 to 1.255.1 feet (mean: 1,253.7 feet). Figure 34 shows instantaneous discharge.

Total dissolved gas saturation ranged from 103 to 115% (mean: 109%). Figure 35 shows total dissolved gas saturation.

Stream temperatures were recorded using HOBO temperature loggers. The RO and PH temperature loggers recorded data every two hours and operated normally during this period (Figure 36 and Figure 37). Flow through the PWR and RO during the reporting period averaged 358.8 and 626.7 cubic feet per second (cfs) respectively (Figure 38). Catch per unit of effort (CPUE) data are summarized in Table 23. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 23. Summary of salmonid CPUE, Cougar Dam.

Description	RO (5ft)	PWR (8ft)
Catch	56	76
Effort (hrs)	382.7	765.5
CPUE (fish/hr)	0.146	0.099

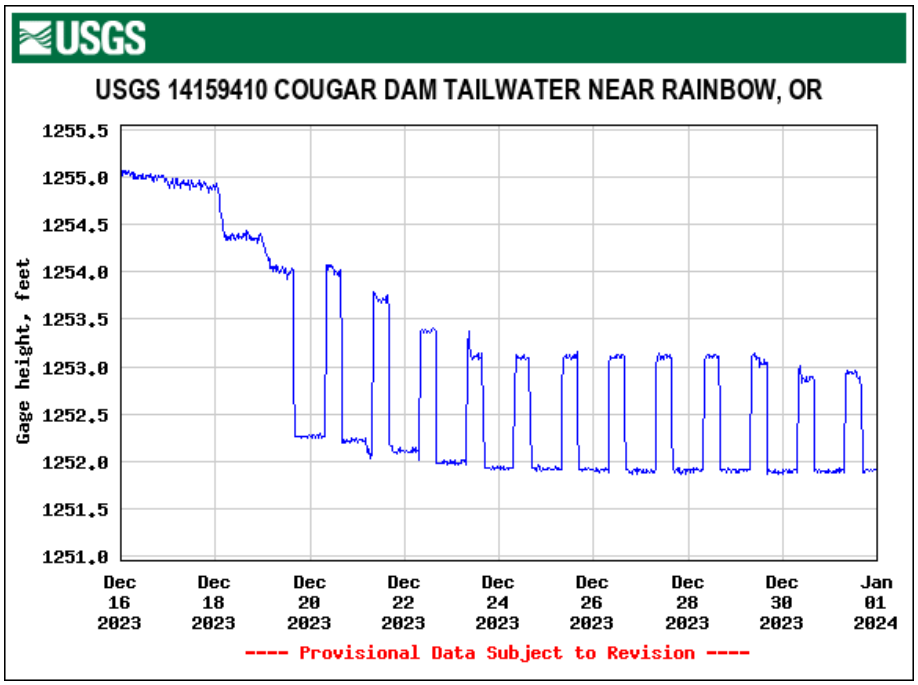


Figure 34. Gauge Height (feet); below Cougar Dam, South Fork McKenzie River.

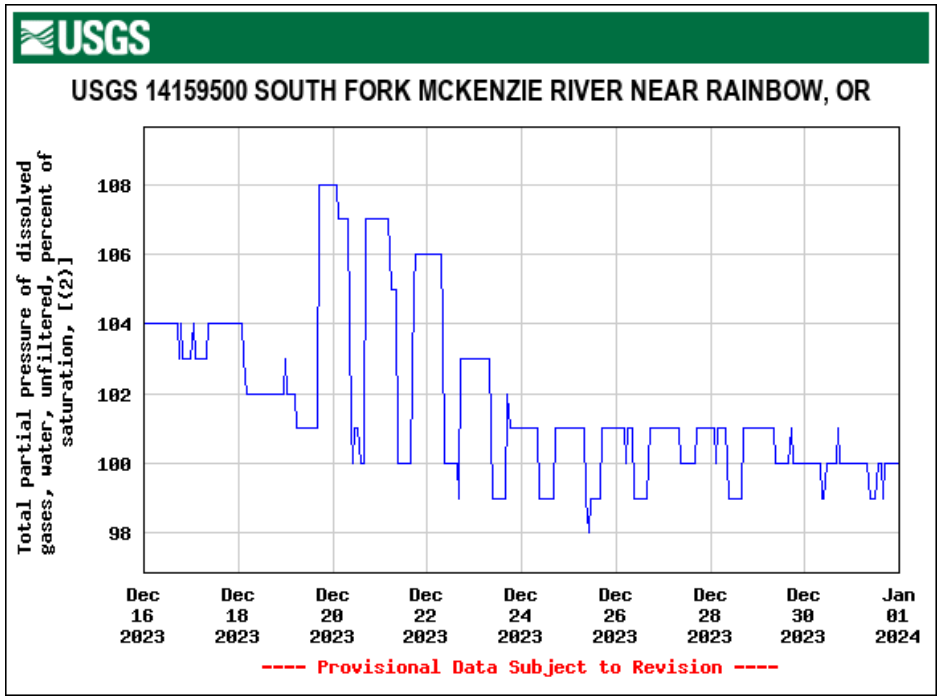


Figure 35. Total Dissolved Gas Saturation (%); below Cougar Dam, South Fork McKenzie River.

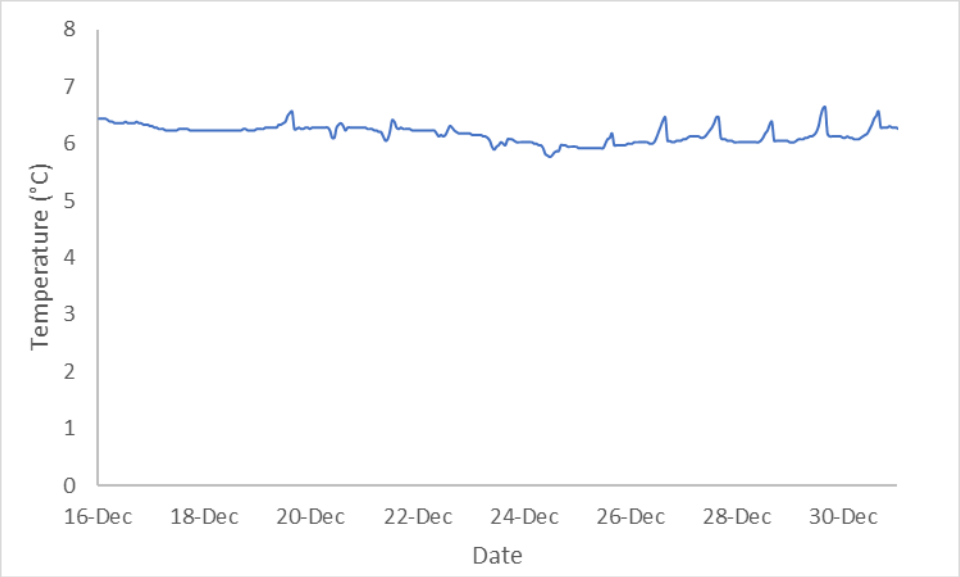


Figure 36. Temperature at RO RST (Cougar Dam).

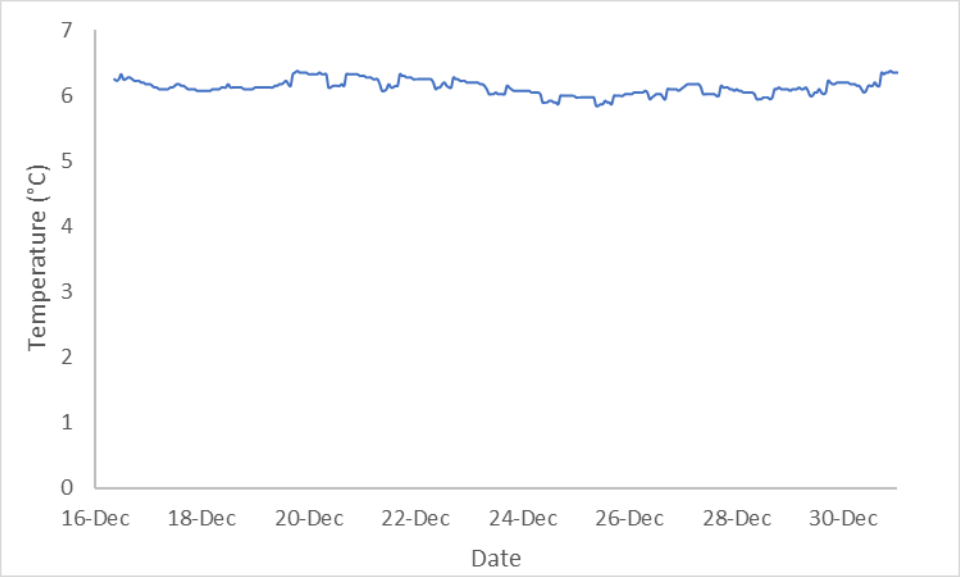


Figure 37. Temperature at PWR RST (Cougar Dam).

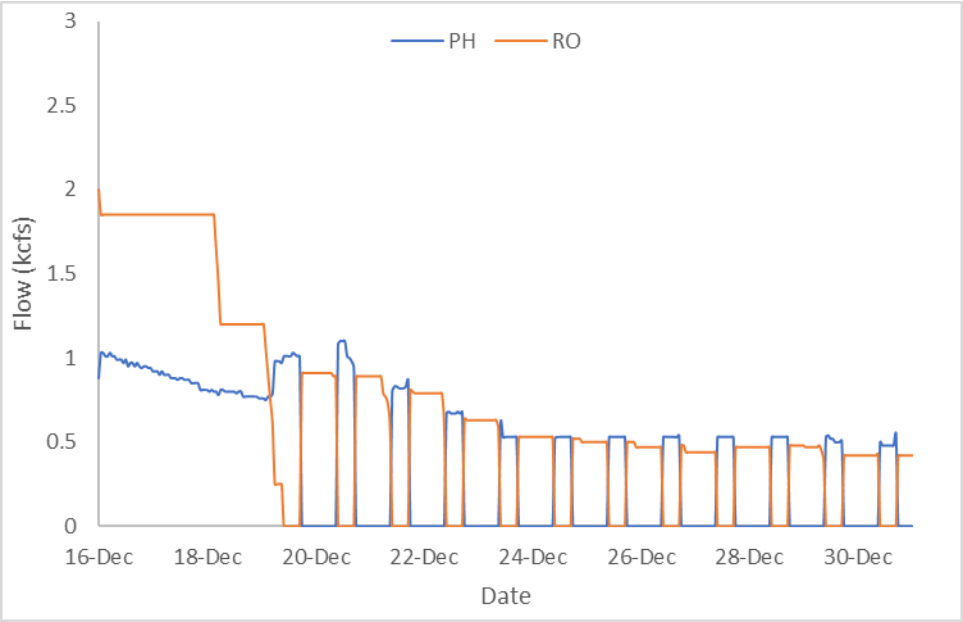


Figure 38. Hourly Flows PWR vs. RO (Cougar Dam).

South Fork of the McKenzie–Cougar Dam Head of Reservoir

The Cougar Dam Head of Reservoir trap was raised to the non-sampling position on December 1st at the end of Winter sampling. It will resume sampling on February 1st. Table 24 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Cougar Dam Head of Reservoir site to-date and Figure 39 shows length frequency data to-date.

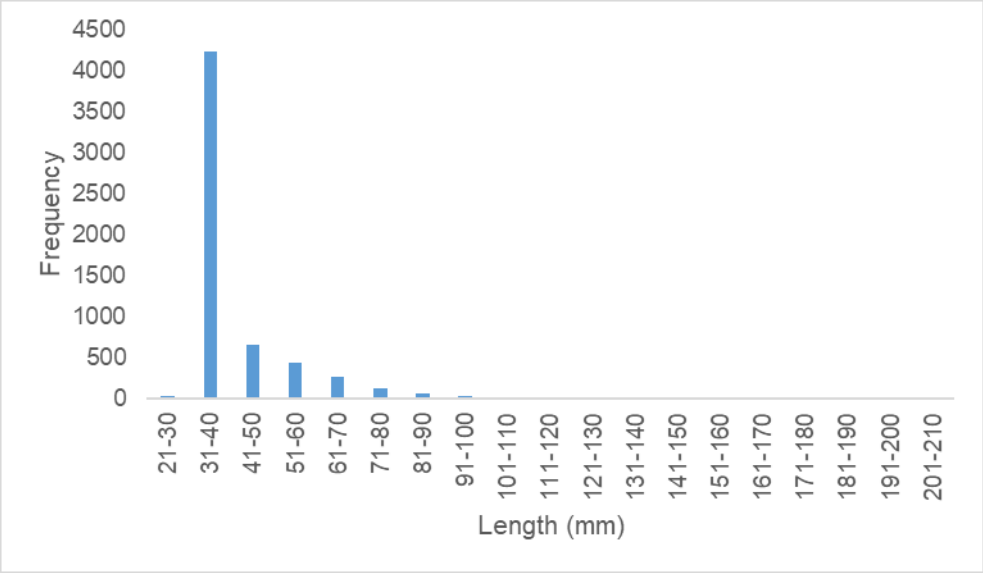


Figure 39. Length Frequency of Juvenile Chinook Sampled in 2023 (Cougar Dam Head of Reservoir).

Table 24. Descriptive Statistics of Target Species Captured at Cougar Dam Head of Reservoir, Season To-Date and for the Reporting Period.

To-Date (Since Jan. 1, 2023)										
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	4770	25	64	36.6	N/A	N/A	N/A
		CHS	Parr	996	40	106	59.9	1.0	13.7	2.8
		CHS	Smolt	87	51	100	78.1	1.7	12.3	5.8

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

Trapping Efficiency

More information regarding trapping efficiency trials can be located in appendix C.

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, 75 Spring Chinook have been caudal clipped and released upstream for the purpose of conducting run of river trapping efficiency trials.

PIT Tags

More information regarding PIT tagged fish can be found in Appendix D.

VIE Marking

Visual Implant Elastomer (VIE) trials commenced at the Cougar Dam Head of Reservoir site on 6/25/2022. VIE tag color and locations are changed every month to distinctly mark groups of fish by capture date. Since then, 3,879 Chinook have been VIE marked with fluorescent elastomer. Fish still showing an egg sac are not VIE marked.

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
6/25/2022-7/15/2022	Left Dorsal	Yellow	30	0
9/15/2022-9/30/2022	Left Dorsal	Orange	1	0
10/1/2022-10/15/2022	Left Dorsal	Pink	1	0
11/1/2022-11/15/2022	Left Dorsal	Green	1	0
2/16/2023-2/28/2023	Right Dorsal	Yellow	1	0
3/1/2023-3/15/2023	Right Dorsal	Red	1	0
3/16/2023-3/31/2023	Right Dorsal	Red	9	0
4/1/2023-4/15/2023	Right Dorsal	Blue	85	0
4/16/2023-4/30/2023	Right Dorsal	Blue	288	0
5/1/2023-5/15/2023	Right Dorsal	Orange	496	0
5/16/2023-5/31/2023	Right Dorsal	Orange	1397	5
6/1/2023-6/15/2023	Right Dorsal	Pink	487	0
6/16/2023-6/30/2023	Right Dorsal	Pink	234	0
7/1/2023-7/15/2023	Right Dorsal	Green	207	0
7/16/2023-7/31/2023	Right Dorsal	Green	356	0
8/1/2023-8/15/2023	Right Dorsal	Yellow (2x)	170	0
8/16/2023-8/31/2023	Right Dorsal	Yellow (2x)	63	0
9/1/2023-9/15/2023	Right Dorsal	Red (2x)	31	0
9/16/2023-9/30/2023	Right Dorsal	Red (2x)	11	0
10/1/2023-10/15/2023	Right Dorsal	Blue (2x)	7	0
10/16/2023-10/31/2023	Right Dorsal	Blue (2x)	3	0

Non-Target Species

Non-target fish data is summarized below in Table 25.

Table 25. Summary of Non-target Species (Cougar Dam Head of Reservoir).

Species	Season Total*	Season Total Mortality
Bull Trout	14	0
Cutthroat Trout	7	0
Chinook (Adult)	1	0
Chinook (clipped)	11	0
Dace	4	0
Mountain Whitefish	4	1
Northern Pikeminnow	0	0
O. mykiss	531	3
Sculpin	18	1
Unknown	1	1
Totals	**594**	**6**

**Season totals include sampling completed on the RST project in 2023.*

Middle Fork Willamette – Fall Creek Head of Reservoir

Target Species

The Fall Creek Head of Reservoir trap was removed on May 31st. Table 26 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Fall Creek Head of Reservoir site to-date and Figure 40 shows length frequency data to-date.

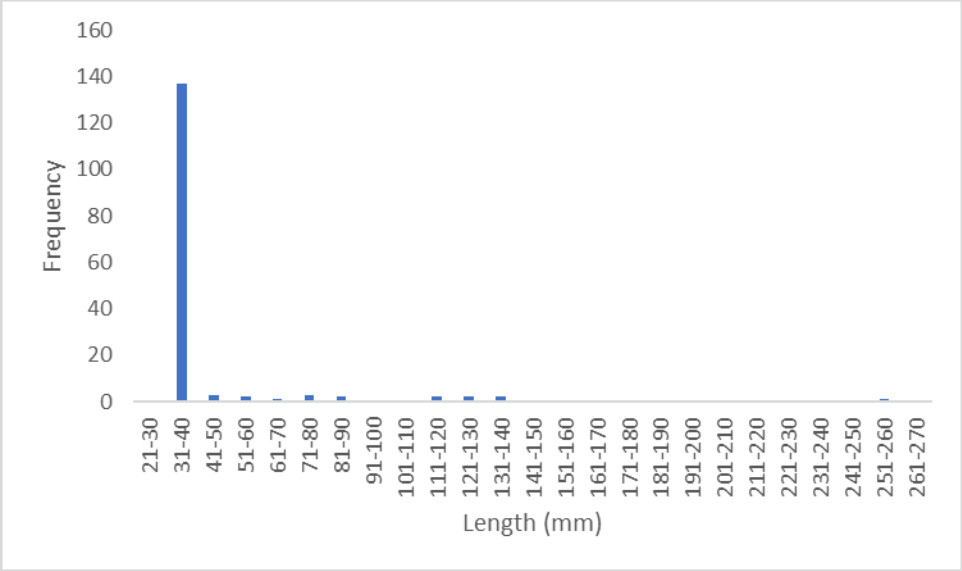


Figure 40. Length Frequency of Juvenile Chinook Sampled in 2023 (Fall Creek Head of Reservoir).

Table 26. Descriptive Statistics of Target Species Captured at Fall Creek Head of Reservoir, Season To-Date and for the Reporting Period.

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Fall Creek Head of Reservoir	8 ft	CHS	Smolt	0	N/A	N/A	N/A	N/A	N/A	N/A	
		CHS	Parr	8	54	86	71.9	1.3	7.4	5.0	
		CHS	Fry	140	31	42	34.7	N/A	N/A	N/A	

Trapping Efficiency

Information regarding trapping efficiency trials at Fall Creek Head of Reservoir is available in appendix C.

PIT Tags

A total of 4 Spring Chinook were PIT tagged during sampling in 2023. Refer to Appendix D for further information regarding PIT tags.

VIE Marking

Visual Implant Elastomer (VIE) trials commenced at Fall Creek Head of Reservoir site on 1/18/2023. VIE tag color and locations are changed every month to distinctly mark groups of fish by capture date. Since then, 48 Chinook have been VIE marked with fluorescent elastomer. 1 fish with VIE marks has been recaptured at the head of reservoir trap site to date. This was a VIE marked fish released above the trap for trapping efficiency trials. A summary of VIE marked fish is shown in Table 27.

Fish still showing an egg sac are not VIE marked.

Table 27. Summary of VIE marked fish at the Fall Creek Head of Reservoir site in 2023.

Date Tagged	Tag Location	VIE Color	# Tagged	# Recaptured to Date
1/16/2023-1/31/2023	Left Dorsal	Blue	9	0
2/1/2023-2/15/2023	Right Dorsal	Yellow	2	0
2/16/2023-2/28/2023	Right Dorsal	Yellow	1	0
3/1/2023-3/15/2023	Right Dorsal	Red	33	1
5/1/2023-5/15/2023	Right Dorsal	Orange	2	0
5/16/2023-5/31/2023	Right Dorsal	Orange	1	0

Non-Target Species

A total of 788 non-target fish were captured at the Fall Creek Head of Reservoir site during sampling in 2023; the data is summarized below in Table 28.

Table 28. Summary of Non-target Species (Fall Creek Head of Reservoir).

Species	Season Total	Season Total Mortality*
Brook Lamprey	44	1
Brown Bullhead	0	0
Cutthroat Trout	67	0
Dace	116	1
Largescale Sucker	9	0
O. mykiss	436	0
O. mykiss (clipped)	47	0
Pacific Lamprey	11	0
Redside Shiner	0	0
Sculpin	1	1
Unknown Lamprey	57	0
Totals	**788**	**3**

**Season totals include sampling completed on the RST project in 2023.*

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. This report reflects research conducted starting October 1st, 2023 but will include season totals from January 1st, 2023 onward.

Target Species

The reporting period began December 16th and ended December 31st. 0 Chinook salmon were captured during the 16-day sampling period (Figure 41). The RST was raised to the non-sampling position on December 1st due to high sediment load clogging the trap. It is checked daily to remove debris and sediment but is unable to sample at this time. The trap sampled 0.0% of the days during this reporting period. Figure 42 shows length frequency data to-date and Table 29 provides life stage, length, and weight data for all Chinook salmon that have been caught at the Fall Creek Dam Tailrace site to-date.

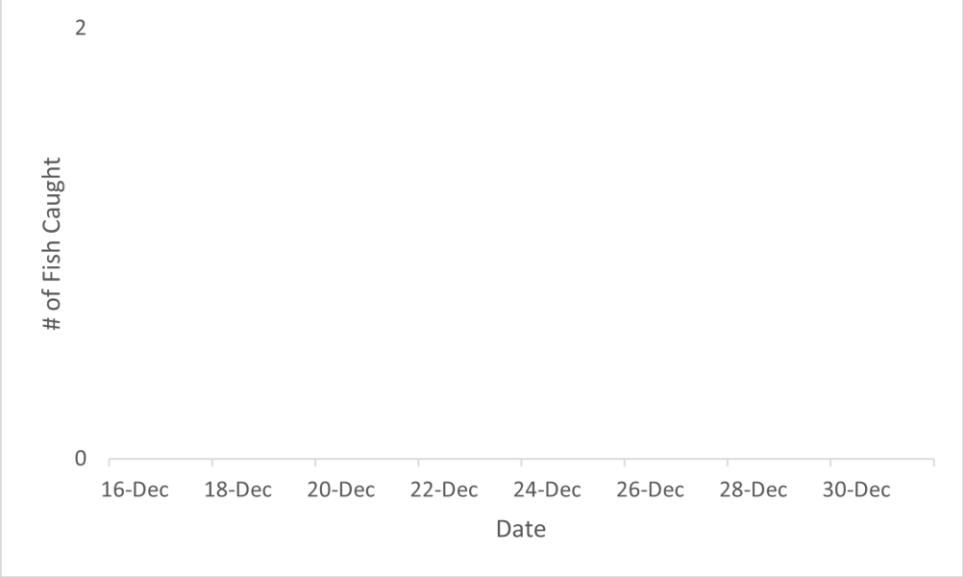


Figure 41. Chinook captured per day 12/16/2023 to 12/31/2023.

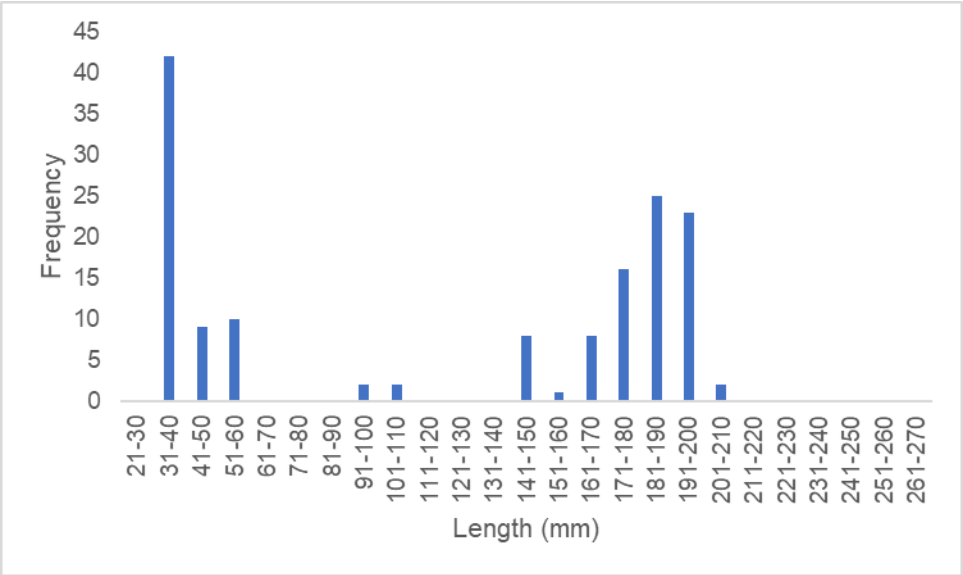


Figure 42. Length Frequency of Juvenile Chinook Sampled Season To-Date (Fall Creek Dam Tailrace).

Table 29. Descriptive Statistics of Target Species Captured at Fall Creek Dam Tailrace, Season To-Date and for the Reporting Period.

To-Date											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Fall Creek Dam	RO	CHS	Smolt	88	94	203	178.3	8.8	109.3	71.3	
		CHS	Parr	8	40	95	59.0	2.1	9.1	4.1	
		CHS	Fry	54	33	55	39.2	1.2	3.2	1.8	

December 16-31, 2023											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Fall Creek Dam	RO	CHS	Smolt	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	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A	

Trapping Efficiency

A total of 1,011 juvenile hatchery Chinook (sub yearlings) were adipose clipped, upper caudal clipped, and released on 10/17/2023 upstream of the Fall Creek Dam Tailrace RO channel trap site. A total of 14 fish were recaptured in the 8 ft trap. Trapping efficiency was 1.4%.

Fall Creek Dam	Release #	Recapture #	Capture Efficiency
RO	1011	14	1.4% (14/1011)

24-Hour Post Collection Holding Trial

0 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 0 of the 0 Chinook captured (0.0%), 0 displayed descaling >20% (0.0%), 0 displayed body injury (0.0%), 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 30. To date injury data is listed in Appendix A.

Table 30. Number of Descaled, Bodily/Eye Injured, Copepod Infected and Dead Chinook Salmon for Sampling Period (Fall Creek).

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

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

Collected DNA and Scale Samples

Scales were collected from 0 Spring Chinook and DNA was collected from 0 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

0 non-target fish were captured at the Fall Creek Dam Tailrace site during the reporting period; the data is summarized below in Table 31.

Table 31. 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	16	0
Brown Bullhead	0	0	53	18
Cutthroat Trout	0	0	53	2
Dace	0	0	158	7
Largescale Sucker	0	0	1501	160
Mosquitofish	0	0	0	0
Peamouth	0	0	4	2
Redsided Shiner	0	0	12	0
Northern Pikeminnow	0	0	2	0
Chinook (clipped)	0	0	437	66
O. mykiss	0	0	155	8
O. mykiss (clipped)	0	0	19	3
Pacific Lamprey	0	0	3	0
Sculpin	0	0	8	0
Totals	**0**	**0**	**2421**	**266**

**Season totals include sampling completed on the RST project in 2023.*

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 251.0 cfs to 631.0 cfs (mean: 354.2 cfs). Figure 43 shows instantaneous discharge.

Dissolved oxygen concentrations ranged from 11.1 mg/L to 12.8 mg/L (mean: 11.91 mg/L). Figure 44 shows Dissolved Oxygen.

Stream temperature data was collected by utilizing the USGS Fall Creek Blw. Winberry Creek, Near Fall Creek, OR – 14151000 gage, collecting documenting water temperature in degrees Celsius. (Figure 45).

Flows In and Out of reservoir during the reporting period averaged 327.4 cfs and 326.1 cfs respectively (Figure 46).

Catch per unit of effort (CPUE) data are summarized in Table 32. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B

Table 32. Summary of Chinook CPUE, Fall Creek Dam Tailrace.

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

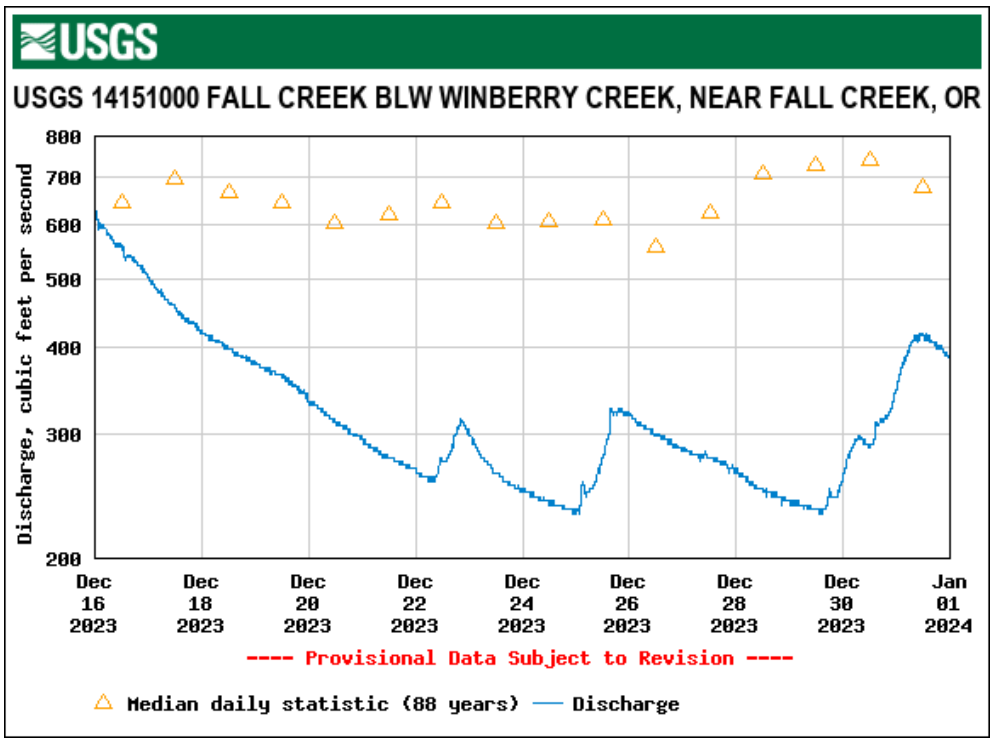


Figure 43. Discharge (cfs); Fall Creek Below Winberry Creek, Near Fall Creek, OR

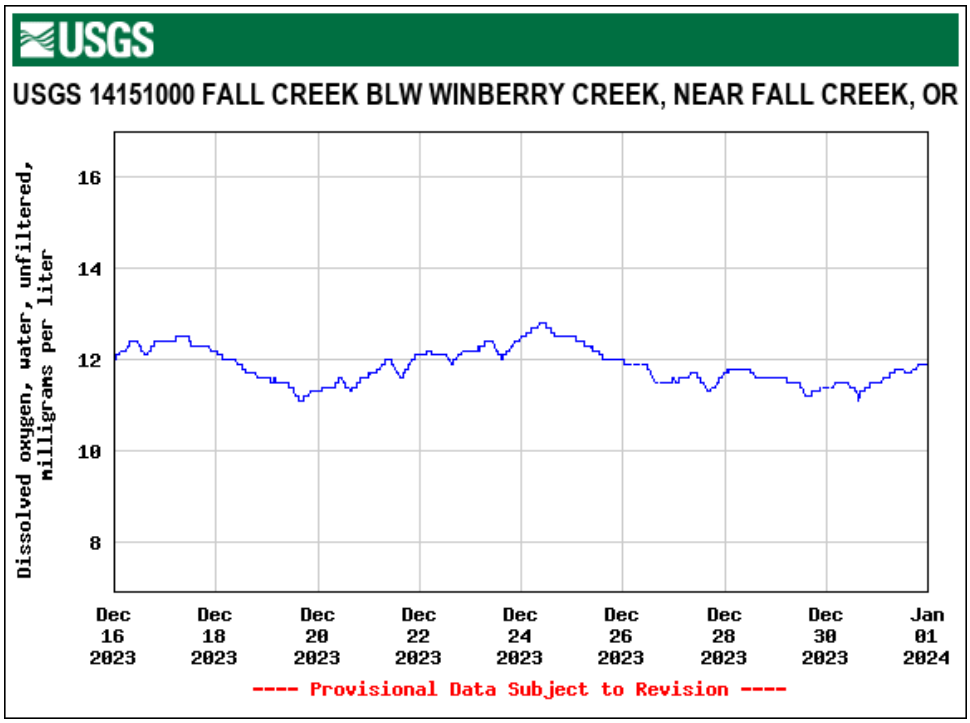


Figure 44. Dissolved Oxygen (mg/L), Fall Creek below Winberry Creek, Near fall Creek, OR

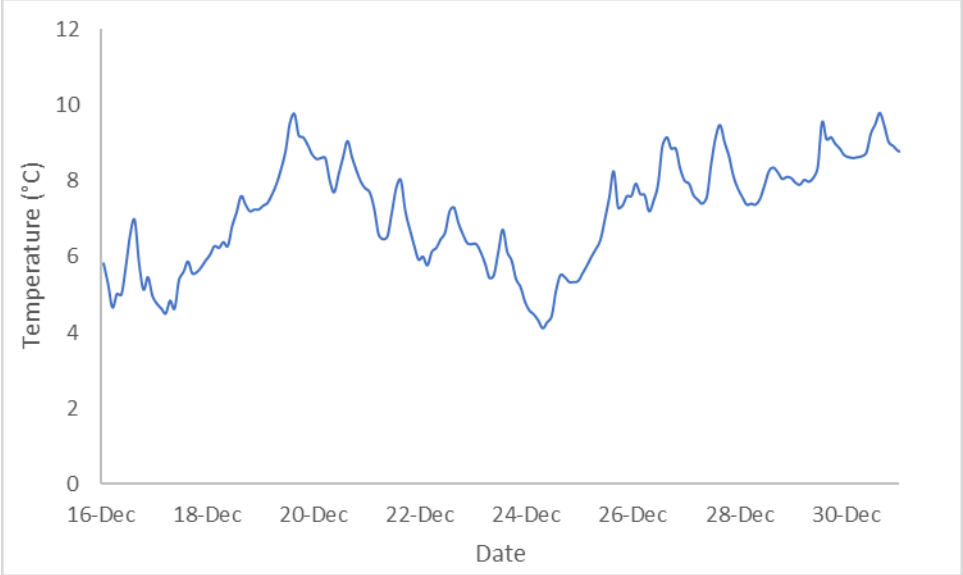


Figure 45. Temperature at RST (Fall Creek Dam Tailrace).

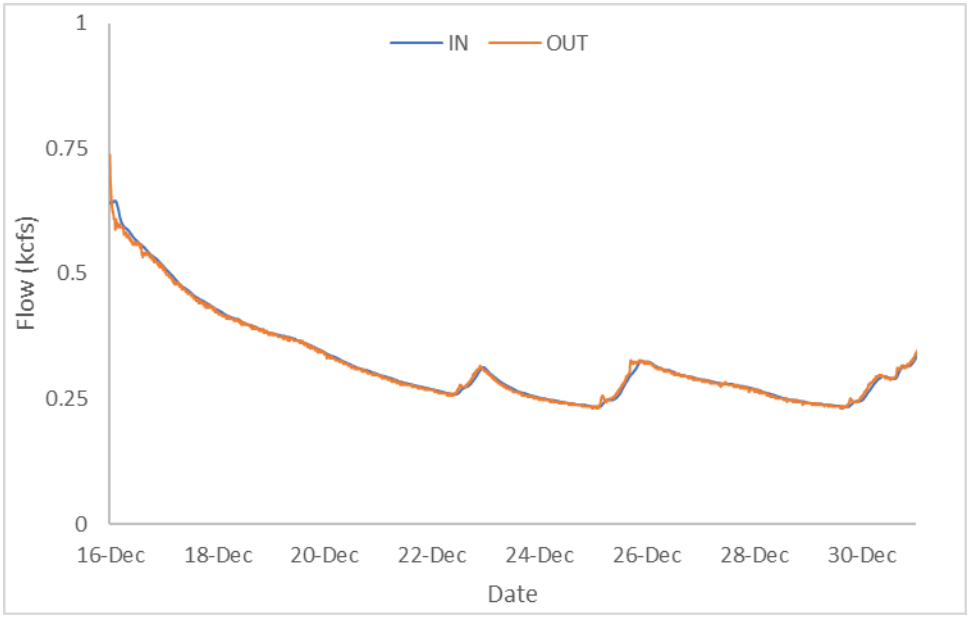


Figure 46. Hourly Flows Inflow vs. Outflow (RO) (Fall Creek Tailrace)

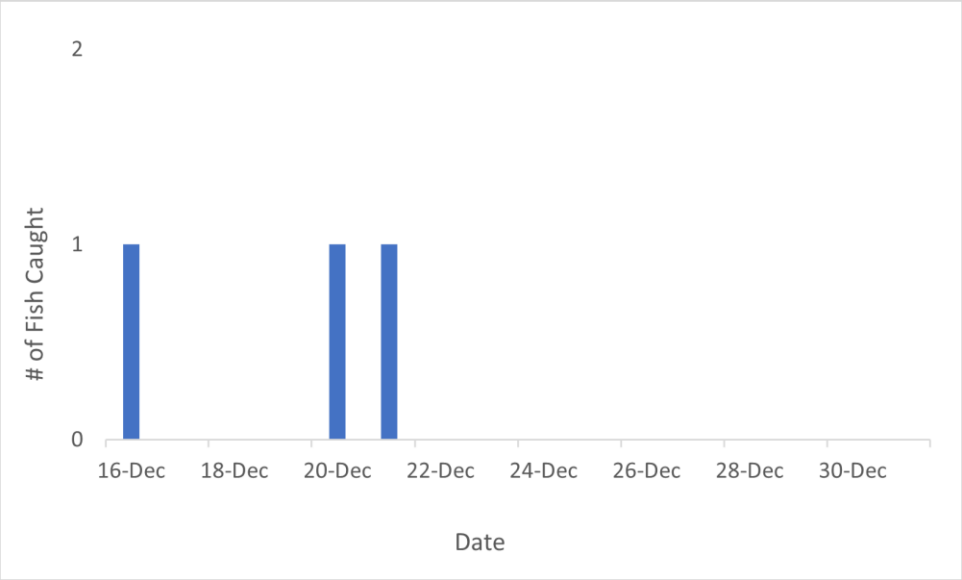
Middle Fork Willamette– Dexter Dam

The RST in the Dexter Dam Tailrace began sampling under contract W9127N19D0009 on December 16, 2023. Sampling at Dexter Dam Tailrace prior to December 16, 2023 was conducted by EAS for the USACE under contract W9127N19D0007. This report reflects research conducted starting December 16, 2023 but will include season totals from January 1st, 2023 onward.

On November 7th 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 December 16th and ended on December 31st. There were 3 Chinook salmon (CHS) captured during the 16-day sampling period. Sampling duration was 100% for the 5 ft RST. Table 33 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 47 shows the daily capture numbers for Chinook and Figure 48 shows length frequency data to-date.



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

Figure 47. Chinook Captured Per Day 12/16/2023 to 12/31/2023 (Dexter Dam)

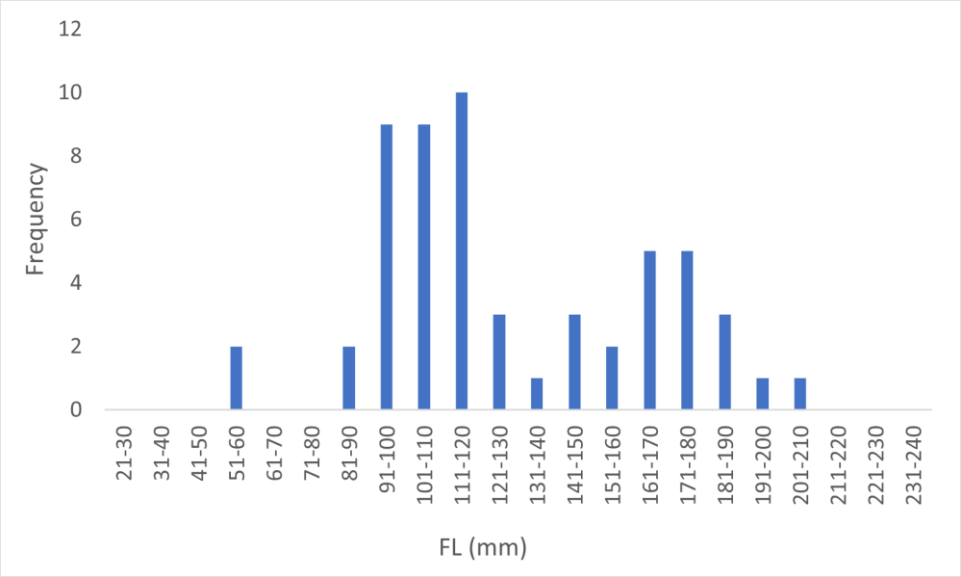


**Figure does not include fish without heads or fish used for trapping efficiency trials.*

Figure 48. Length Frequency of Juvenile Chinook Sampled in 2023 (Dexter Dam).

Table 33. Descriptive Statistics of Target Species Captured at the Dexter Dam RST Season To-Date.

To-Date (Since Jan. 1, 2023)											
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	11	54	119	90.7	1.5	17.7	8.7	
		CHS	Smolt	46	84	345	141.3	7.1	410.7	43.2	

December 16-31, 2023										
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	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Smolt	3	111	345	191.7	14.3	410.7	147.4

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

Trapping Efficiency

A total of 4,005 juvenile hatchery Chinook (yearlings) were adipose clipped, lower caudal clipped, and released on 12/21/2023 below Dexter Dam. Fish were released in small groups into the spillway flow to evaluate the traps efficiency capturing fish passing through the powerhouse. 3 fish were recaptured in the 5-foot RST for an efficiency of 0.07%

Dexter Dam	Release #	Recapture #	Capture Efficiency
Spillway	4,005	3	0.07% (3/4,005)

A total of 8,032 juvenile hatchery Chinook (yearlings) were adipose clipped, lower caudal clipped, and released on 12/28/2023 below Dexter Dam. Fish were released in small groups into the powerhouse flow to evaluate the traps efficiency capturing fish passing through the powerhouse. 46 fish were recaptured in the 5-foot RST for an efficiency of 0.57%

Dexter Dam	Release #	Recapture #	Capture Efficiency
Powerhouse	8,032	46	0.57% (46/8,032)

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

3 Chinook were captured during this reporting period. Partial descaling <20% was observed in 2 of the 3 Chinook captured (66.7%) and 1 displayed descaling >20% (33.3%). 2 displayed body injury (66.7%) and 1 Chinook had eye injury (33.3%). 1 Chinook had copepods present in the branchial cavity (33.3%) and 1 had copepods on fins (33.3%). 2 displayed gas bubble disease (2 with level 4) (66.7%). There were 0 mortalities in this reporting period (0.0%). Injuries are displayed in Table 34. To date injury data can be found in Appendix A.

Table 34. 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	3	2	1	2	1	1	1	0

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

Collected DNA and Scale Samples

For the reporting period, scales and DNA were collected from 3 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling.

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

211 non-target fish were captured during the reporting period; the data is summarized below in Table 35. Of the 23 clipped Chinook captured, 0 were PIT tagged fish from bulk mark releases at upstream sites, and 23 were fish released for trapping efficiency trials at upstream RST sites.

Table 35. Summary of Non-target Species (Dexter Dam).

Species	Capture	Mortality	Season Total*	Season Total Mortality *
Bass Unknown	3	0	146	38
Bluegill	0	0	136	21
Chinook (adult)	0	0	2	1
Chinook (clipped)	23	5	670	6
Crappie	118	9	3787	436
Cutthroat Trout	1	0	7	0
Dace	1	0	34	4
Brown Bullhead Catfish	0	0	1	0
Largescale Sucker	1	0	9	2
Largemouth Bass	0	0	2	0
Mountain Whitefish	0	0	14	0
O. mykiss	1	0	19	2
O. mykiss (clipped)	2	0	12	0
Northern Pikeminnow	3	0	30	0
Redside Shiner	2	0	40	1
Sculpin	44	9	1775	128
Smallmouth Bass	0	0	11	2
Walleye	12	2	317	48
Unknown	0	0	3	0
Totals	**211**	**25**	**7015**	**689**

**Season totals include sampling completed on the RST project in 2023.*

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 637.7 feet to 639.3 feet (mean: 638.4 feet). Figure 49 shows instantaneous gauge height.

Total dissolved gas saturation ranged from 99 to 117% (mean: 105.5%) during the reporting period. Figure 50 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 51.

Flows through the Powerhouse and Spill during the reporting period averaged 2,356.8 and 1,075.7 cubic feet per second (cfs) respectively (Figure 52). 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, Dexter Dam.

Description	Chinook
Catch	3
Effort (hrs)	380.5
CPUE (fish/hr)	0.008

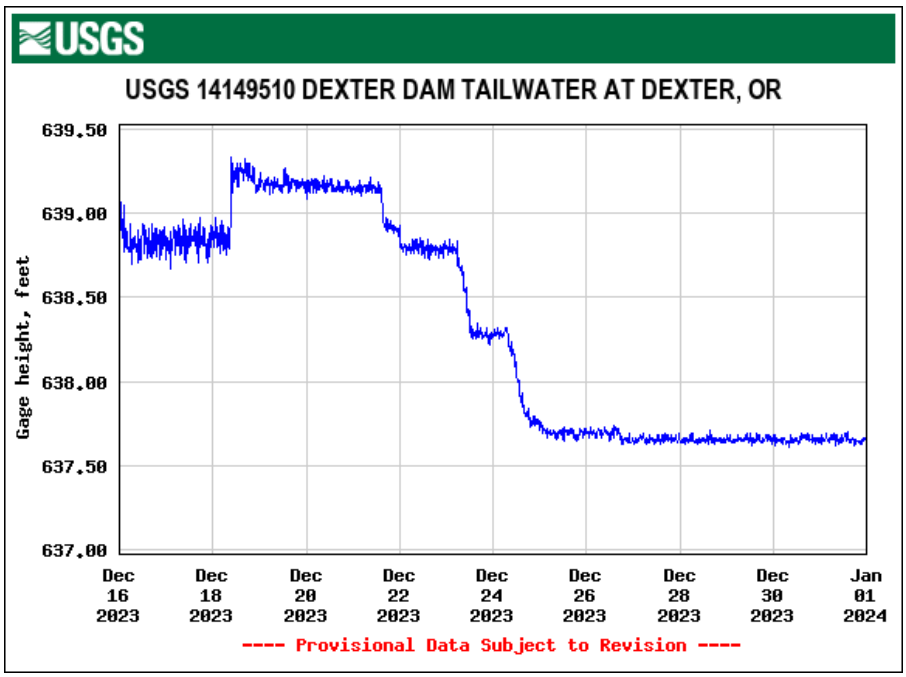


Figure 49. Gauge Height (feet); below Dexter Dam, Middle Fork Willamette.

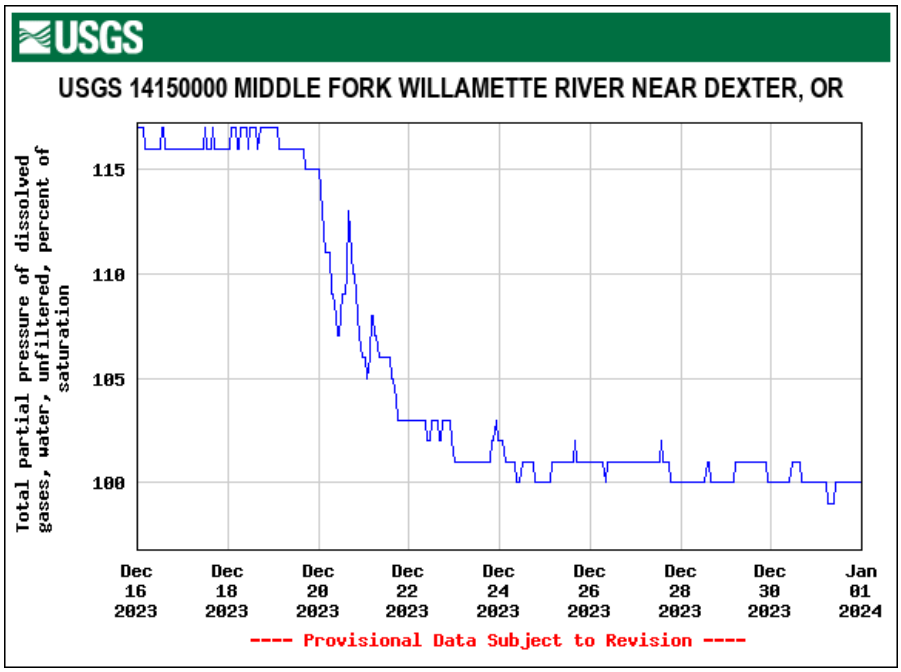


Figure 50. Total Dissolved Gas Saturation (%); Middle Fork Willamette River, Near Dexter, OR.

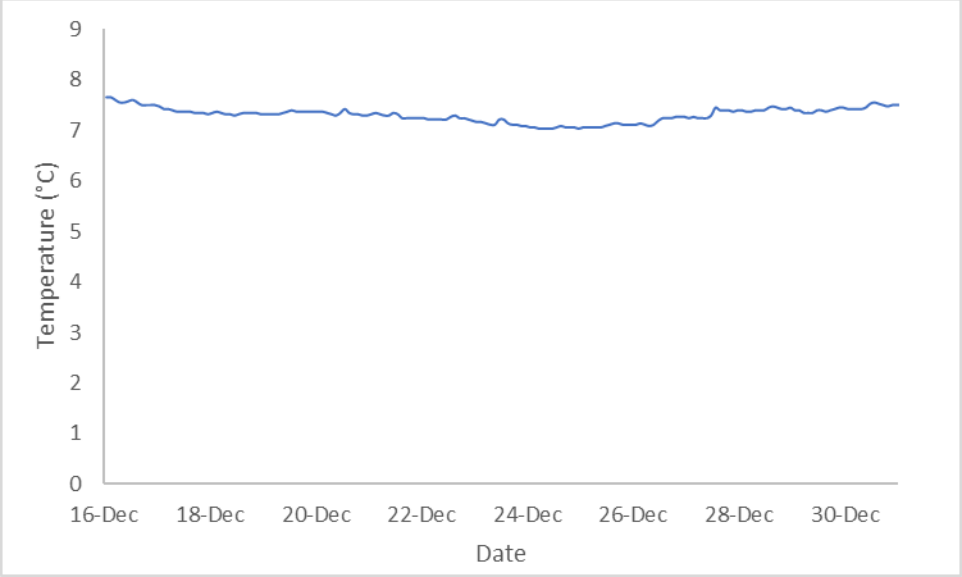


Figure 51. Temperature at RST (Dexter Dam).

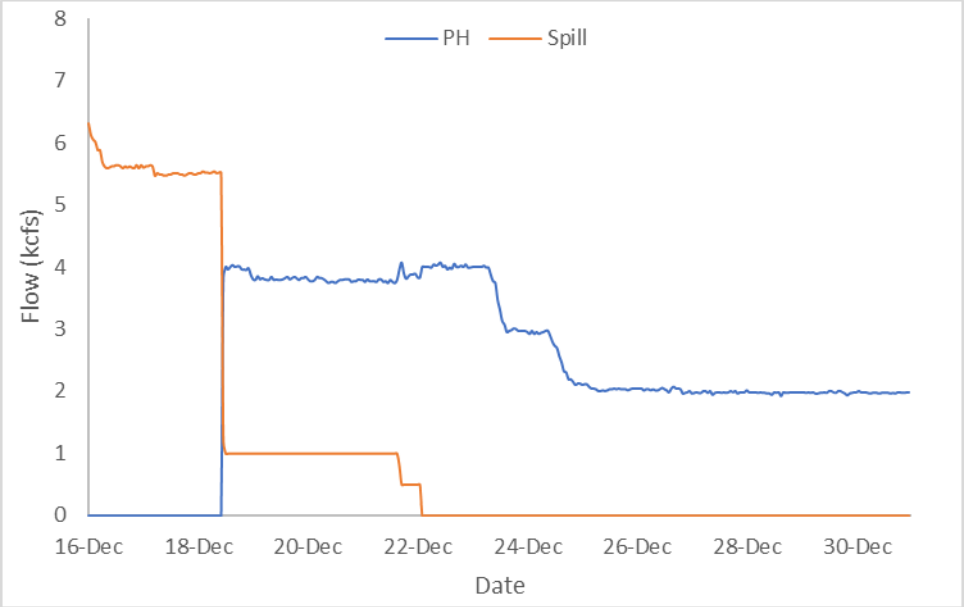


Figure 52. Hourly Flows PWR vs. Spill (Dexter Dam).

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. This report reflects research conducted starting August 1st, 2023 but will include season totals from January 1st, 2023 onward.

Target Species

The reporting period began December 16th and ended on December 31st. There were a total of 15 Chinook salmon captured during the 16-day sampling period (Figure 53). The traps were operated 100% of the reporting period. Table 37 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 54 shows length frequency data to-date.

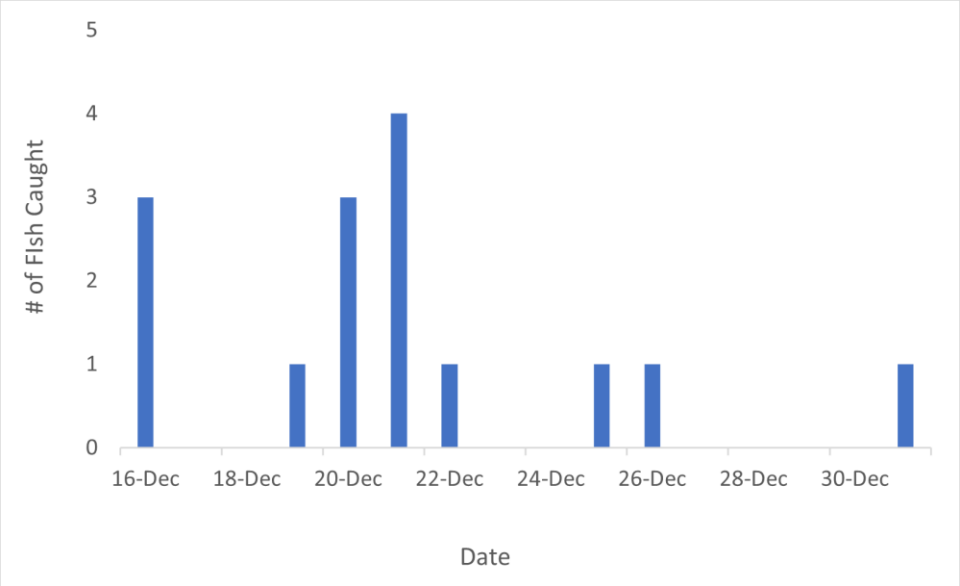


Figure 53. Chinook Captured Per Day 12/16/2023 to 12/31/2023 (Lookout Point Dam Tailrace).

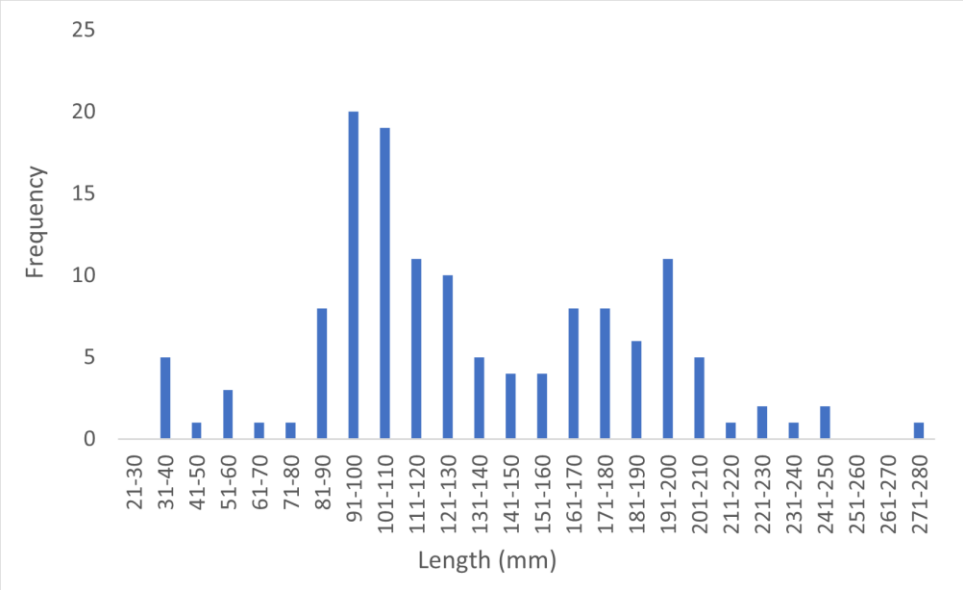


Figure 54. Length Frequency of Juvenile Chinook Sampled in 2023 (Lookout Point Dam Tailrace).

Table 37. Descriptive Statistics of Target Species Captured at Lookout Point Dam Tailrace, Season To-Date and for the Reporting Period.

To-Date (Since Jan. 1, 2023)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Lookout Point Dam	PH 1	CHS	Fry	1	52	52	52	3.0	3.0	3.0
		CHS	Parr	3	84	102	94.0	5.6	11.3	8.8
		CHS	Smolt	24	100	275	159.6	12.1	269.0	57.6
	PH 2	CHS	Fry	4	33	37	34.8	N/A	N/A	N/A
		CHS	Parr	18	57	112	91.9	1.8	14.7	9.2
		CHS	Smolt	18	100	250	158.3	10.2	194.6	57.3
	Spill	CHS	Fry	3	31	55	43.3	1	1.6	1.3
		CHS	Parr	12	87	125	100.5	7.4	17.6	10.3
		CHS	Smolt	56	86	247	148.5	5.0	161.4	44.6
December 16-31, 2023										
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	2	115	197	156.0	13.0	78.3	45.7
	PH 2	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A
		CHS	Parr	7	81	112	97.1	6.1	14.7	10.0
		CHS	Smolt	3	107	131	115.3	13.0	13.9	13.5
	Spill	CHS	Fry	1	31	31	31.0	N/A	N/A	N/A
		CHS	Parr	1	104	104	104.0	11.0	11.0	11.0
		CHS	Smolt	1	105	105	105.0	14.8	14.8	14.8

**Some fry are too small to accurately weigh and are omitted from the above tables.*
***Season totals include sampling completed on the RST project in 2023.*

Trapping Efficiency

On 12/20/2023, 16,007 juvenile hatchery Chinook were released in small groups directly into powerhouse flow. A total of 29 fish were recaptured in the traps for an efficiency of 0.18%. Trap specific efficiencies

are as follows: 3 recaptured at the PH 1 RST for an efficiency of 0.02%, 25 recaptured at PH 2 for an efficiency of 0.16%, and 1 recaptured at the Spill RST for an efficiency of 0.006%.

Lookout Dam Powerhouse	Release #	Recapture #	Capture Efficiency
12/20/2023	16,007	29	0.18% (29/16,007)

24-Hour Post Collection Holding Trial

13 Spring Chinook were captured during the current reporting period and held for 24 hours. 10 fish were held from the PWR RST and 3 fish were held from the Spill RST. 2 hold fish died from the PWR RSTs (10.0%). 1 of the fish from Spill RST died during holding (33.3%).

Injuries and Copepod Infection

There were 3 Chinook captured in the Spill Channel RST. Partial descaling <20% was observed on 2 of 3 Chinook collected at the Spill RST (66.7%), and descaling >20% was observed on 0 of the Chinook collected (0.0%). 2 displayed body injuries (66.7%) and 1 had eye injuries (33.3%). 0 of the Spill RST Chinook had copepods present in the branchial cavity (0.0%) and 0 had copepods present on fins (0.0%). 1 of the fish captured in the Spill RST displayed Gas Bubble Disease (1 at level 1) (33.3%).

There were 12 Chinook captured in the Powerhouse channel RSTs. Partial descaling <20% was observed on 8 of the 12 Chinook collected at the PWR RSTs (66.7%). Descaling >20% was observed on 3 of the Chinook collected (25.0%). 12 PWR RST fish had bodily injury (100.0%) and 0 had eye injuries (0.0%). 1 of the fish had copepods present in the branchial cavity (8.3%) and 1 had copepods present on fins (8.3%). 1 fish displayed Gas Bubble Disease (1 at Level 2) (8.3%).

There were 0 chinook mortalities collected in the Spill RST (0.0%) and 2 in the PWR RSTs (16.7%). Injuries are displayed in Table 38. To date injury data can be found in Appendix A.

Table 38. 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	3	2	0	2	1	0	0	0
	PWR	12	8	3	12	0	1	1	2

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

Collected DNA and Scale Samples

DNA was collected from 14 Spring Chinook for the reporting period. Scales were collected from 14 Spring Chinook. The other targets captured did not meet length criteria for DNA sampling or were too damaged to remove scales.

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

157 non-target species were captured during the reporting period; the data is summarized below in Table 39. Of the 19 clipped Chinook captured, 7 were PIT tagged fish from bulk marked releases above the dam and 12 were fish released above the dam for trapping efficiency trials.

Table 39. 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	26015	24105
Bluegill	5	1	0	0	108	21
Brown Bullhead	1	1	0	0	6	2
Chinook (clipped)	16	2	3	0	178	73
Crappie	9	1	1	0	170728	118239
Largemouth Bass	0	0	0	0	23	23
Mountain Whitefish	0	0	0	0	1	0
Largescale Sucker	0	0	1	0	35	9
Northern Pikeminnow	0	0	0	0	66	8
O. mykiss	1	0	0	0	21	2
O. mykiss (clipped)	0	0	0	0	5	1
Pumpkinseed	0	0	0	0	1	0
Redside Shiner	0	0	0	0	2	0
Sculpin	0	0	2	0	185	13
Smallmouth Bass	5	1	0	0	619	475
Spotted Bass	0	0	0	0	2	0
Unknown	0	0	0	0	7	0
Walleye	107	5	6	1	219	52
Totals	**144**	**11**	**13**	**1**	**198221**	**143023**

**Season totals include sampling completed on the RST project in 2023.*

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 692.0 feet to 693.0 feet (mean: 692.5 feet). Figure 55 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 56 and Figure 57).

Flows through the Powerhouse and Spill during the reporting period averaged 2,278.8 to 1,206.3 cubic feet per second (cfs) (Figure 58). Catch per unit of effort (CPUE) data are summarized in Table 40. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 40. Summary of Chinook CPUE at Lookout Point Dam Tailrace.

	Chinook		
Description	**PH 1**	**PH 2**	**Spill**
Catch	2	10	3
Effort (hrs)	385.0	384.9	388.1
CPUE (fish/hr)	0.005	0.026	0.008

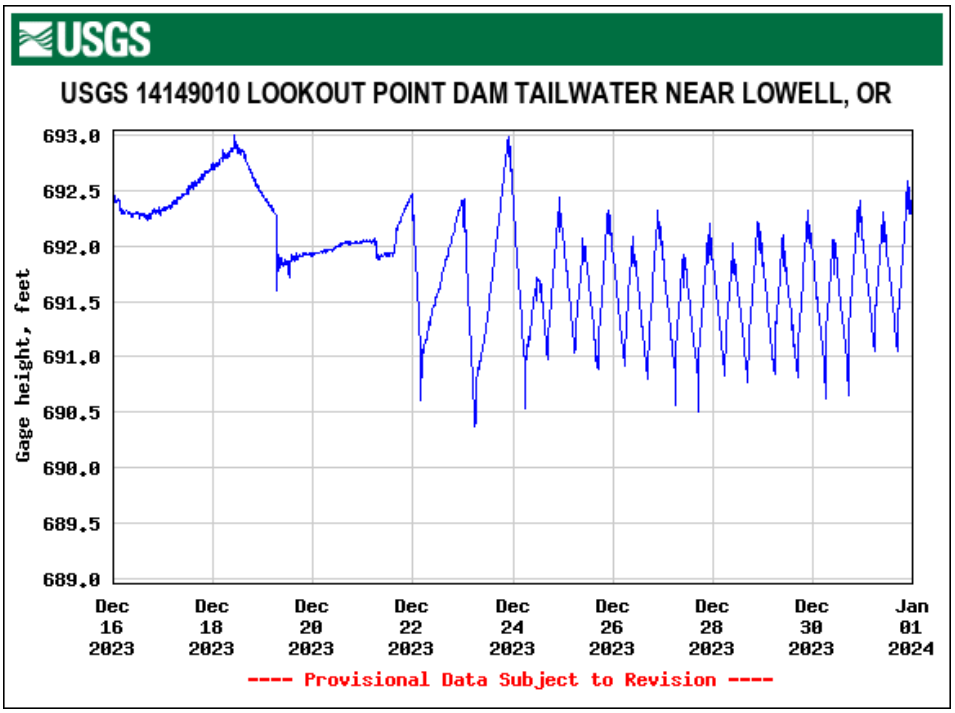


Figure 55. Gauge Height (feet); below Lookout Dam.

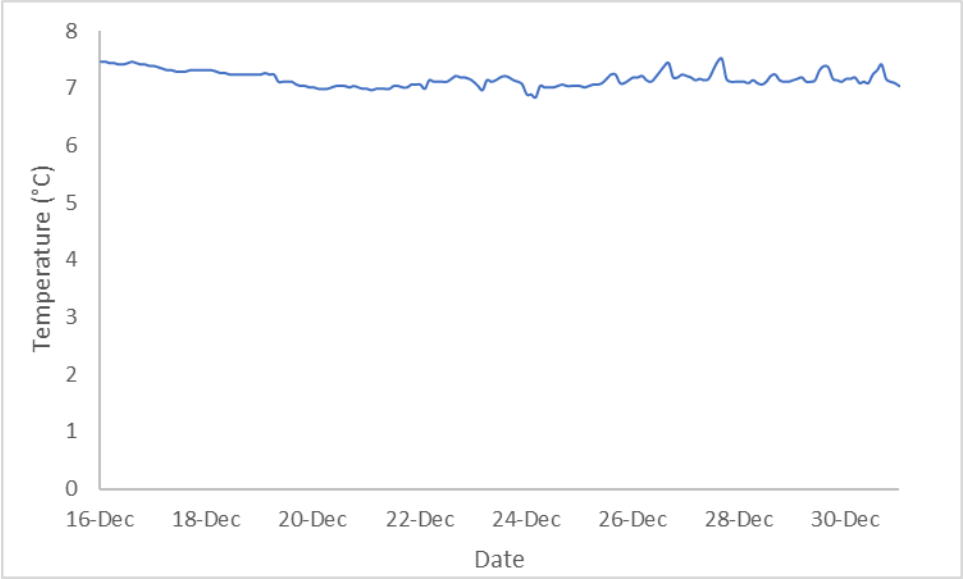


Figure 56. Temperature at RST (Lookout Dam PWR).

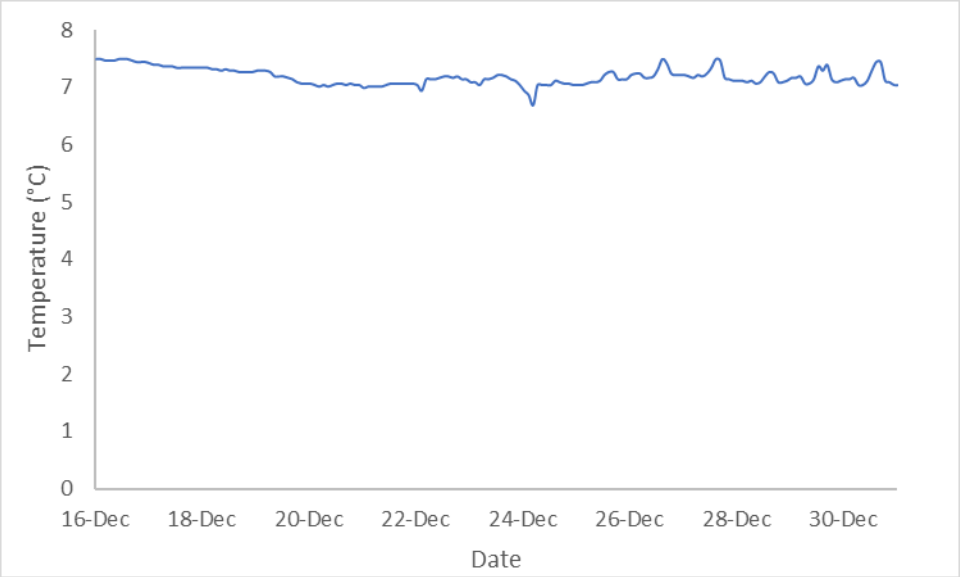


Figure 57. Temperature at RST (Lookout Dam Spill).

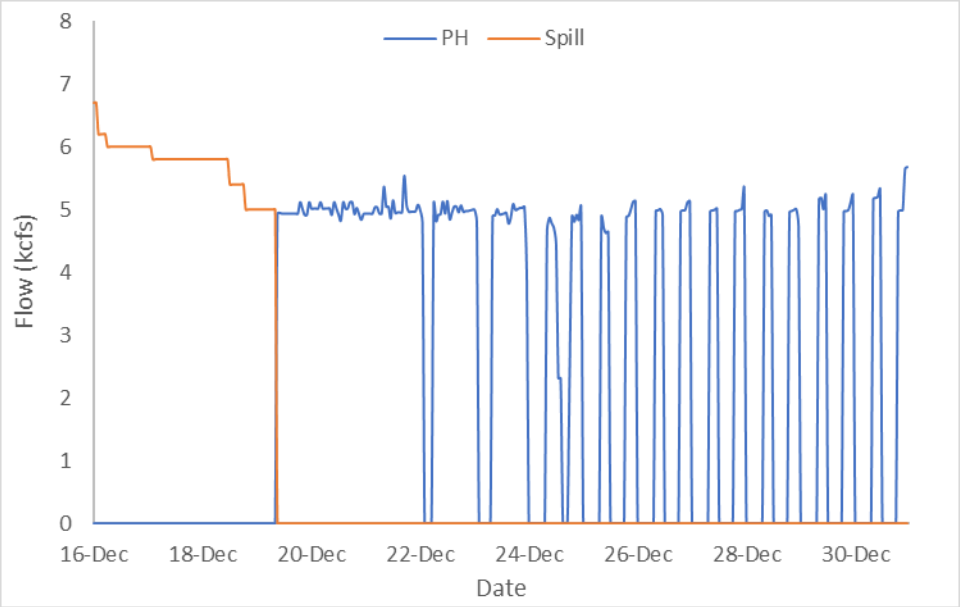


Figure 58. Hourly Flows PWR vs. Spill (Lookout Dam Tailrace).

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. This report reflects research conducted starting December 16, 2023 but will include season totals from January 1st, 2023 onward.

Target Species

The reporting period began December 16th and ended on December 31st. 5 Chinook salmon were captured during the 16-day sampling period (Figure 59). The RST was raised to the non-sampling position on December 3rd through December 18th due to increased flows and high debris from multiple atmospheric rivers. The RST was raised to the non-sampling position on December 21st due to major debris. The RST was lowered into the sampling position on December 23rd. Sampling duration was 87.5% for the 5 ft RST. Table 41 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 60 shows length frequency data to-date.

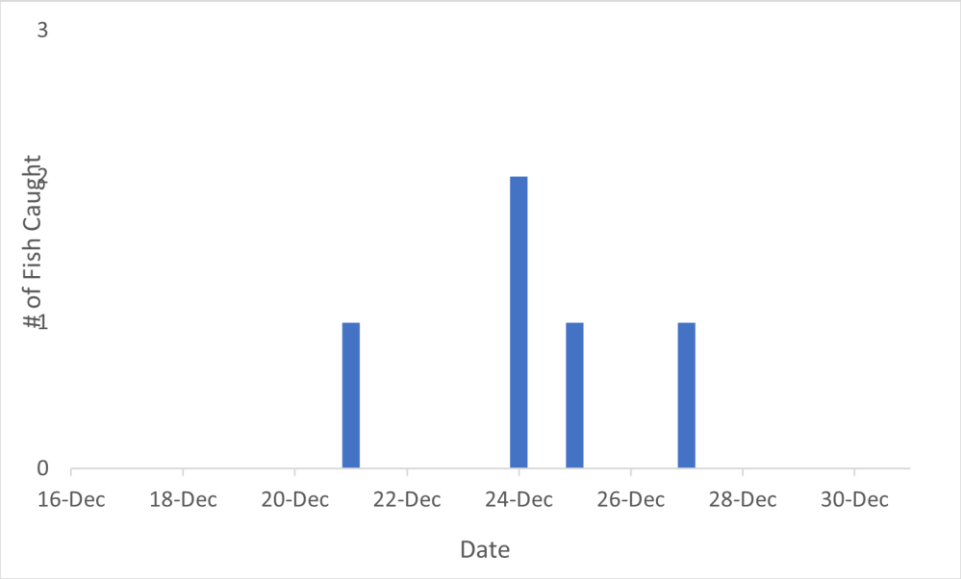


Figure 59. Chinook Captured Per Day 12/16/2023 to 12/31/2023 (Lookout Point Head of Reservoir).

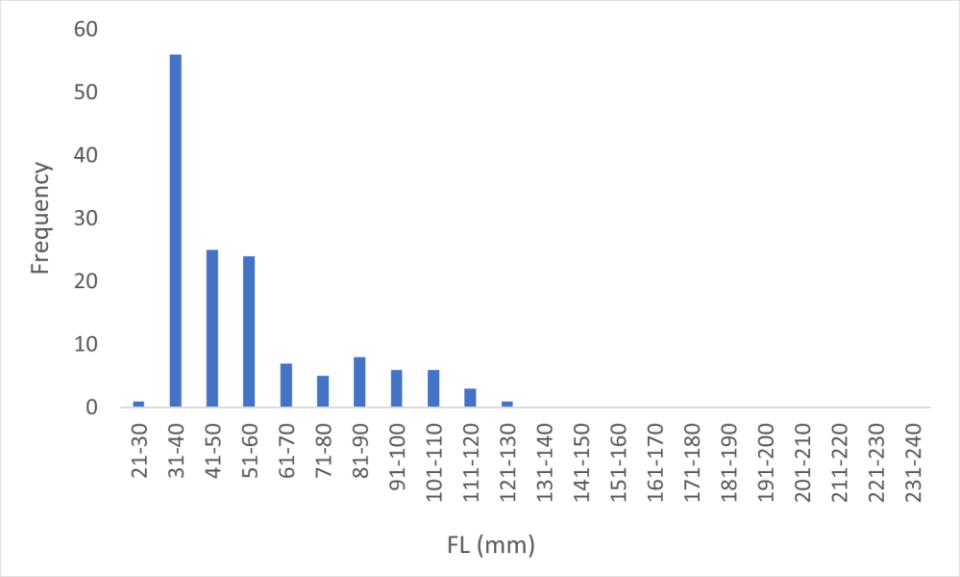


Figure 60. Length Frequency of Juvenile Chinook Sampled in 2023 (Lookout Point Head of Reservoir).

Table 41. Descriptive Statistics of Target Species Captured at Lookout Point Head of Reservoir, Season To-Date and for the Reporting Period.

To-Date (Since Jan. 1, 2023)										
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	87	30	57	39.6	N/A	N/A	N/A
		CHS	Parr	41	41	109	67.3	1.0	18.4	4.3
		CHS	Smolt	14	69	126	101.4	4.1	38.7	13.5
December 16-31, 2023										
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	82	82	82.0	6.3	6.3	6.3
		CHS	Smolt	4	85	115	105.0	6.8	15.4	12.1

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

Trapping Efficiency

On 12/19/2023, 1,504 juvenile hatchery Chinook (yearlings) were adipose and 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. 9 fish were recaptured in the 5-ft RST for an efficiency of 0.6%.

Lookout Point Head of Reservoir	Release #	Recapture #	Capture Efficiency
5 ft	1,504	9	0.6% (9/1,504)

Injuries and Copepod Infection

There were 5 Chinook captured during this reporting period. 5 had partial descaling <20% (100.0%) and 0 had descaling >20% (0.0%). 2 had body injuries (40.0%) and 1 fish displayed eye injuries (20.0%). 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 42. To date data can be found in Appendix A.

Table 42. 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	5	5	0	3	2	0	0	0

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

Collected DNA and Scale Samples

Scales and DNA were collected from 5 Chinook captured for the reporting period.

PIT Tags

2 of the 5 Spring Chinook were PIT tagged during this reporting period. Due to a crew error in protocol, 3 of the 5 Spring Chinook were not PIT tagged this reporting period. Refer to Appendix D for further information regarding PIT tags during this reporting period.

VIE Marking

Visual Implant Elastomer (VIE) trials commenced at the Lookout Point Head of Reservoir site on 6/25/2022. VIE tag color and locations are changed every month to distinctly mark groups of fish by capture date. Since then, 68 Chinook have been VIE marked with fluorescent elastomer. 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 at the Lookout Point Head of Reservoir site is available in Table 43.

Table 43. Summary of VIE Marked Chinook at the Lookout Point Head of Reservoir site.

Date Tagged	Tag Location	VIE Color	# Tagged	# Recaptured to Date
6/25/2022-7/15/2022	Left Dorsal	Yellow	3	0
7/16/2022-7/31/2022	Left Dorsal	Red	1	0
1/1/2023-1/31/2023	Left Dorsal	Blue	7	0
2/1/2023-2/15/2023	Right Dorsal	Yellow	2	0
2/16/2023-2/28/2023	Right Dorsal	Yellow	1	0
3/1/2023-3/15/2023	Right Dorsal	Red	3	0
5/16/2023-5/31/2023	Right Dorsal	Orange	33	0
6/1/2023-6/15/2023	Right Dorsal	Pink	9	0
6/16/2023-6/30/2023	Right Dorsal	Pink	9	0

Non-Target Species

17 non-target species were captured during the reporting period; the data is summarized below in Table 44.

Table 44. Summary of Non-target Species (Lookout Point Head of Reservoir).

Species	5ft Capture	5ft Mortality	Season Total *	Season Total Mortality *
Chinook (clipped)	2	0	26	4
Crappie	0	0	12	12
Cutthroat Trout	0	0	22	0
Bluegill	1	0	2	0
Spotted Bass	0	0	1	0
Dace	2	0	725	20
Lamprey	0	0	0	0
Largescale Sucker	9	2	119	3
Mountain Whitefish	0	0	62	16
Northern Pikeminnow	1	0	96	28
O. mykiss	2	0	225	4
O. mykiss (clipped)	0	0	0	0
Redside Shiner	0	0	5	0
Sculpin	0	0	42	1
Unknown	0	0	0	0
Totals	**17**	**2**	**1337**	**88**

**Season totals include sampling completed on the RST project in 2023.*

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 2,080.0 cfs to 8,240.0 cfs (mean: 4,129.4 cfs). Figure 61 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 62).

Flows into Lookout Point Reservoir averaged 3,552.8 cfs (Figure 63). Catch per unit of effort (CPUE) data are summarized in Table 45. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 45. Summary of Chinook CPUE at Lookout Point Head of Reservoir.

Description	Chinook
Catch	5
Effort (hrs)	236.5
CPUE (fish/hr)	0.021

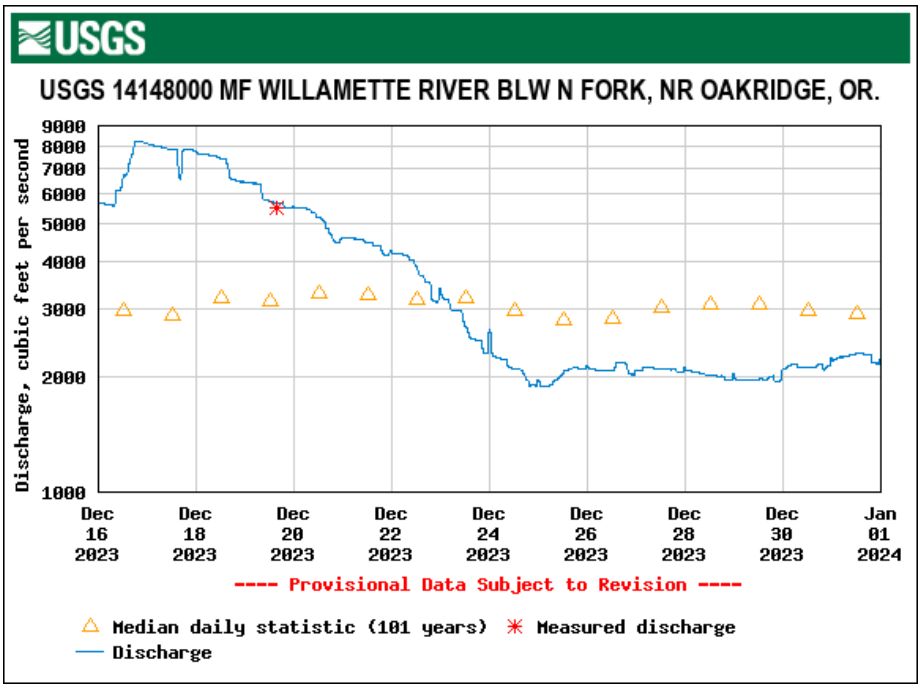


Figure 61. Discharge (cfs); above Lookout Point Reservoir, Below Oakridge, OR.

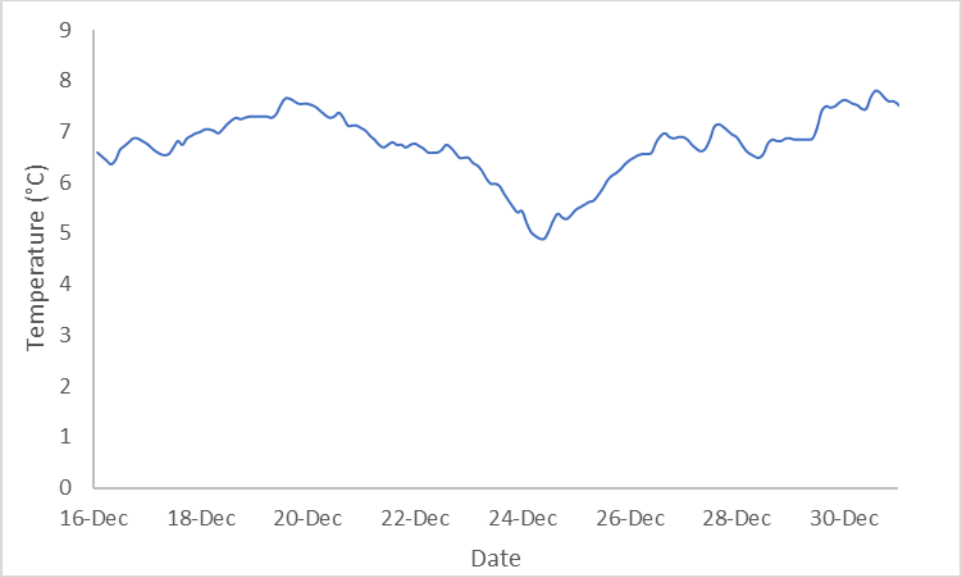


Figure 62. Temperature at RST (Lookout Point Head of Reservoir).

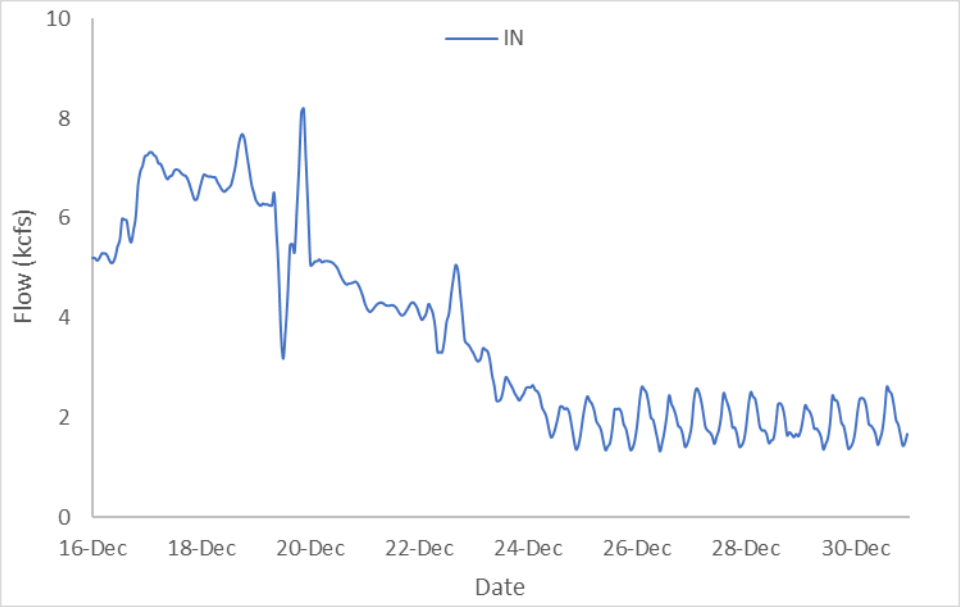


Figure 63. Hourly Flows (Lookout Point Head of Reservoir site).

Middle Fork Willamette River– Hills Creek Head of Reservoir

The Hills Creek Head of Reservoir RST was installed and began sampling on May 9th, 2023. Sampling concluded at this site on June 30, 2023 and the RST was removed.

Target Species

A total of 93 Spring Chinook were captured during sampling in 2023. Figure 64 shows length frequency data of captured Chinook for sampling in 2023. Table 46 provides life stage, length, and weight data for all Chinook Salmon that have been caught at the Middle Fork Willamette River- Hills Creek Head of Reservoir site to-date and for the reporting period.

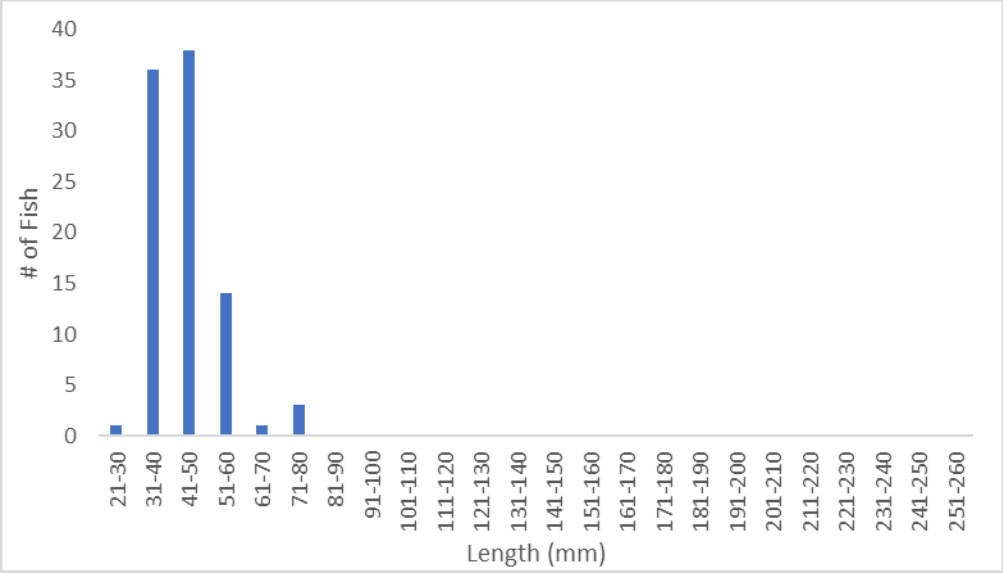


Figure 64. Length Frequency of Juvenile Chinook Sampled Season To-Date (Hills Creek Head of Reservoir).

Table 46. Descriptive Statistics of Target Species Captured at Hills Creek Head of Reservoir Season To-Date.

To-Date (Since May 09, 2023)										
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*		
					Min	Max	Mean	Min	Max	Mean
Hills Creek Head of Reservoir	5 ft	CHS	Fry	60	30	50	38.9	N/A	N/A	N/A
		CHS	Parr	33	38	76	52.6	1.0	6.0	2.1
		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

On May 18th, 519 adipose clipped and PIT Tagged fish were released for a trapping efficiency trial at the Hills Creek Head of Reservoir site. 44 fish were recaptured in the RST for a trapping efficiency of 8.5%

Hills Creek Head of Reservoir	Release #	Recapture #	Capture Efficiency
5ft Trap	519	44	8.5% (44/519)

On June 19th, 760 adipose clipped and PIT Tagged fish were released for a trapping efficiency trial at the Hills Creek Head of Reservoir site. 6 fish were recaptured in the RST for a trapping efficiency of 0.79%.

Hills Creek Head of Reservoir	Release #	Recapture #	Capture Efficiency
5ft Trap	760	6	0.8% (6/760)

PIT Tags and VIE Marking

A total of 3 fish were PIT tagged and 71 fish were VIE marked at the Hills Creek Head of Reservoir- Middle Fork Willamette site in 2023. No tagged or VIE marked fish were redetected downstream. Table 47 provides a summary of VIE marked fish at the Hills Creek Head of Reservoir- Middle Fork Willamette River site.

Table 47. Summary of VIE marked Chinook at the Hills Creek Head of Reservoir- Middle Fork Willamette site in 2023.

Date Tagged	Species	Tag Location	VIE Color	# Tagged	# Recaptured to Date
5/1/2023-5/30/2023	Chinook	Left Dorsal	Orange	19	0
5/1/2023-5/30/2023	Chinook	Right Dorsal	Orange	11	0
6/1/2023-6/30/2023	Chinook	Left Dorsal	Pink	37	0
6/1/2023-6/30/2023	Chinook	Right Dorsal	Pink	4	0

Non-Target Species

A total of 232 non-target species fish were captured during sampling in 2023; the data is summarized below in Table 48.

Table 48. Summary of Non-target Species (Hills Creek Head of Reservoir).

Species	Season Total	Season Total Mortality
Dace	87	1
Cutthroat Trout	2	0
O. mykiss	26	0
Bull Trout	1	0
Brook Lamprey	18	2
Sculpin	20	1
Largescale Sucker	64	1
Mountain Whitefish	2	0
Redside Shiner	12	0
Totals	**232**	**5**

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. This report reflects research conducted starting September 15th, 2023 but will include season totals from January 1st, 2023 onward.

Target Species

The reporting period began December 16th and ended on December 31st. There were a total of 31 Chinook salmon captured during the 16-day sampling period (Figure 65). The RO RST was raised to the non-sampling position on December 17th due to outflow through the dam exceeding safe sampling thresholds. The RO RST was lowered back into the sampling position on December 19th after flows receded below safety threshold. Sampling duration for the RO RST was 93.8% and 100% for the PH RST for the reporting period. Table 49 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 66 shows length frequency data to-date.

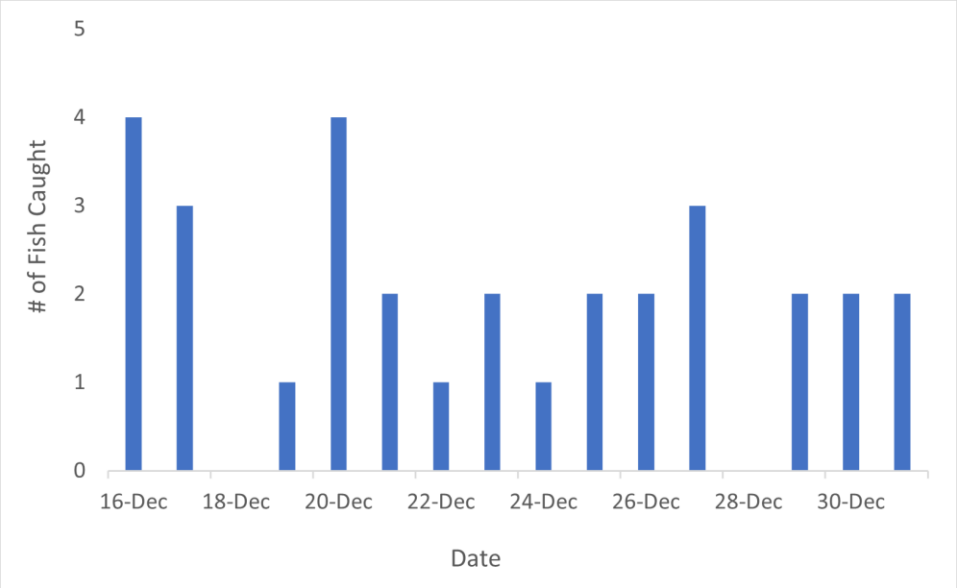


Figure 65. Chinook Captured Per Day 12/16/2023 to 12/31/2023 (Hills Creek Dam Tailrace).

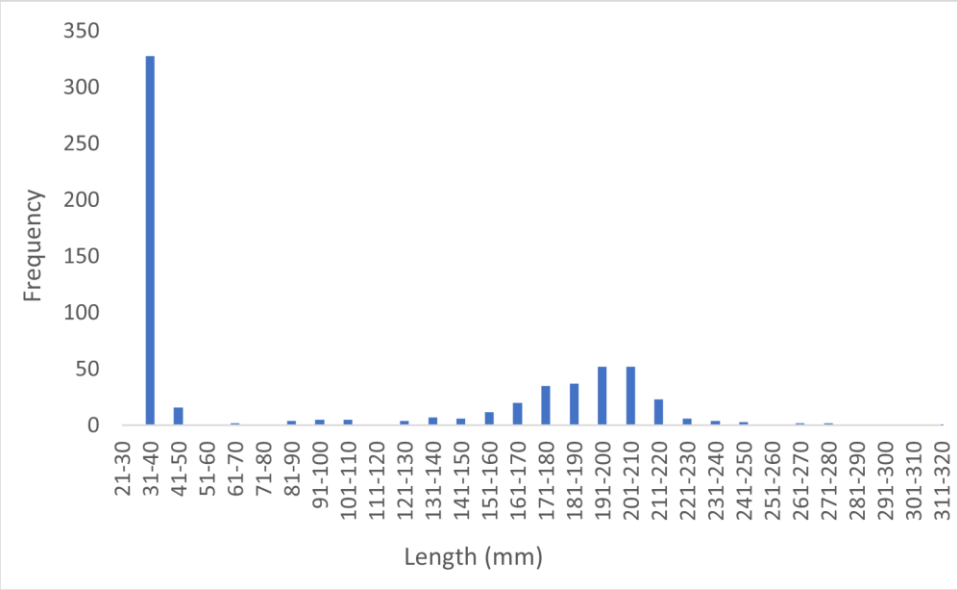


*Figure does not include fish without heads or fish used for trapping efficiency

Figure 66. Length Frequency of Juvenile Chinook Sampled in 2023 (Hills Creek Dam).

Table 49. Descriptive Statistics of Target Species Captured at Hills Creek Dam Season To-Date and for the Reporting Period.

To-Date (Since Jan. 1, 2023)											
Site	Route	Species	Life stage	Collected	Length (mm)*			Weight (g)*			
					Min	Max	Mean	Min	Max	Mean	
Hills Creek	RO	CHS	Fry	126	31	55	35.6	N/A	N/A	N/A	
		CHS	Parr	9	61	106	88.2	2.5	14.8	7.8	
		CHS	Smolt	112	88	298	194.5	8.4	317.0	90.0	
Hills Creek	PWR	CHS	Fry	220	31	48	36.1	N/A	N/A	N/A	
		CHS	Parr	3	69	105	86.0	4.7	11.9	7.5	
		CHS	Smolt	174	96	314	186.7	7.1	290.2	81.2	
December 16-31, 2023											
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	4	81	106	90.8	5.2	14.8	8.7	
		CHS	Smolt	16	88	221	183.1	8.4	123.4	82.7	
Hills Creek	PWR	CHS	Fry	0	N/A	N/A	N/A	N/A	N/A	N/A	
		CHS	Parr	1	84	84	84.0	5.9	5.9	5.9	
		CHS	Smolt	10	121	225	192.2	18.6	119.7	87.3	

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

Trapping Efficiency

A total of 505 juvenile Chinook were adipose clipped, right vent clipped and upper caudal clipped and released on 12/26/23 below Hills Creek RO to evaluate the efficiency of the screw trap. A total of 10 fish were recaptured in the traps for an efficiency of 1.98%. 0 fish were recaptured at the 8 ft PWR trap for a trapping efficiency of 0.0% and 10 were captured in the RO trap for an efficiency of 1.98%.

Hills Creek Dam	Release #	Recapture #	Capture Efficiency
PWR Trap	N/A	N/A	0.0% (0/0)
RO Trap	505 (RO Release)	10	1.98% (10/505)

24-Hour Post Collection Holding Trial

20 Chinook captured in the RSTs were held during this reporting period. 7 fish were held from the PWR RST and 13 fish was held from the RO RST. 1 hold fish died from the PWR RST (14.3%). 4 of the fish from RO RST died during holding (30.8%).

Injuries and Copepod Infection

There were 20 Chinook captured in the RO RST. Partial descaling <20% was observed on 13 of 20 Chinook collected at the RO RST (65.0%), and descaling >20% was observed on 7 Chinook collected (35.0%). 17 displayed body injuries (85.0%) and 2 had eye injuries (10.0%). 14 of the RO RST Chinook had copepods present in the branchial cavity (70.0%) and 2 had copepods present on fins (10.0%). There were 5 mortalities (25.0%). 5 of the fish captured in the RO RST displayed Gas Bubble Disease (4 at Level 1, 1 at Level 2) (25.0%).

There were 11 Chinook captured in the Powerhouse channel RST. Partial descaling <20% was observed on 9 of the 11 Chinook collected at the PWR RSTs (81.8%). Descaling >20% was observed on 2 of the Chinook collected (18.2%). 11 PWR RST fish had bodily injury (100.0%) and 1 had eye injuries (9.1%). 10 of the fish had copepods present in the branchial cavity (90.9%) and 3 had copepods present on fins (27.3%). 0 fish displayed Gas Bubble Disease (0.0%). There were 4 chinook mortalities collected in the PWR RST (36.4%).

Injuries are displayed in Table 50. To date injury data can be found in Appendix A.

Table 50. 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	20	13	7	17	2	14	2	5
Hills Creek	PWR	11	9	2	11	1	10	3	4

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

Collected DNA and Scale Samples

For the reporting period, DNA was collected from 30 Spring Chinook. Scales were collected from 30 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. 39 Chinook have been VIE marked with fluorescent elastomer. More information regarding VIE marked fish can be found in Appendix D.

Fish still showing an egg sac are not VIE marked.

Date Tagged	Tag Location	VIE Color	# Tagged	# Recaptured to Date
3/16/2023-3/31/2023	Head	Red	39	0

Non-Target Species

156 non-target fish were captured at Hills Creek during the reporting period; the data is summarized below in Table 51. Of the 104 clipped Chinook captured, 20 were PIT tagged fish from bulk marked releases, 82 were adipose clipped fish that are likely from releases in Hills Creek Reservoir and 2 were fish released above the dam for trapping efficiency trials.

Table 51. 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	25	17
Bluegill	10	4	2	0	291	142
Brook Lamprey	0	0	0	0	2	0
Brown Bullhead	0	0	0	0	8	1
Chinook (clipped)	63	24	41	14	1595	831
Crappie	8	6	3	2	1558	1165
Cutthroat	0	0	0	0	3	0
Dace	1	0	4	0	75	9
Largemouth Bass	0	0	0	0	9	23
Largescale Sucker	1	1	2	1	344	109
Northern Pikeminnow	0	0	0	0	1	0
O. mykiss	2	1	4	1	99	25
O. mykiss (clipped)	0	0	1	1	23	47
Pumpkinseed	0	0	0	0	2	2
Redside Shiner	0	0	1	0	8	1
Sculpin	4	0	7	0	291	1
Smallmouth Bass	0	0	0	0	29	24
Spotted Bass	2	1	0	0	117	56
Unknown	0	0	0	0	3	3
Walleye	0	0	0	0	1	1
Totals	**91**	**37**	**65**	**19**	**4484**	**2457**

**Season totals include sampling completed on the RST project in 2023.*

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 1,224.4 feet to 1,229.2 feet (mean: 1,226.3 feet). Figure 67 shows instantaneous gauge height.

Total dissolved gas saturation ranged from 97 to 124% (mean: 105.0%) during the reporting period. Figure 68 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 69 and 70).

Flows through the PWR and RO during the reporting period averaged 533.4 and 1,529.2 cfs respectively (Figure 71). Catch per unit of effort (CPUE) data are summarized in Table 52. Discharge and capture data for the duration of monitoring efforts at this location are provided in Appendix B.

Table 52. Summary of Chinook CPUE, Hills Creek Dam.

	Chinook	
Description	**RO (5ft)**	**PWR (8ft)**
Catch	20	11
Effort (hrs)	336.2	381.1
CPUE (fish/hr)	0.059	0.029

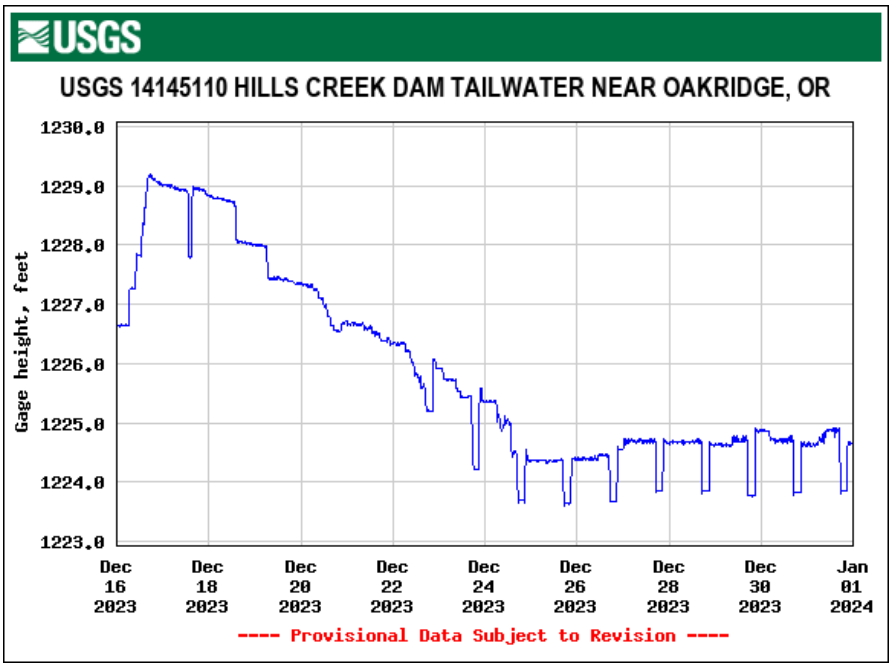


Figure 67. Gauge Height (feet); below Hills Creek Dam PWR - Middle Fork Willamette River.

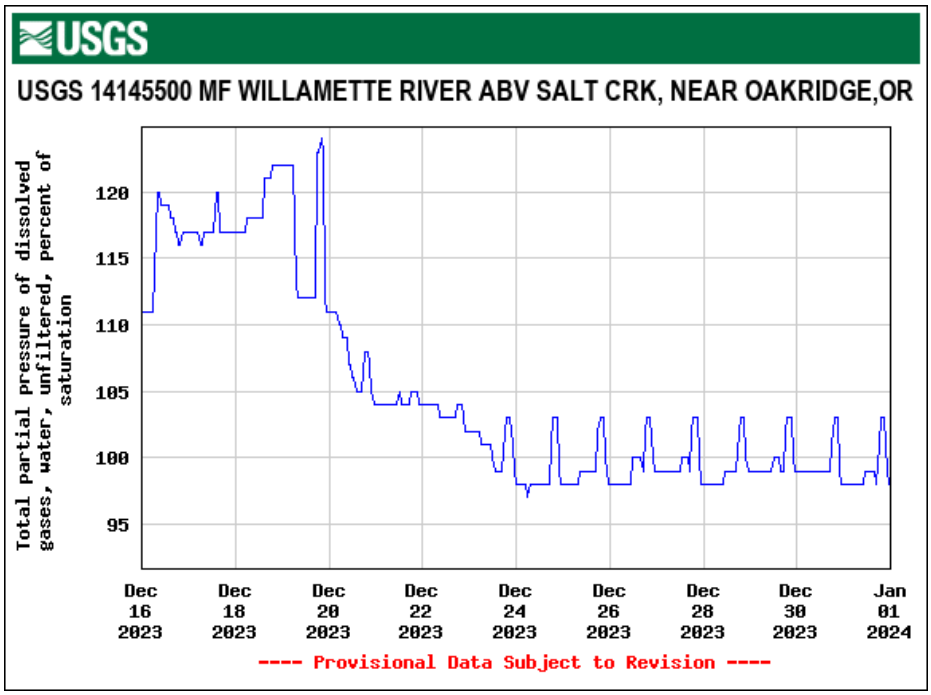


Figure 68. Total Dissolved Gas Saturation (%); below Hills Creek Dam – Middle Fork Willamette River.

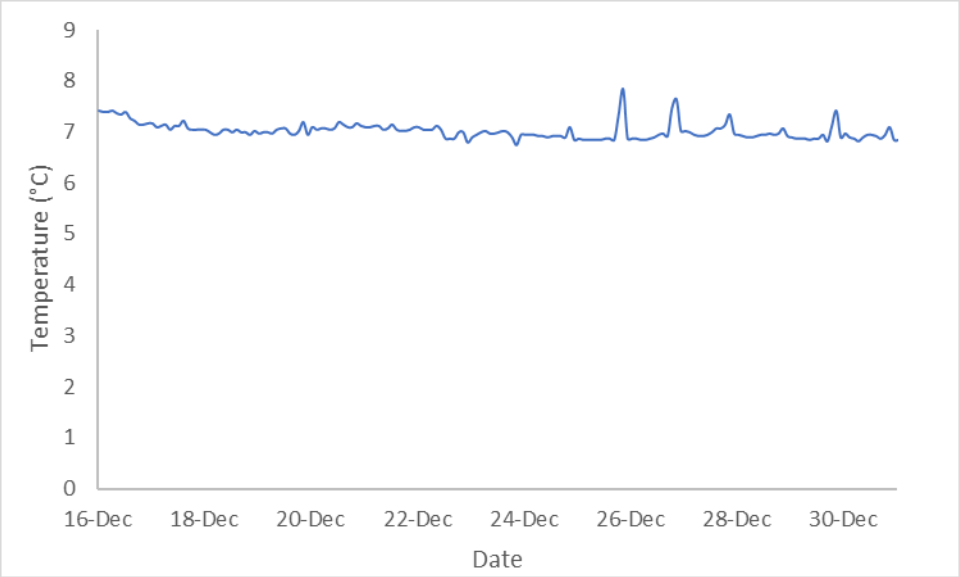


Figure 69. Temperature at Hills Creek RST PWR (Hills Creek Dam).

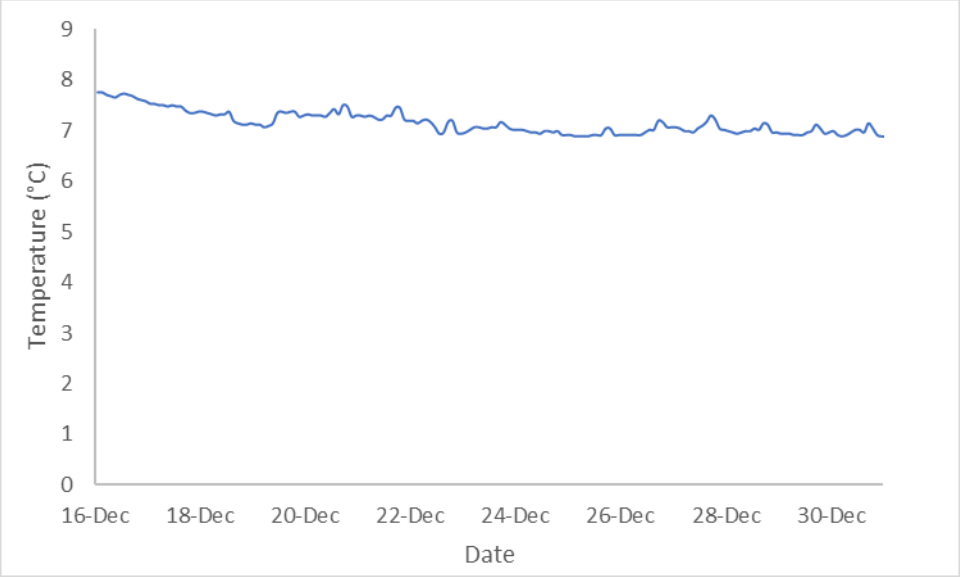


Figure 70. Temperature at Hills Creek RO RST (Hills Creek Dam).

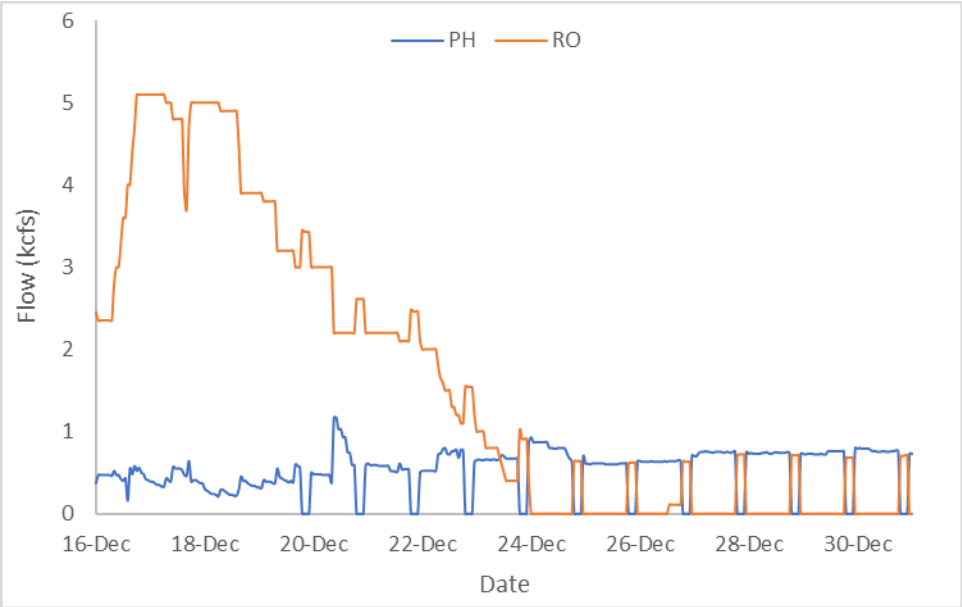


Figure 71. Hourly Flows PWR vs. RO (Hills Creek Dam).

Issues Encountered

High flow events due to atmospheric rivers and flood risk management caused the Big Cliff Dam, Fall Creek Dam, and Lookout Point Head of Reservoir traps to be raised for safety this reporting period.

Upcoming USACE Support Services

None at this time.

Appendix A

Chinook (CHS) To-Date

Chinook Injuries to-date																							
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	1955		1199	16	136	20	16	1475	442	7	1116	6	17	5	67	12	143	79	250	112	124	26	86
8 ft	1955		1199	16	136	20	16	1475	442	7	1116	6	17	5	67	12	143	79	250	112	124	26	86
Adult	1		1								1						1	1	1		1		
Parr	40		14	1	4	2		20	5		14					2			1	1		1	
Smolt	1783		1179	15	130	18	15	1455	436	7	1098	6	17	3	66	10	139	75	247	108	123	22	84
Unknown	2													2								1	
Fry	129		5		2		1		1		3				1		3	3	1	3		2	2
Breitenbush River	377		304	1	1	9		66	9	3	181				1		11	10		2	4	1	
5 ft	377		304	1	1	9		66	9	3	181				1		11	10		2	4	1	
Parr	220		171	1		7		39	6	2	97						7	8			1	1	
Smolt	147		133		1	2		27	3	1	81				1		4	2		2	3		
Fry	10										3												
Detroit HOR	10141	1	710	10	15	9		51	47	16	461	2		1	33		67	52	46	38	48	19	
5 ft	10141	1	710	10	15	9		51	47	16	461	2		1	33		67	52	46	38	48	19	
Parr	811		494	9	4	8		30	34	4	309	2			15		8	22	7	12	5	10	
Smolt	210		189	1		1		21	5	3	102				1		4	3	1	1			
Fry	9120	1	27		11				8	9	50			1	17		55	27	38	25	43	9	
Green Peter HOR	25		3						1	1	4						1	1		1			
5 ft	25		3						1	1	4						1	1		1			
Smolt	4		3						1	1	3						1	1					
Fry	21										1									1			
Green Peter Tail.	107	3	56	2	15	2		7	28		70				8		9	5	14	15	11	2	33
8 ft	107	3	56	2	15	2		7	28		70				8		9	5	14	15	11	2	33
Parr	84	3	45		9	2		5	21		54				4		6	3	11	10	11	2	26
Smot	8		6	1	1			1	2		6								1	1			3
Fry	15		5	1	5			1	5		10				4		3	2	2	4			4
Foster Dam HOR	744		112		3			3	5	1	82		1	1	3		5	12	4	16	1	6	
5 ft	744		112		3			3	5	1	82		1	1	3		5	12	4	16	1	6	
Parr	73		50					3			22				1				1				
Smolt	74		59							1	40						1			3			
Fry	597		3		3				5		20		1	1	2		4	12	3	13	1	6	
Cougar Dam	8692	12	5778	74	870	562	12	7229	1735	19	6158	4	10	2	258	230	480	395	1151	352	1006	87	2037
RO	7073	1	4930	61	820	550	12	6398	1572	17	5615	3	3		205	209	427	340	1078	318	912	78	2027
Parr	469		302	5	69	24	1	275	101	4	315				14	11	20	23	33	28	15	9	71
Smolt	6563	1	4626	56	748	526	11	6123	1470	13	5296	3	3		191	198	405	317	1044	288	895	69	1955
Fry	41		2		3				1		4						2		1	2	2		1
PH	1619	11	848	13	50	12		831	163	2	543	1	7	2	53	21	53	55	73	34	94	9	10
Parr	427	1	257	4	15	7		155	43	2	134		1		13	6	10	18	18	10	14	2	3
Smolt	801		587	9	29	5		675	113		403	1	6		39	15	40	30	51	21	80	4	7
Unknown	2													2									
Fry	389	10	4		6			1	7		6				1		3	7	4	3		3	
Cougar Dam HOR	6611	9	427	7	19	9		45	62	25	355	2	1		10		53	65	67	53	16	32	
5 ft	6611	9	427	7	19	9		45	62	25	355	2	1		10		53	65	67	53	16	32	
Parr	1174		365	7	6	8		39	24	14	255				5		16	35	11	11	6	8	
Smolt	91		37		2			4	17	2	30				3		7	2	5	2		3	
Fry	5346	9	25		11	1		2	21	9	70	2	1		2		30	28	51	40	10	21	
Fall Creek HOR	155		5	1				2	4		5	1					2	3		2		1	
8 ft	155		5	1				2	4		5	1					2	3		2		1	
Parr	10		3					1	2		3						1						
Smolt	5		1					1															
Fry	140		1	1					2		2	1					1	3		2		1	
Fall Creek Dam Tail.	151		43	1	5	1		63	51		87		1		13	1	11	6	13	11	17		9
8 ft	151		43	1	5	1		63	51		87		1		13	1	11	6	13	11	17		9
Parr	8		2		1						2				1			1	1	1			2
Smolt	89		38	1	3	1		63	51		82		1		12	1	10	5	11	8	17		7
Fry	54		3		1						3						1		1	2			

Chinook (CHS) To-Date (continued)

Chinook Injuries to-date (Cont.)																							
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Dexter Dam Tail.	153		90		12			23	44		89				2		5	9	13	10	9	2	32
5 ft	153		90		12			23	44		89				2		5	9	13	10	9	2	32
Parr	29		11		4			2	9		15							3	5	4			10
Smolt	121		79		8			21	35		73				2		5	6	8	6	9	2	22
Fry	3										1												
Lookout Dam Tail.	218		108	3	27	2	5	58	89		164	2			10	2	15	11	35	26	33	5	63
PH 1	53		22	1	8	1	1	19	24		41				5	2	10	4	12	7	7		11
Parr	6		3		1				2		4					1	1		1				2
Smolt	46		19	1	7	1	1	19	22		37				5	1	9	4	11	7	7		9
Fry	1																						
PH 2	56		32	1	8		1	10	19		45				3		2	4	8	8	8		13
Parr	22		15		4			1	6		19				1		1	1	3	5	2		6
Smolt	30		17	1	4		1	9	12		26				2		1	1	5	2	5		7
Fry	4								1									2		1	1		
Spill	109		54	1	11	1	3	29	46		78	2			2		3	3	15	11	18	5	39
Parr	18		7		1				9		13	1			1			1		1	1		7
Smolt	88		46	1	8	1	3	29	37		64	1			1		3	2	14	9	17	5	32
Fry	3		1		2						1								1	1			
Lookout Point HOR	251	1	65	1	4			3	5		40						5	3	5	1	2	1	
5 ft	251	1	65	1	4			3	5		40						5	3	5	1	2	1	
Parr	103		48					1	1		20						1		2				
Smolt	20		15	1	1			1	2		11						1		1	1	1	1	
Fry	128	1	2		3			1	2		9						3	3	2		1		
Hills Creek Dam	784	2	213	8	62	8		384	217	1	346	4	20	3	117	18	77	27	107	69	102	15	50
RO	331	2	100	3	26	1		174	98	1	147	1	9		47	8	32	7	50	35	37	4	22
Parr	15		9					1	1		5						1		1				
Smolt	190	1	89	3	25	1		173	97	1	140	1	9		47	8	28	7	47	32	36	2	22
Fry	126	1	2		1						2						3		2	3	1	2	
PH	453		113	5	36	7		210	119		199	3	11	3	70	10	45	20	57	34	65	11	28
Parr	10		7		1			3	1		3					1				1	1	1	
Smolt	223		101	5	31	7		207	118		191	3	11	3	65	9	39	15	53	31	64	7	28
Fry	220		5		4						5				5		6	5	4	2		3	
Hills Creek HOR	93		6							1	2												
5 ft	93		6							1	2												
Parr	33		4							1	2												
Fry	60		2																				

Chinook (CHS) During Reporting Period

Chinook Injuries During Reporting Period 12-16-2023 to 12-31-2023

Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	14		13					12			10								3				
8 ft	14		13					12			10								3				
Smolt	14		13					12			10								3				
Cougar Dam	132		114	1	12	8		90	15		73				7	5	14	8	12	12	23	2	26
PH 1	31		28		2	1		20	1		13				3	1	5	1	1	1	5		2
Parr	11		10			1		5			6					1	2	1			1		2
Smolt	20		18		2			15	1		7				3		3		1	1	4		
PH 2	45		42		3			29	3		16				2	1	3	2		2	5		
Parr	10		9		1			2	1		3												
Smolt	35		33		2			27	2		13				2	1	3	2		2	5		
RO	56		44	1	7	7		41	11		44				2	3	6	5	11	9	13	2	24
Fry	1		1								1						1				1		1
Parr	9		9		1	1		2			6								3	1			
Smolt	46		34	1	6	6		39	11		37				2	3	5	5	8	8	12	2	23
Dexter Dam Tail.	3		2		1			1	1		2						1	1	1	1		1	2
5 ft	3		2		1			1	1		2						1	1	1	1		1	2
Smolt	3		2		1			1	1		2						1	1	1	1		1	2
Lookout Dam Tailrace	15		10		1			2	3		13							1	4	2	1		2
PH 1	2		1					1	1		2								1		1		
Smolt	2		1					1	1		2								1		1		
PH 2	10		7					1	2		10							1	2	1			1
Parr	7		4					1	2		7								1	1			1
Smolt	3		3								3							1	1				
Spill	3		2		1						1								1	1			1
Fry	1				1														1	1			
Parr	1		1								1												1
Smolt	1		1																				
Lookout Point HOR	5		5		1						2						1		1	1		1	
5 ft	5		5		1						2						1		1	1		1	
Parr	1		1																				
Smolt	4		4		1						2						1		1	1		1	
Hills Creek Dam	31		22		3			24	9		27	1	1		5		4	1	11	7	10	1	5
PH	11		9		1			10	2		10		1		3		1	1	5	2	4	1	
Parr	1		1		1						1											1	
Smolt	10		8					10	2		9		1		3		1	1	5	2	4		
RO	20		13		2			14	7		17	1			2		3		6	5	6		5
Parr	4		3						1		2								1				
Smolt	16		10		2			14	6		15	1			2		3		5	5	6		5

Steelhead (*O. mykiss*) To Date

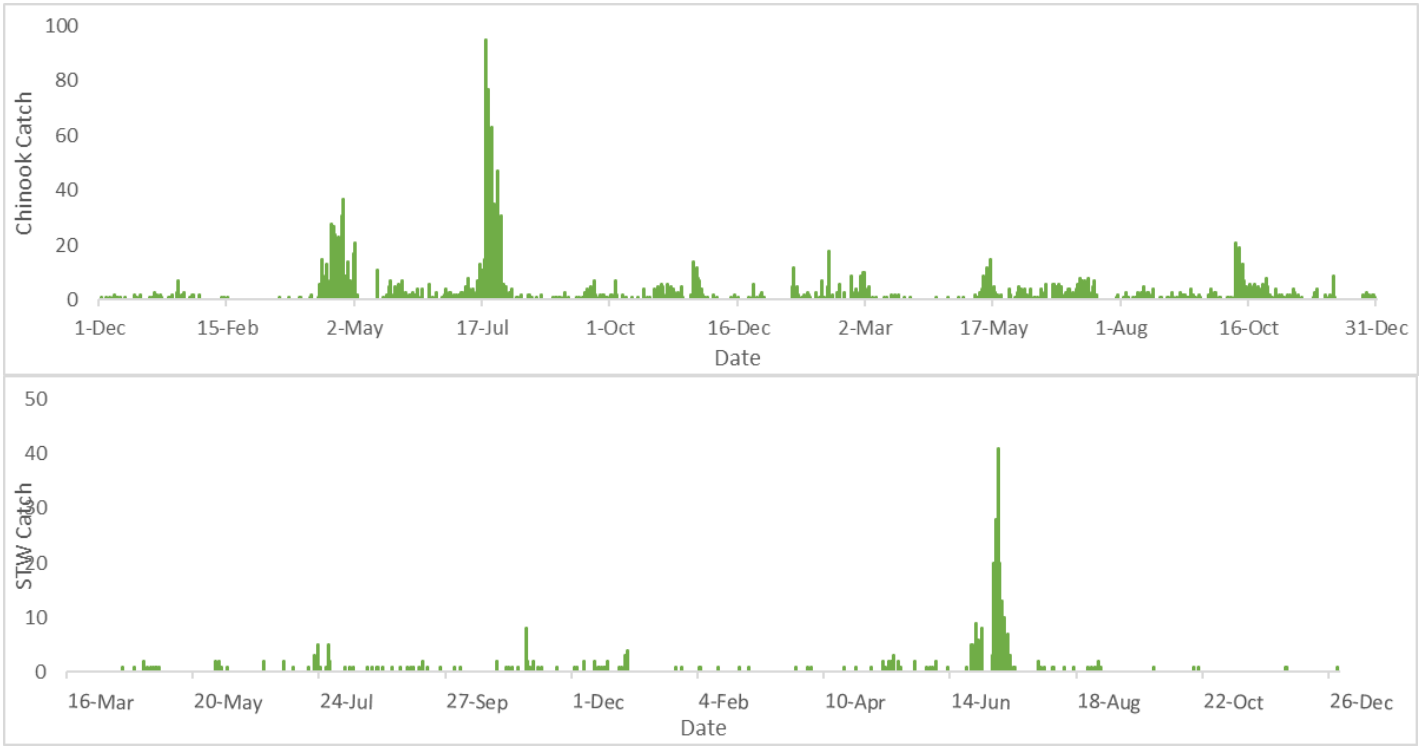
O. mykiss Injuries to-date																							
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	358	1	60	4	7	5	6	53	22	1	77	1	1		6		15	7	18	16	13	3	14
8 ft	358	1	60	4	7	5	6	53	22	1	77	1	1		6		15	7	18	16	13	3	14
Adult	1								1		1		1										
Parr	61	1	15	4	1	1	1	1			19						2	1	2	1	1		1
Smolt	66		40		6	4	5	52	21		52	1			6		10	5	15	15	12	3	12
Fry	230		5							1	5						3	1	1				1
Breitenbush River	361	1	14					3	3		16				1		2	2	3	1	1		
5 ft	361	1	14					3	3		16				1		2	2	3	1	1		
Parr	37		8					2	2		10						2	2			1		
Smolt	8		6					1	1		5				1				2				
Fry	316	1									1								1	1			
Detroit HOR	589	2	13	1	5	1		1	5	2	17				1		6	3	4	6	2	2	1
5 ft	589	2	13	1	5	1		1	5	2	17				1		6	3	4	6	2	2	1
Parr	34		8	1					1		8						1	1		1			
Smolt	4		3			1		1	1	1	3							1		1	1	1	
Fry	551	2	2		5				3	1	6				1		5	1	4	4	1	1	1
Green Peter HOR	1																						
5 ft	1																						
Fry	1																						
Green Peter Tailrace - I	18		8		3			4	8		14				1		4		5	3	1	5	12
8 ft	18		8		3			4	8		14				1		4		5	3	1	5	12
Adult	1		1								1												1
Smolt	16		7		3			4	8		13				1		4		5	3	1	5	11
Fry	1																						
Foster Dam HOR	25		24							1	14									1			
5 ft	25		24							1	14									1			
Parr	2		2																				
Smolt	23		22							1	14									1			

Steelhead (*O. mykiss*) During Reporting Period

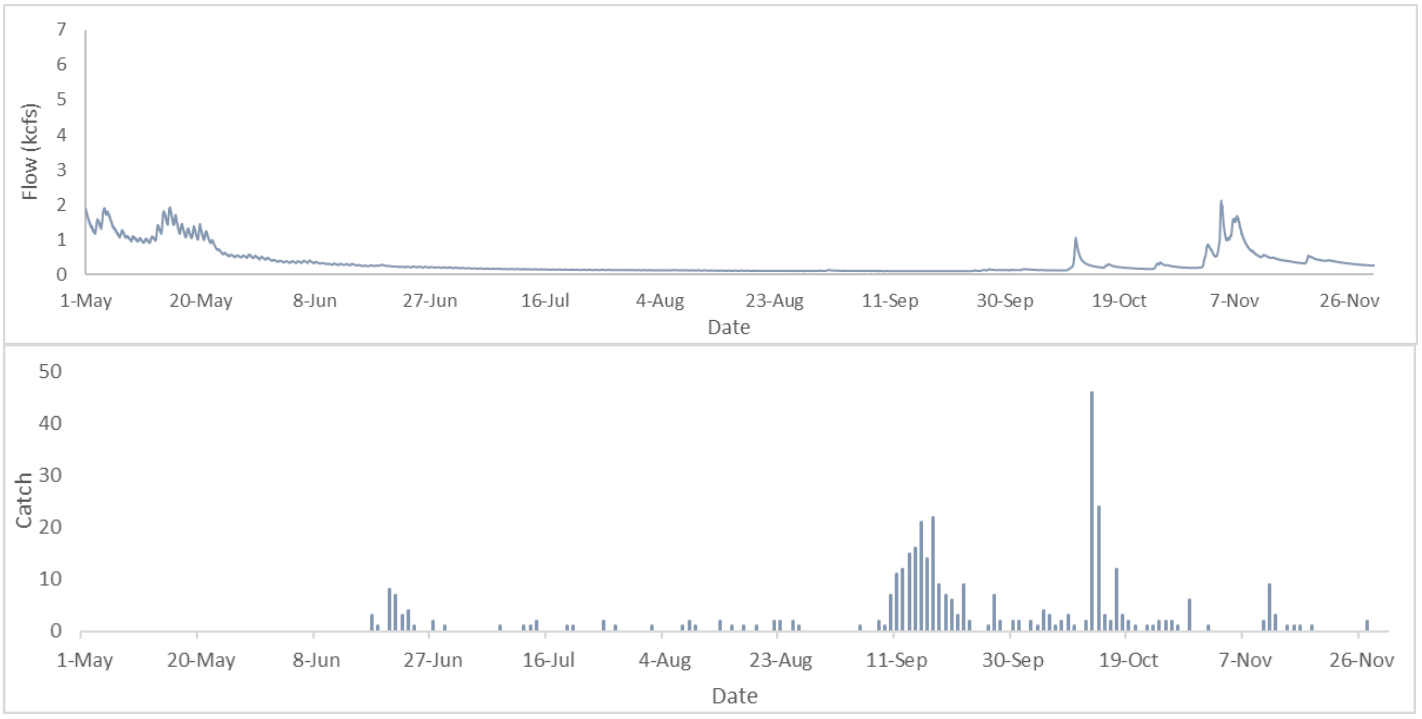
O. mykiss Injuries During Reporting Period 12-16-2023 to 12-31-2023																							
Site/Trap/Life Stage	Total Fish	MUNK	DS<2	BLO	EYB	FUN	BKD	COP	DS>2	PRD	FID	HBO	BO	HO	BVT	HBP	BRU	TEA	OPD	HIN	FVB	POP	GBD
Big Cliff Dam	1		1			1		1			1										1		1
8 ft	1		1			1		1			1										1		1
Smolt	1		1			1		1			1										1		1

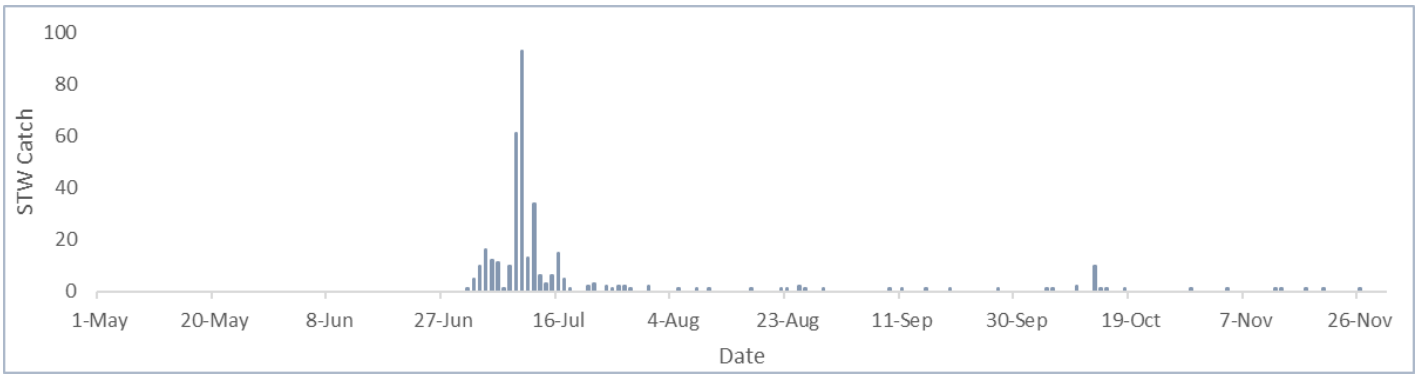
Appendix B

Big Cliff Dam Operational and Capture Data Since Start of Monitoring

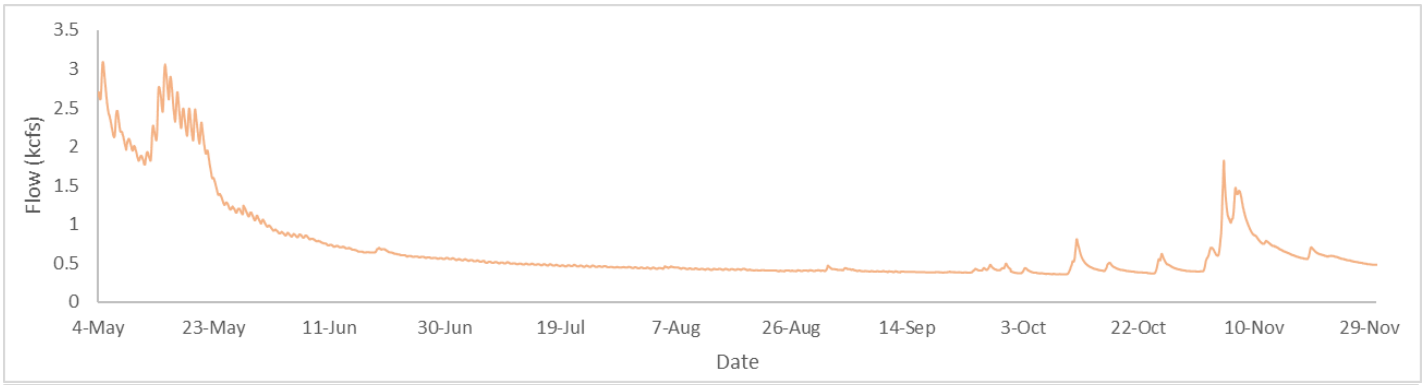


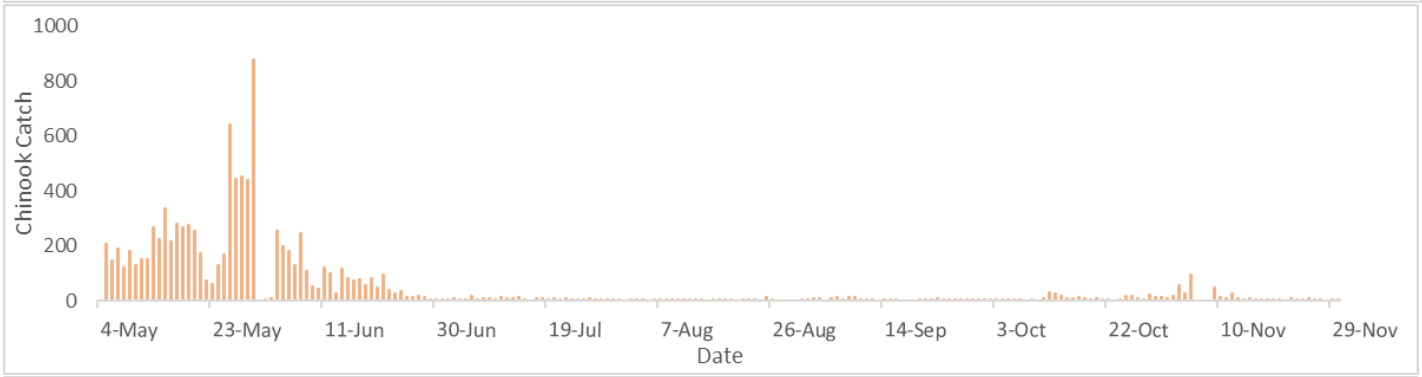
Breitenbush River Operational and Capture Data Since Start of Monitoring

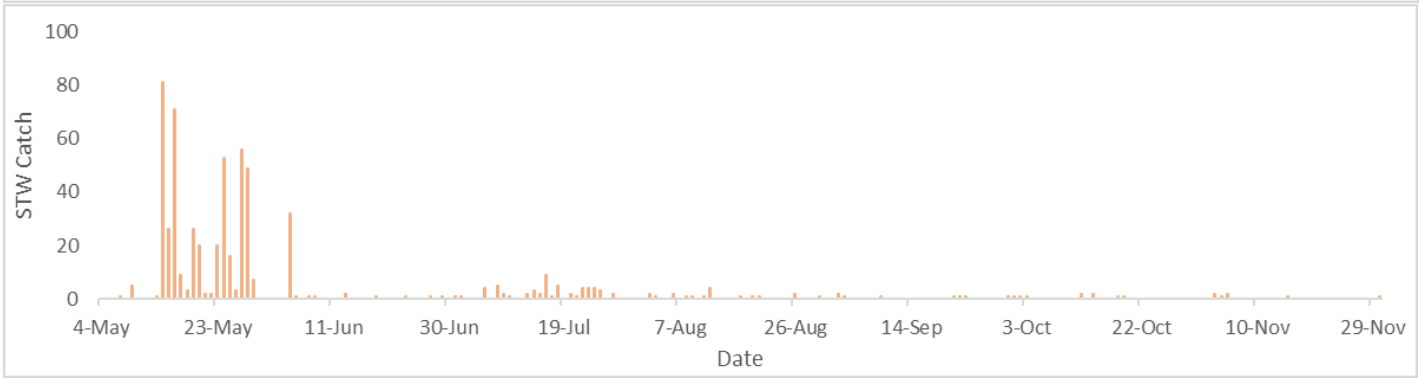




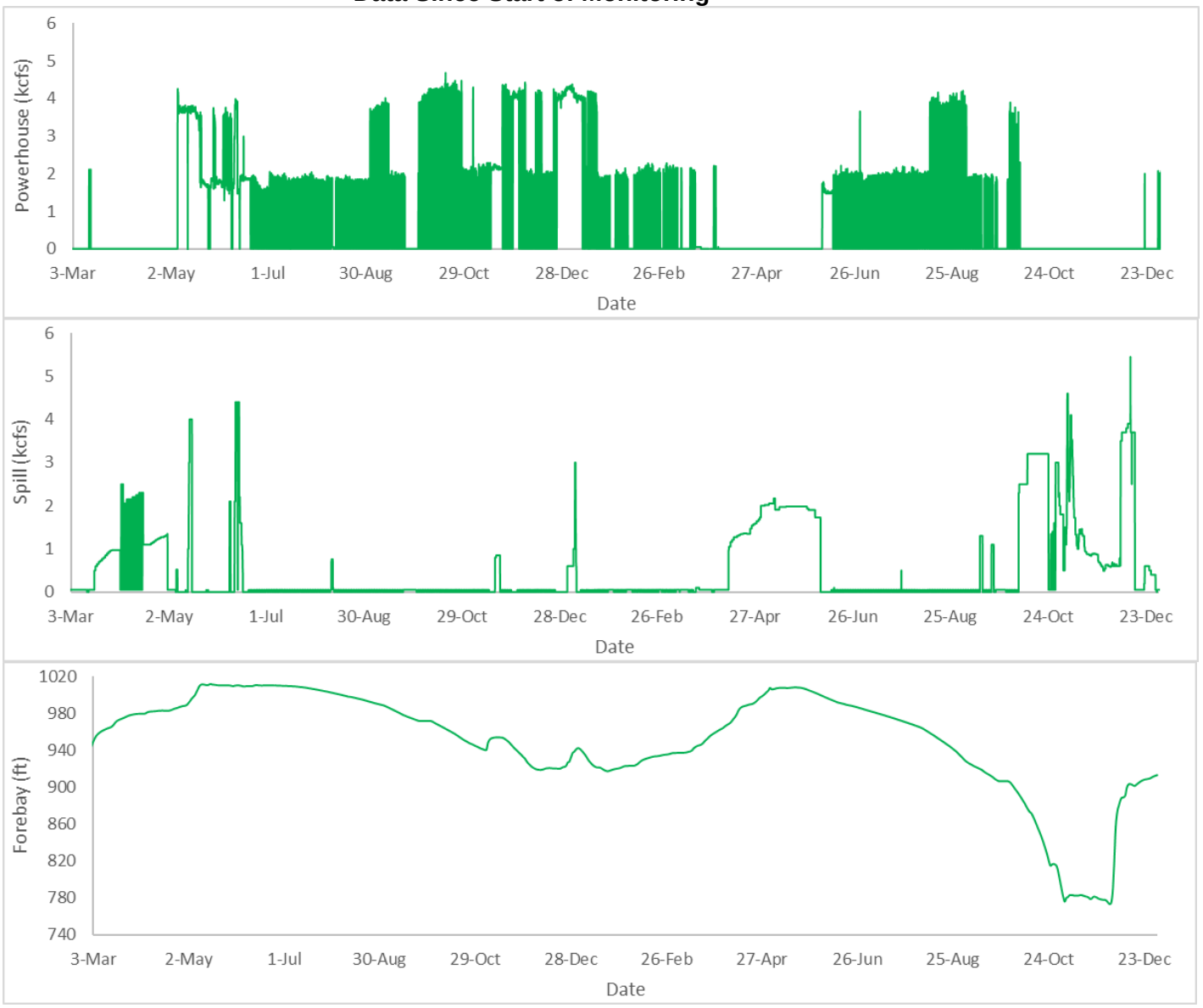
Detroit Head of Reservoir-North Santiam River Operational and Capture Data Since Start of Monitoring



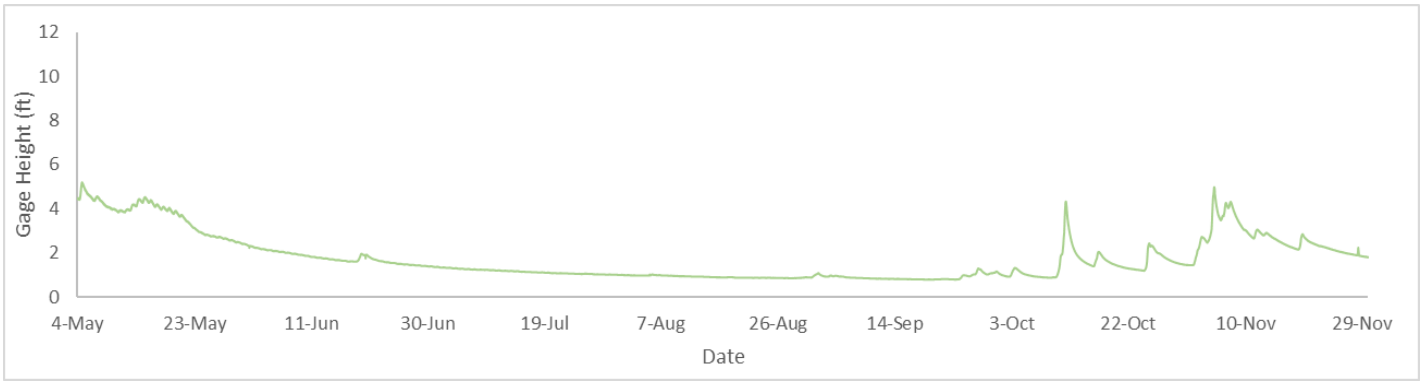




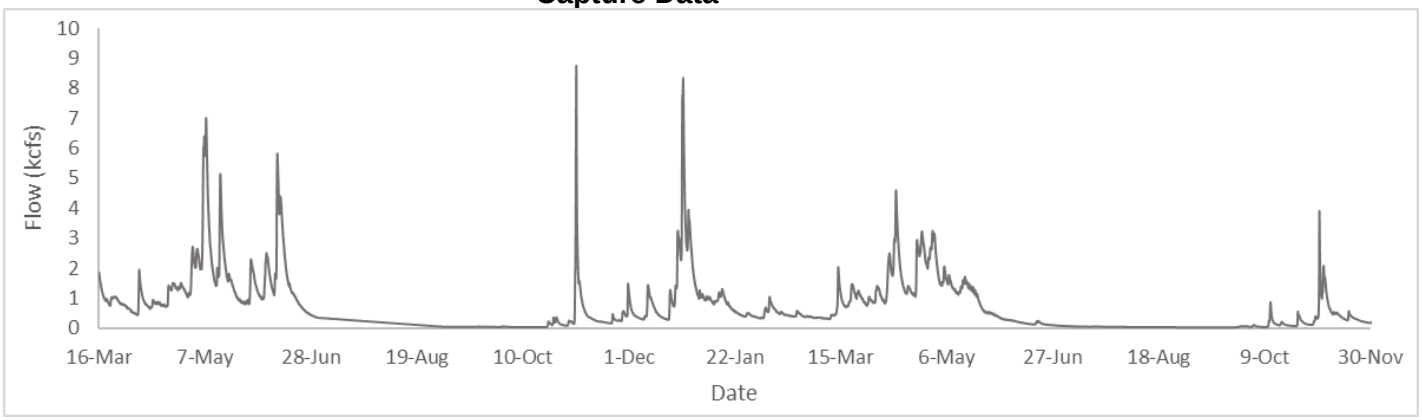
Green Peter Dam Operational and Green Peter Tailrace- Middle Santiam River Capture Data Since Start of Monitoring

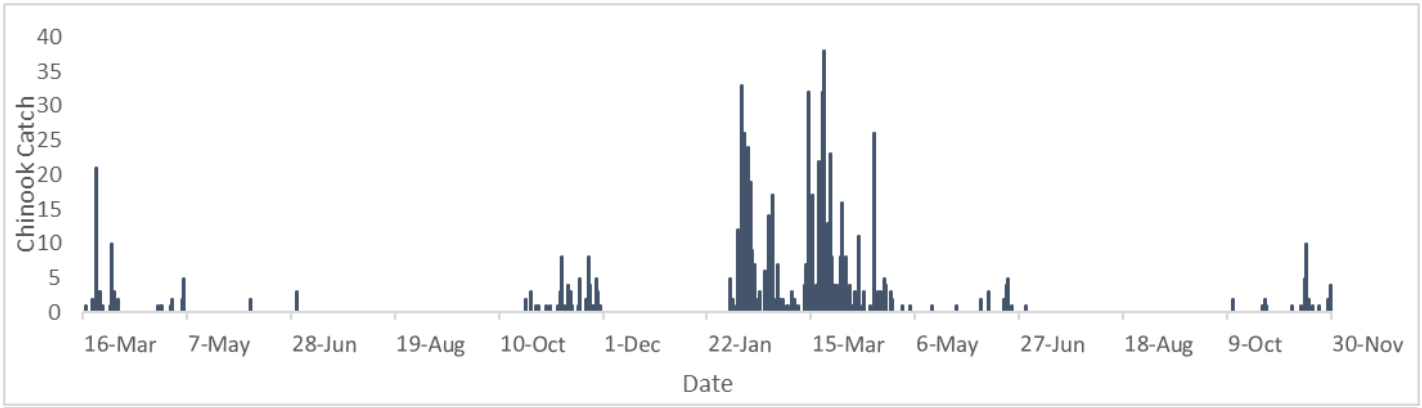


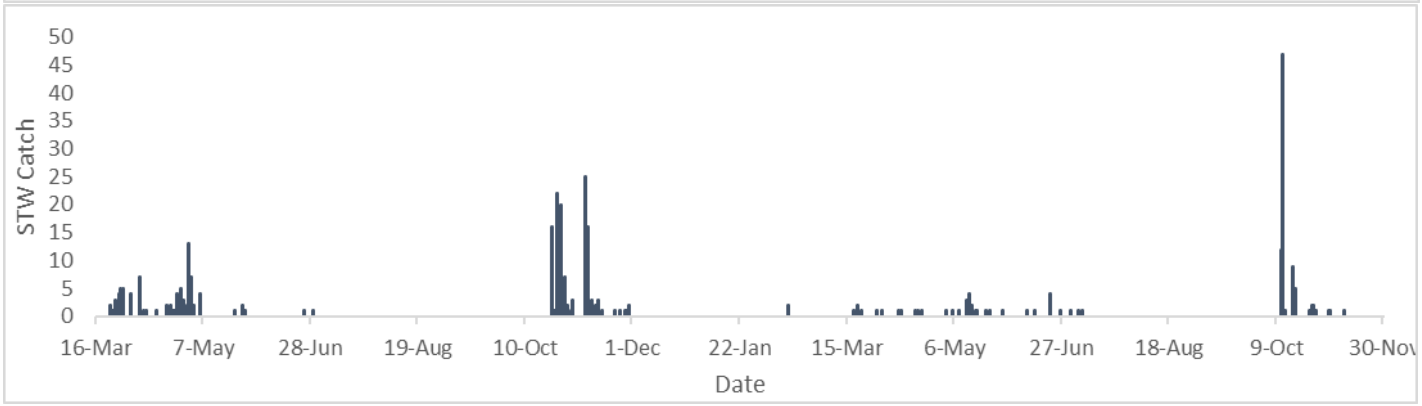
Green Peter Head of Reservoir-Middle Santiam River Operational and Capture Data Since Start of Monitoring



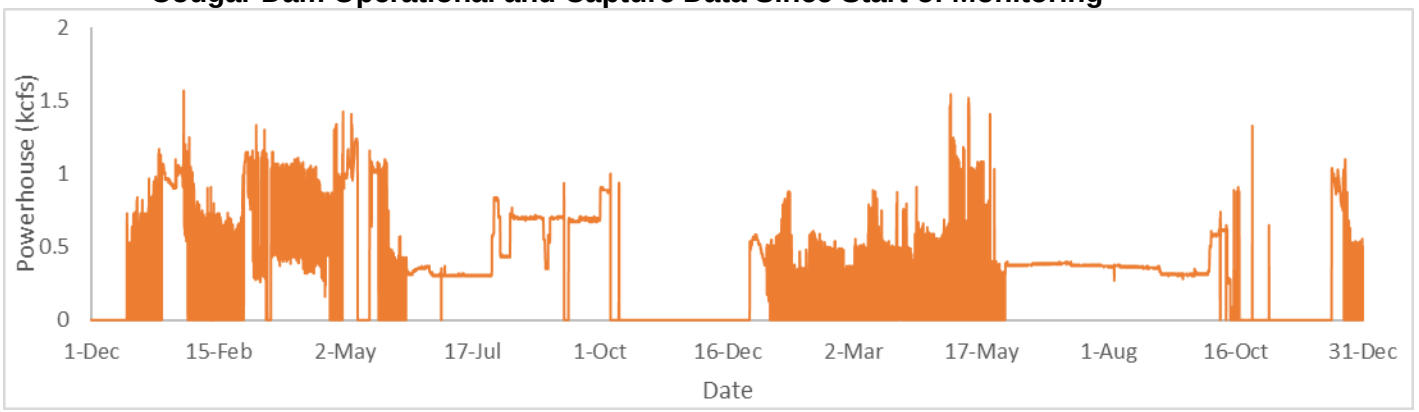
South Santiam River Above Foster Dam Discharge and Foster Dam Head of Reservoir Capture Data

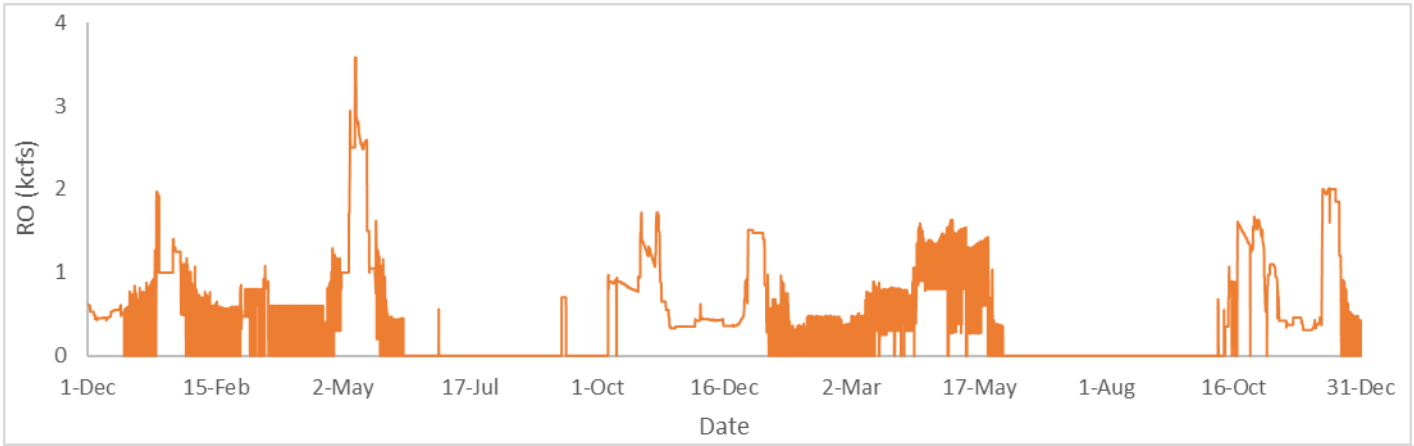


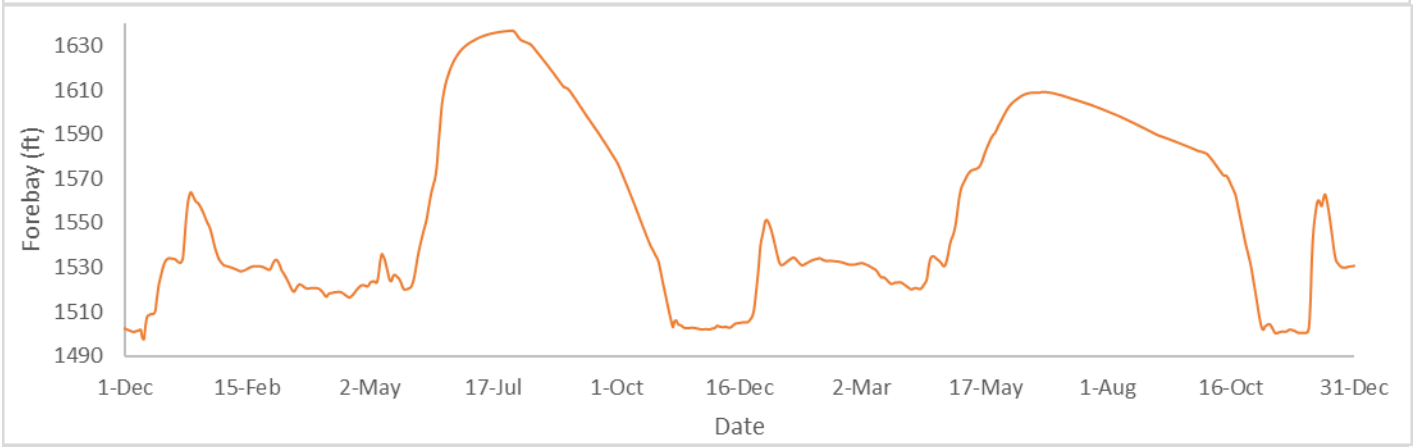


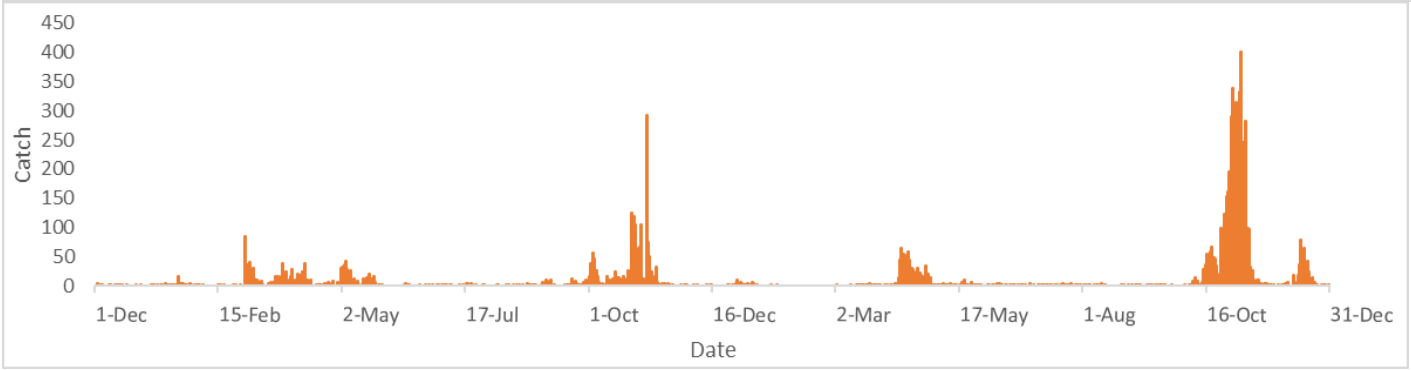


Cougar Dam Operational and Capture Data Since Start of Monitoring

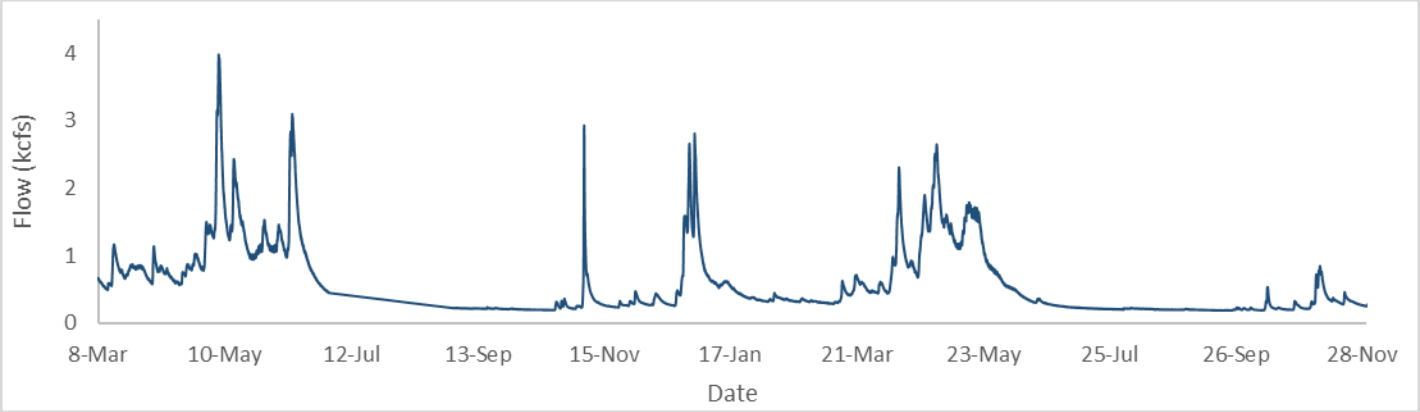



RO (kcfs)
4
3
2
1
0
1-Dec
15-Feb
2-May
17-Jul
1-Oct
16-Dec
2-Mar
17-May
1-Aug
16-Oct
31-Dec
Date

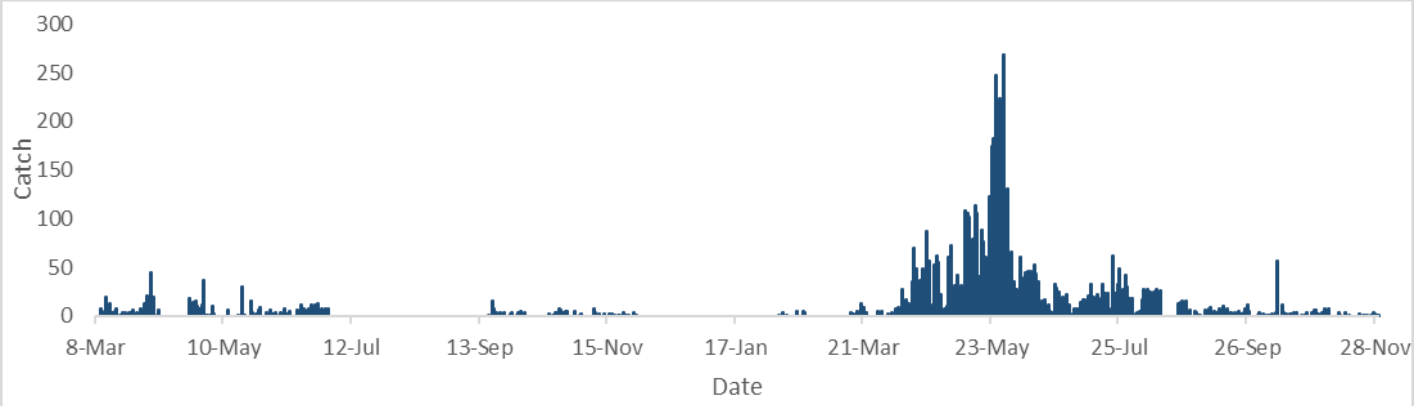

Forebay (ft)
1630
1610
1590
1570
1550
1530
1510
1490
1-Dec
15-Feb
2-May
17-Jul
1-Oct
16-Dec
2-Mar
17-May
1-Aug
16-Oct
31-Dec
Date


Catch
450
400
350
300
250
200
150
100
50
0
1-Dec
15-Feb
2-May
17-Jul
1-Oct
16-Dec
2-Mar
17-May
1-Aug
16-Oct
31-Dec
Date

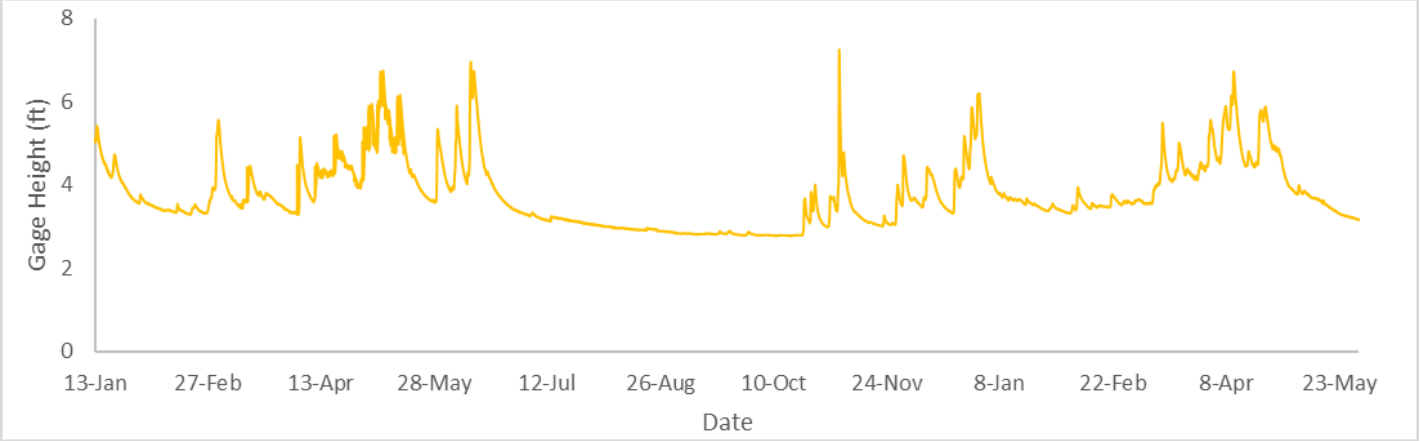
South Fork McKenzie above Cougar Dam Discharge and Cougar Dam Head of Reservoir Capture Data Since Start of Monitoring



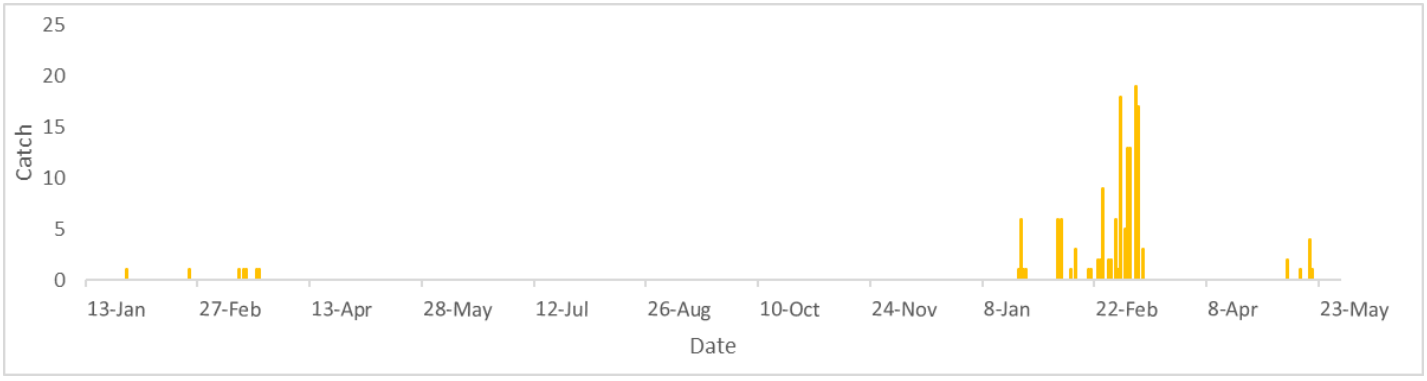
Note: Discharge data was taken from USGS gauge site number 14159200, 250 meters upstream.



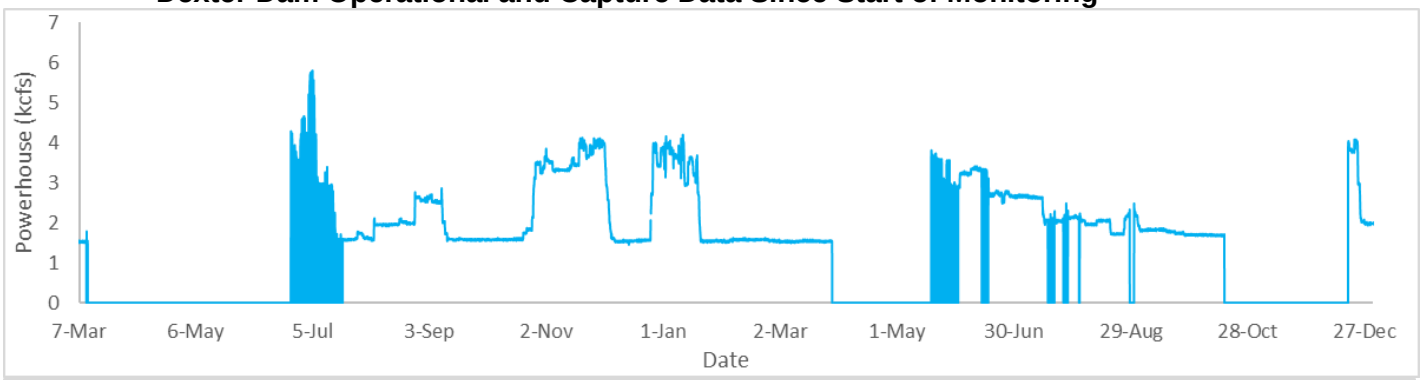
Fall Creek Head of Reservoir Operational and Capture Data Since Start of Monitoring

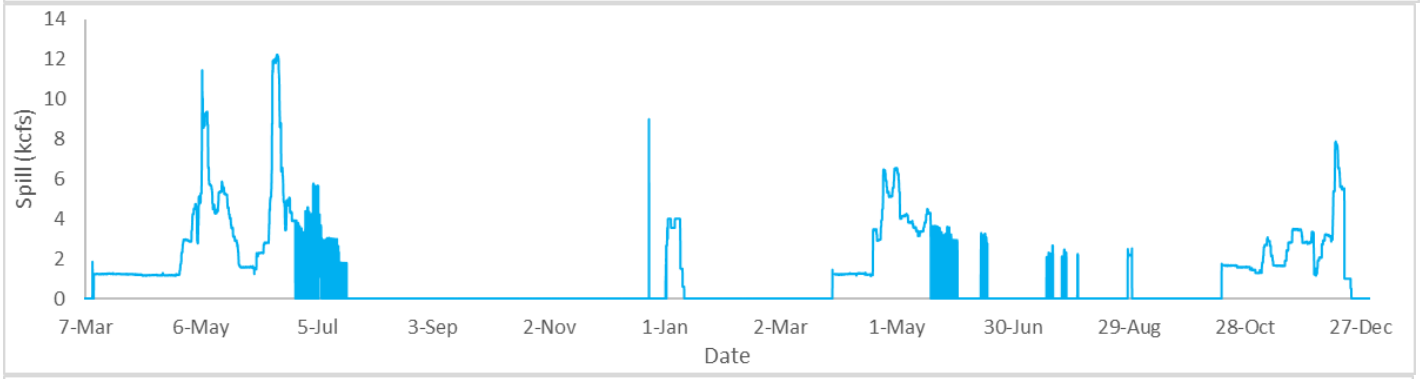


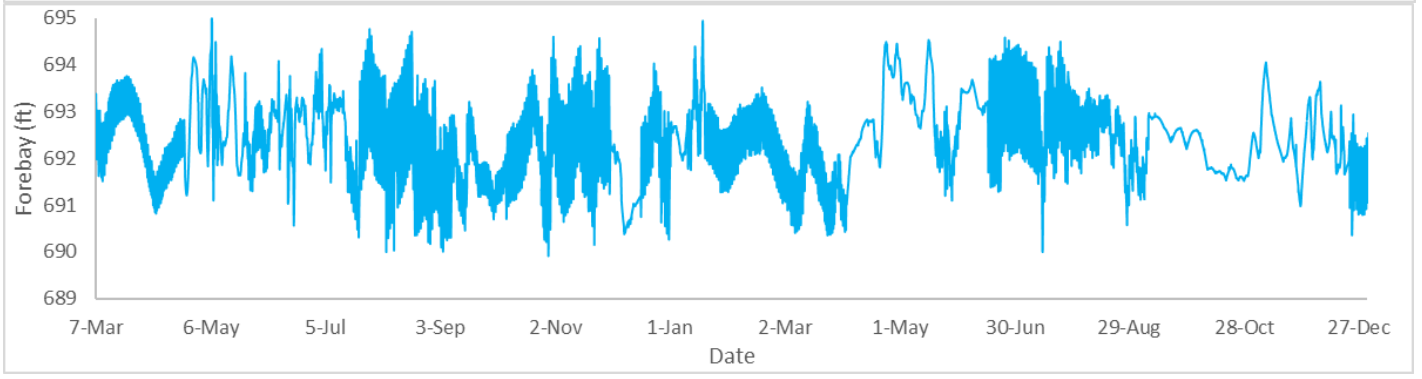
Note: Gauge height data was taken from USGS stream gauge number 14150290, 1.2 rkms downstream.

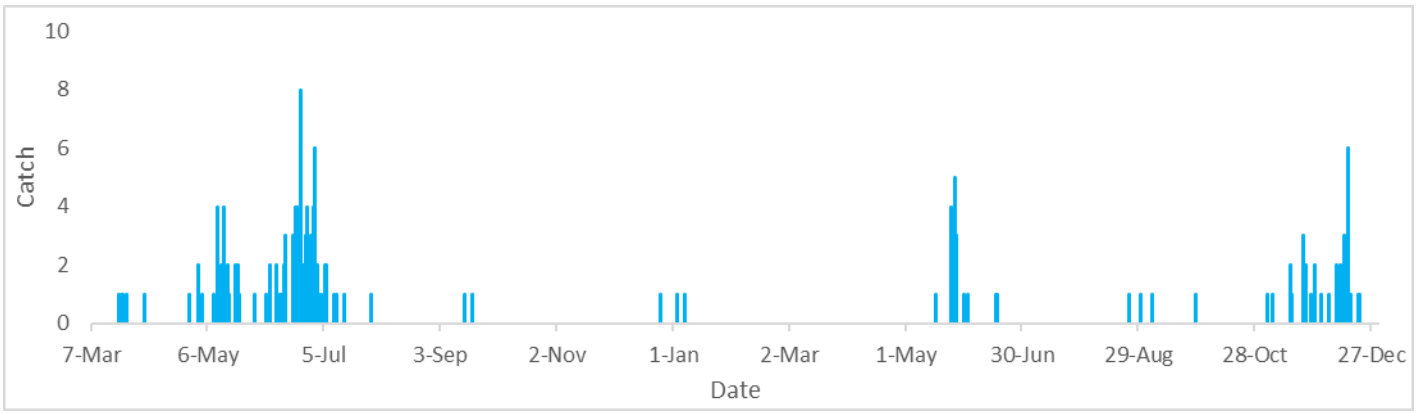


Dexter Dam Operational and Capture Data Since Start of Monitoring

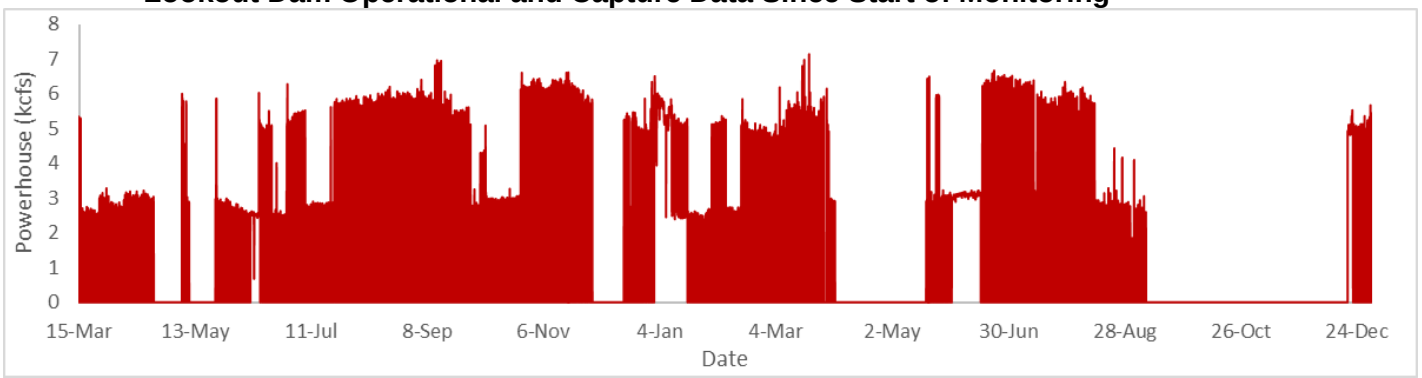


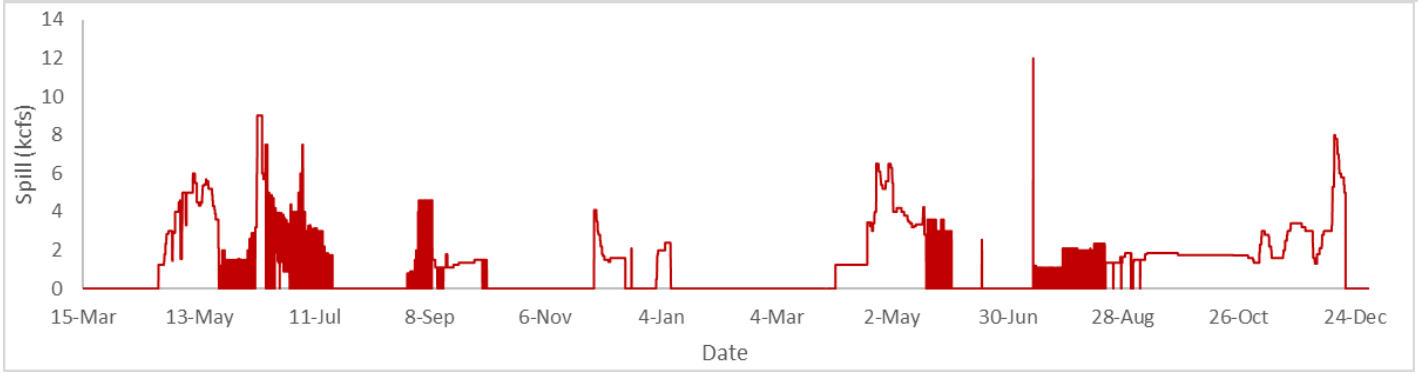


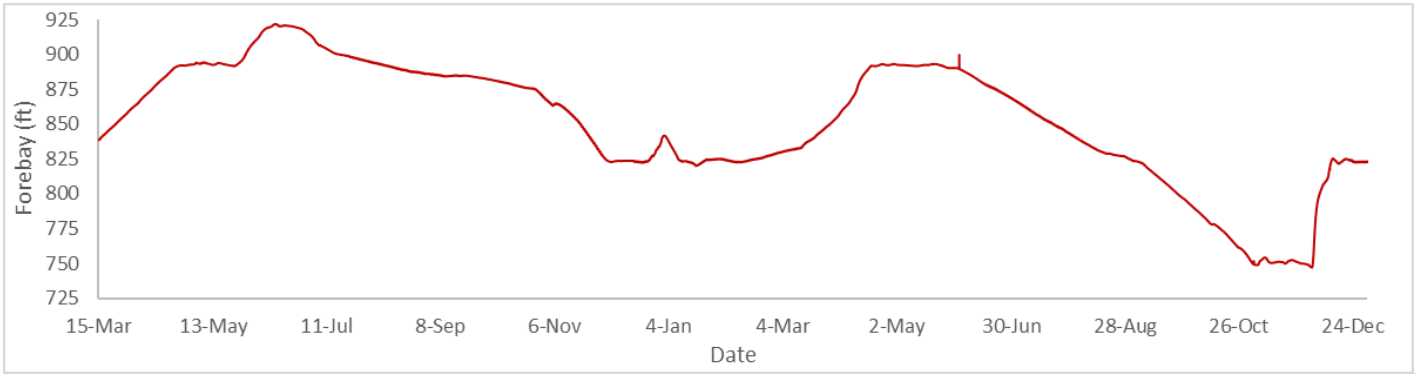


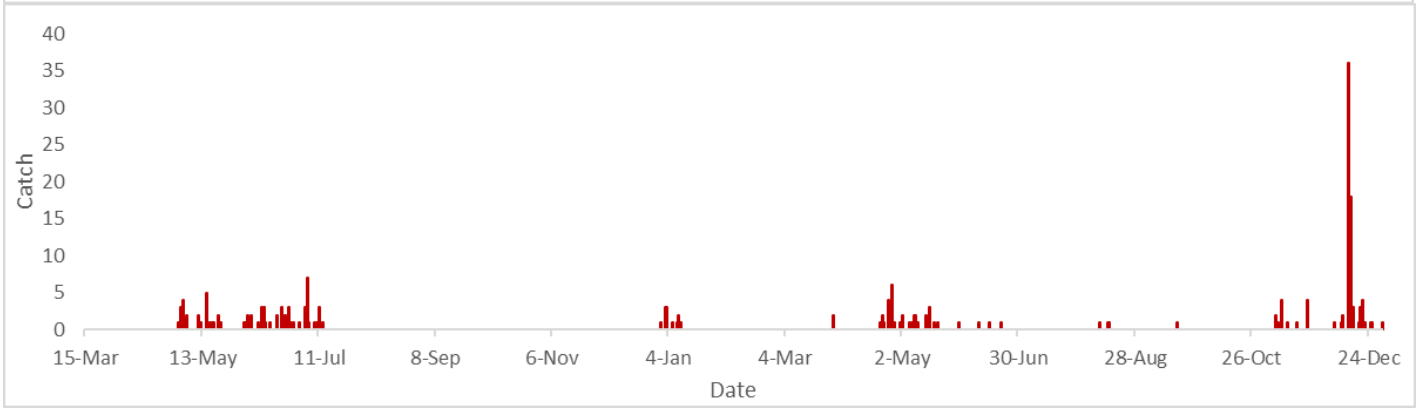


Lookout Dam Operational and Capture Data Since Start of Monitoring

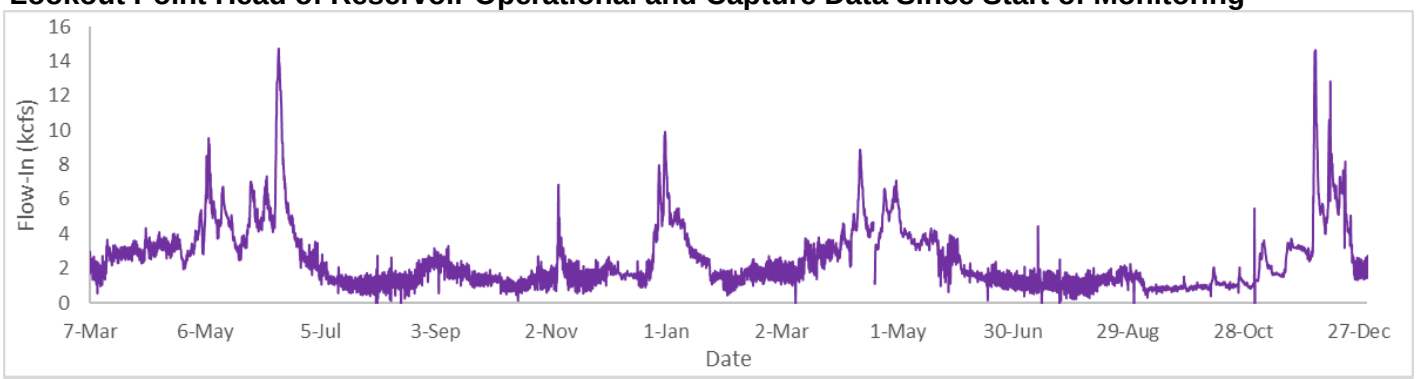


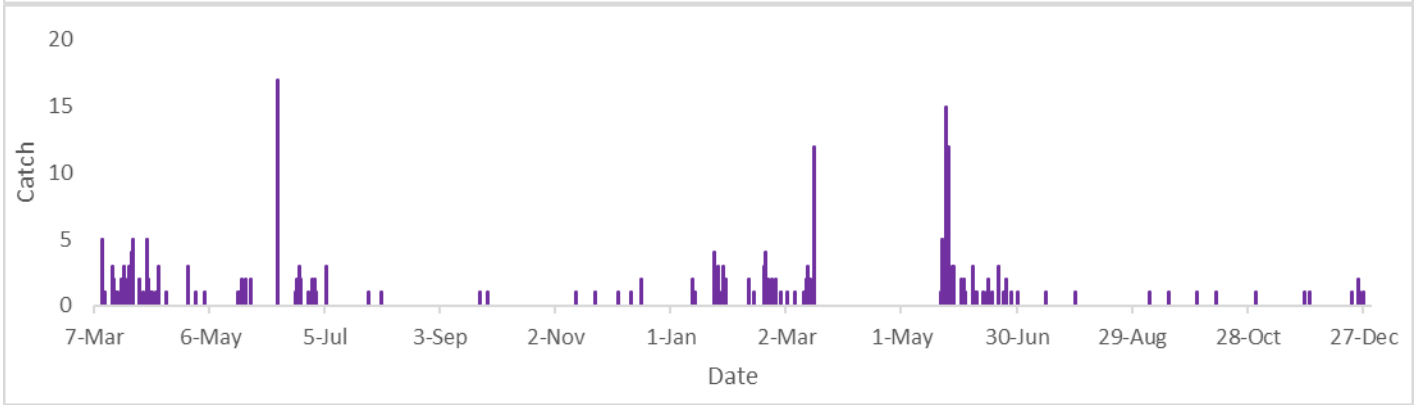




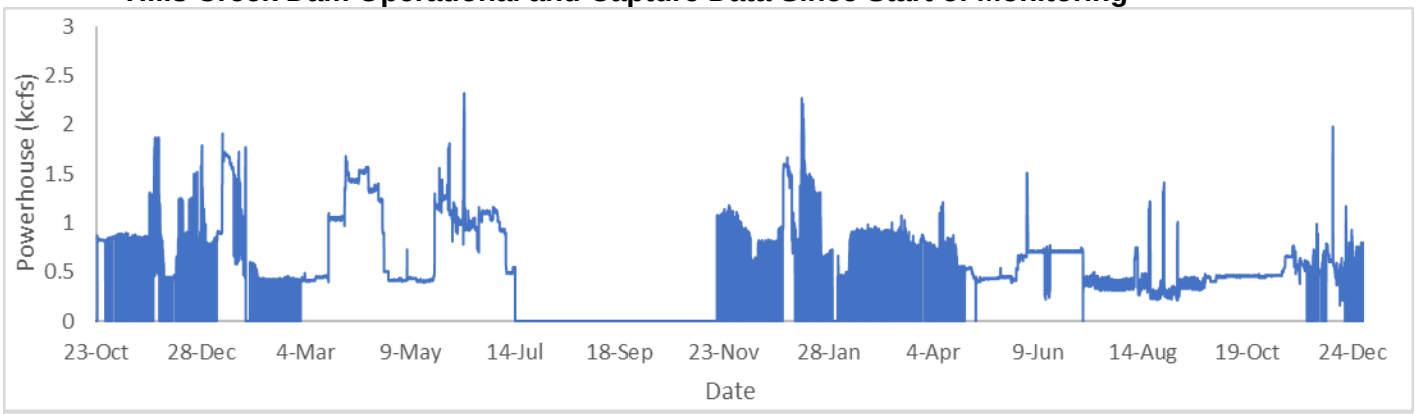


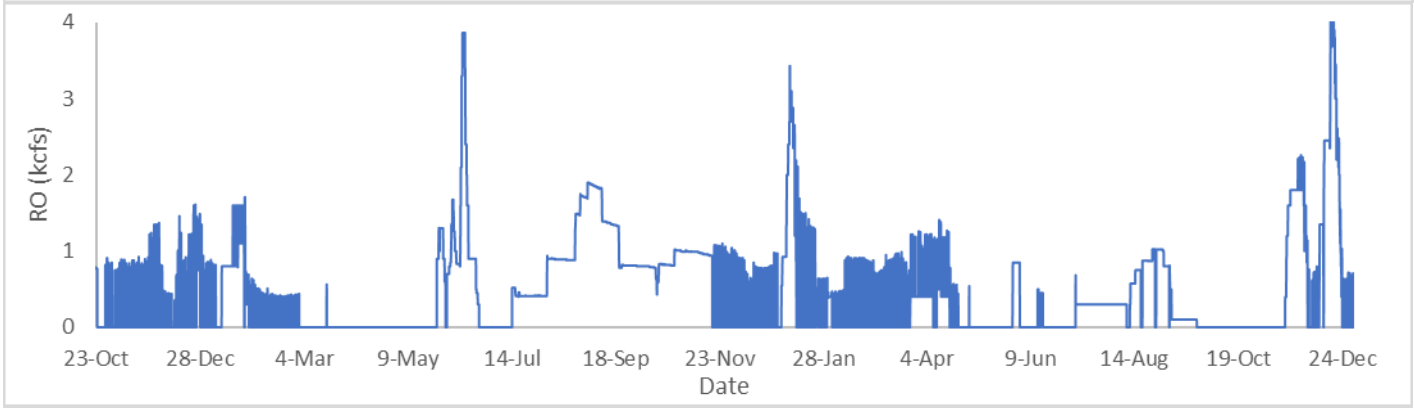
Lookout Point Head of Reservoir Operational and Capture Data Since Start of Monitoring

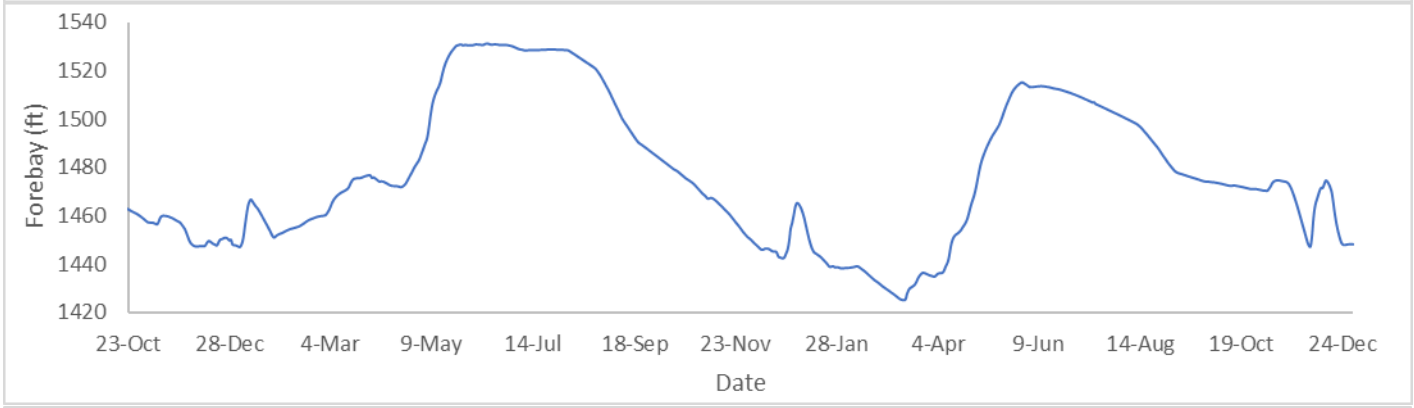


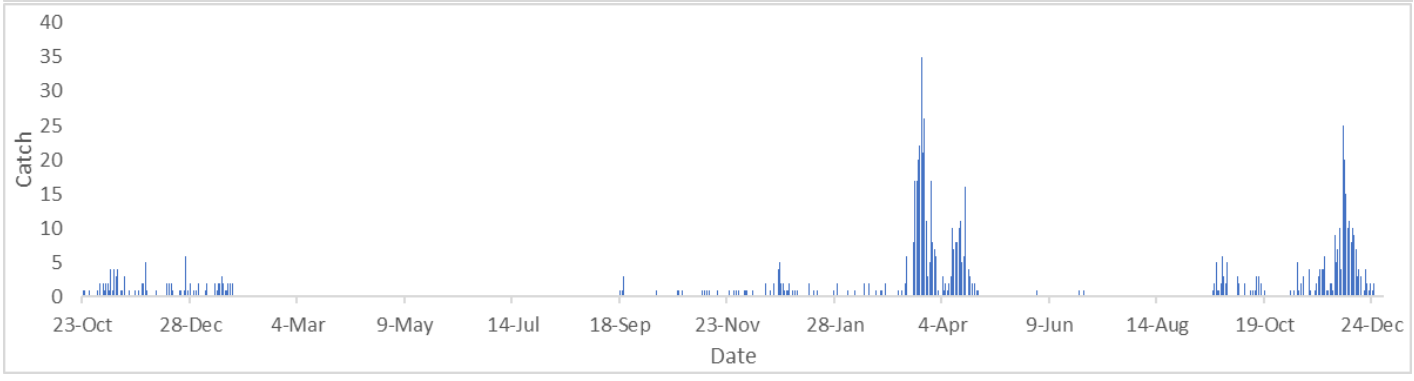


Hills Creek Dam Operational and Capture Data Since Start of Monitoring

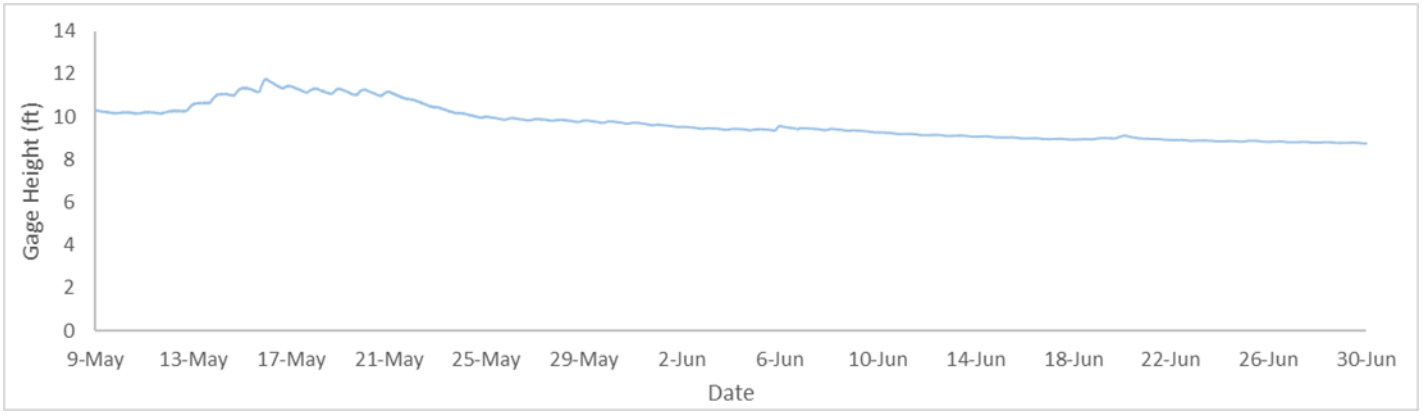


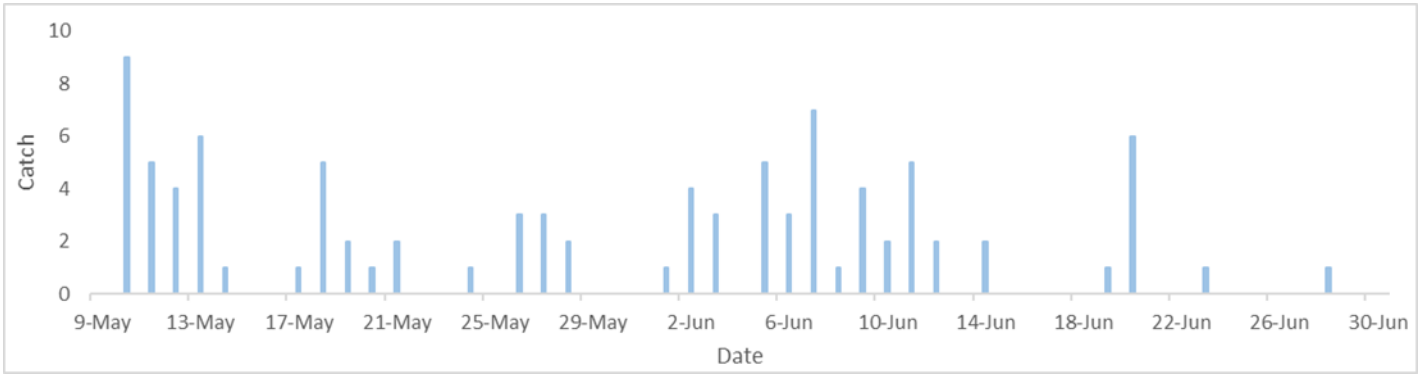




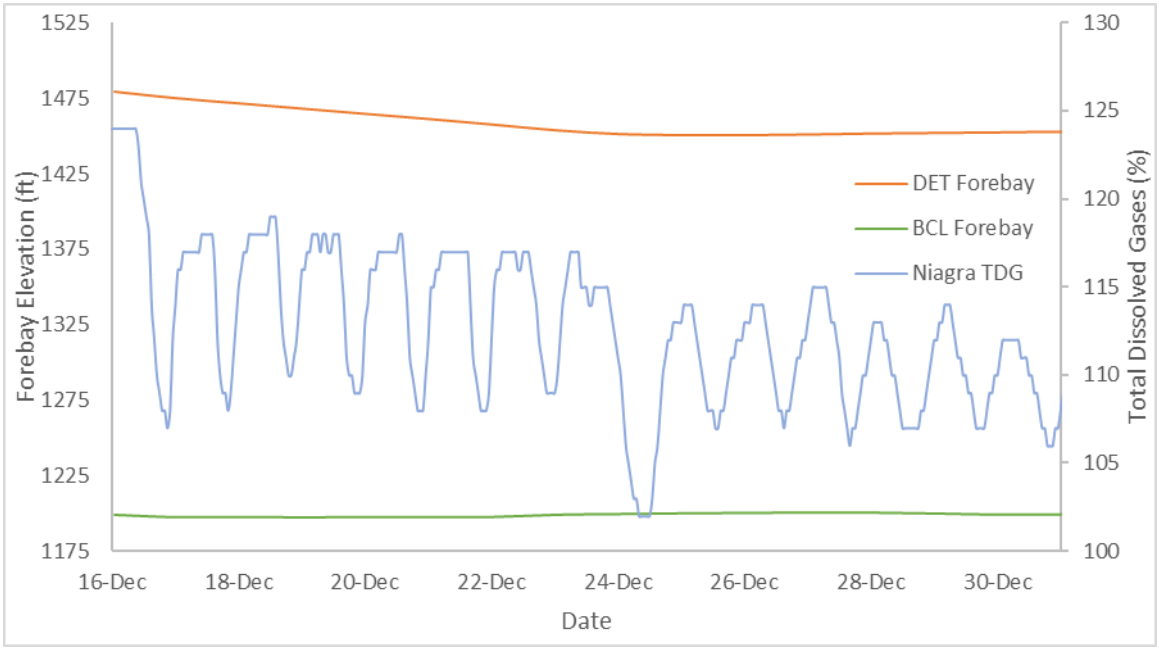


Hills Creek Head of Reservoir-Middle Fork Willamette River Operational and Capture Data Since Start of Monitoring





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



Appendix C

Release Location	Date of Release	# of Fish Released	# of Fish Recaptured	% Efficiency
Breitenbush River	6/21/2023	749	53	7.10%
Breitenbush River	7/6/2023	763	25	3.30%
Breitenbush River	8/2/2023	791	12	1.50%
Breitenbush River	9/20/2023	756	7	0.90%
Breitenbush River	10/5/2023	789	18	2.30%
Breitenbush River	10/25/2023	750	51	6.80%
Breitenbush River	11/10/2023	750	152	20.3%
Breitenbush River	11/21/2023	900	55	6.1%
Big Cliff Dam Tailrace*	12/22/2021	997	39	3.90%
Big Cliff Dam Tailrace*	5/25/2022	995	21	2.10%
Big Cliff Dam Tailrace*	8/9/2022	1000	92	9.20%
Big Cliff Dam Tailrace*	9/30/2022	995	48	4.80%
Big Cliff Dam Tailrace*	10/13/2022	500	15	3.00%
Big Cliff Dam Tailrace*	10/24/2022	535	25	4.70%
Big Cliff Dam Tailrace*	11/2/2022	949	40	4.20%
Big Cliff Dam Tailrace*	11/16/2022	509	15	2.90%
Big Cliff Dam Tailrace*	12/14/2022	502	60	12.00%
Big Cliff Dam Tailrace*	12/19/2022	1010	92	9.10%
Big Cliff Dam Tailrace*	12/21/2022	1014	33	3.30%
Big Cliff Dam Tailrace*	12/27/2022	704	47	6.70%
Big Cliff Dam Tailrace*	12/29/2022	452	22	4.90%
Big Cliff Dam Tailrace*	1/25/2023	500	56	11.20%
Big Cliff Dam Tailrace*	2/17/2023	499	37	7.40%
Big Cliff Dam Tailrace*	3/7/2023	2,968	61	2.10%
Big Cliff Dam Tailrace*	3/10/2023	541	112	20.70%
Big Cliff Dam Tailrace*	4/28/2023	498	34	6.80%
Big Cliff Dam Tailrace*	5/23/2023	500	6	1.20%
Big Cliff Dam Tailrace*	6/21/2023	500	8	1.60%
Big Cliff Dam Tailrace*	7/5/2023	500	33	6.60%
Big Cliff Dam Tailrace*	8/3/2023	474	42	8.90%
Big Cliff Dam Tailrace*	9/19/2023	424	64	15.1
Big Cliff Dam Tailrace*	10/6/2023	500	56	11.20%
Big Cliff Dam Tailrace	10/25/2023	633	99	15.60%
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%
Detroit Head of Reservoir- North Santiam River	6/6/2023	540	28	5.00%
Detroit Head of Reservoir- North Santiam River	6/20/2023	750	61	4.60%
Detroit Head of Reservoir- North Santiam River	7/6/2023	750	13	1.70%
Detroit Head of Reservoir- North Santiam River	8/2/2023	750	19	2.50%
Detroit Head of Reservoir- North Santiam River	9/6/20203	700	19	2.70%
Detroit Head of Reservoir- North Santiam River	10/5/2023	750	24	3.20%
Detroit Head of Reservoir- North Santiam River	10/25/2023	757	72	9.50%
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%
Green Peter Head of Reservoir- Middle Santiam	6/7/2023	1,000 (dead fish)	0	0%
Green Peter Head of Reservoir- Middle Santiam	6/7/2023	750	1	0.10%
Green Peter Head of Reservoir- Middle Santiam	7/28/2023	750	0	0%
Green Peter Head of Reservoir- Middle Santiam	8/30/2023	749	0	0%
Green Peter Head of Reservoir- Middle Santiam	9/27/2023	741	0	0%
Green Peter Head of Reservoir- Middle Santiam	10/11/2023	750	0	0%
Green Peter Head of Reservoir- Middle Santiam	10/31/2023	750	0	0%
Green Peter Head of Reservoir- Middle Santiam	10/31/2023	1,000 (dead fish)	0	0%
Green Peter Head of Reservoir- Middle Santiam	11/15/2023	749	N/A	N/A
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 (Dead Fish)*	5/11/2023	1,001	0	0%
Green Peter Dam Tailrace- Spill*	5/11/2023	999	9	0.9%
Green Peter Dam Tailrace- PWR*	5/25/2023	1,000	10	1.0%
Green Peter Dam Tailrace- PWR*	6/23/2023	1000	23	2.3%

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%
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	0.28%
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%
Foster Dam Head of Reservoir*	9/29/2022	1,063	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%
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	16	1.6%
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	95	9.5%
Foster Dam Head of Reservoir*	11/22/2023	1,001	7	0.7%
Cougar Dam Powerhouse Channel*	1/19/2022	997	37	3.7%
Cougar Dam Regulating Outlet Channel*	1/19/2022	995	26	2.6%
Cougar Dam Powerhouse Channel*	4/20/2022	1000	67	6.7%
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 Powerhouse Channel*	7/19/2022	535	148	27.7%
Cougar Dam Powerhouse Channel*	8/11/2022	949	29	3.1%
Cougar Dam Regulating Outlet Channel*	10/14/2022	509	49	9.6%
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 Powerhouse Channel*	1/12/2023	843	159	18.9%
Cougar Dam Regulating Outlet Channel*	1/30/2023	509	6	1.2%
Cougar Dam Powerhouse Channel*	3/23/2023	500	49	9.8%
Cougar Dam Regulating Outlet Channel*	3/23/2023	511	4	0.8%
Cougar Dam Powerhouse Channel*	3/30/2023	497	12	2.4%
Cougar Dam Regulating Outlet Channel*	3/30/2023	491	31	6.3%
Cougar Dam Powerhouse Channel*	4/18/2023	297	14	4.7%
Cougar Dam Regulating Outlet Channel*	4/18/2023	501	2	0.4%
Cougar Dam Powerhouse Channel*	5/10/2023	499	5	1.0%
Cougar Dam Regulating Outlet Channel*	5/10/2023	499	0	0%
Cougar Dam Powerhouse Channel*	6/6/2023	507	65	12.8%
Cougar Dam Powerhouse Channel*	7/26/2023	510	61	12.0%
Cougar Dam Powerhouse Channel*	9/21/2023	500	53	10.6%
Cougar Dam Powerhouse Channel*	10/11/2023	500	83	16.6%
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	N/A	N/A
Cougar Dam Regulating Outlet Channel	12/18/2023	505	2	0.4%
Cougar Dam Head of Reservoir*	3/18/2022	806	40	5.0%
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	120	2.3%
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	22	2.9%
Cougar Dam Head of Reservoir*	11/28/2023	760	67	8.8%
Fall Creek Dam Regulating Outlet*	6/8/2022	517	11	2.10%
Fall Creek Dam Regulating Outlet*	6/30/2022	513	0	0%
Fall Creek Dam Regulating Outlet*	7/13/2022	498	0	0%
Fall Creek Dam Regulating Outlet*	5/11/2023	998	0	0%
Fall Creek Dam Regulating Outlet*	6/28/2023	992	0	0%
Fall Creek Dam Regulating Outlet	10/3/2023	1,020	0	0%
Fall Creek Dam Regulating Outlet	10/17/2023	1,011	14	13.80%
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%
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 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 Spillway*	3/29/2023	1,199	5	0.4%
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	0.13%
Dexter Dam Powerhouse*	8/2/2023	1,505	3	0.2%
Dexter Dam Powerhouse*	8/23/2023	4,012	14	0.35%
Dexter Dam Powerhouse*	9/6/2023	4,037	13	0.3%
Dexter Dam Powerhouse*	10/4/2023	4,001	7	0.17%
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	2	0.13%
Dexter Dam Spillway*	12/5/2023	4,006	10	0.25%
Dexter Dam Spillway*	12/12/2023	4,001	13	0.32%
Dexter Dam Spillway-Powerhouse	12/21/2023	4,005	3	0.07%
Dexter Dam Powerhouse	12/28/2023	8,032	46	0.57%
Lookout Dam Powerhouse*	4/13/2022	998	0	0%
Lookout Dam Powerhouse*	5/23/2023	3,999	32	0.80%
Lookout Dam Powerhouse*	6/1/2023	4,011	6	0.10%
Lookout Dam Powerhouse*	6/14/2023	4,010	4	0.10%
Lookout Dam Powerhouse*	6/28/2023	4,010	3	0.10%
Lookout Dam Powerhouse*	7/18/2023	4,012	1	0.02%
Lookout Dam Spillway	9/13/2023	3,636	0	0.00%
Lookout Dam Spillway	9/14/2003	3,998	0	0.00%
Lookout Dam Spillway	10/25/2023	4,042	0	0.00%
Lookout Dam Spillway	11/16/2023	4,005	12	0.30%
Lookout Dam Spillway	12/6/2023	8,007	18	0.22%
Lookout Dam Spillway	12/13/2023	8,011	147	1.8%
Lookout Dam Powerhouse	12/20/2023	16,007	29	0.18%
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%
Lookout Point Head of Reservoir*	12/12/2022	510	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	0.7%
Lookout Point Head of Reservoir*	6/29/2023	769	2	0.3%
Lookout Point Head of Reservoir*	7/19/2023	765	1	0.13%
Lookout Point Head of Reservoir*	8/31/2023	751	0	0.0%
Lookout Point Head of Reservoir*	9/20/2023	787	1	0.13%
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%
Hills Creek Head of Reservoir	5/18/2023	519	44	8.5%
Hills Creek Head of Reservoir	6/19/2023	760	7	0.9%
Hills Creek Dam Powerhouse*	1/6/2022	596	20	3.40%
Hills Creek Dam Regulating Outlet*	1/6/2022	605	13	2.10%
Hills Creek Dam Powerhouse*	2/16/2022	600	12	2.00%
Hills Creek Dam Regulating Outlet*	2/16/2022	593	19	3.20%
Hills Creek Dam Powerhouse*	2/25/2022	604	6	1.00%
Hills Creek Dam Regulating Outlet*	2/25/2022	625	6	1.00%
Hills Creek Dam Powerhouse*	12/7/2022	514	29	5.60%
Hills Creek Dam Regulating Outlet*	12/13/2022	516	1	0.20%
Hills Creek Dam Powerhouse- RO Trial*	1/6/2022	596	5	0.80%
Hills Creek Dam Powerhouse- RO Trial*	2/16/2022	600	0	0%
Hills Creek Dam Powerhouse- RO Trial*	2/25/2022	604	1	0.20%
Hills Creek Dam Powerhouse- RO Trial*	12/7/2022	514	3	0.60%
Hills Creek Dam Powerhouse*	2/25/2023	519	15	2.90%
Hills Creek Dam Powerhouse- RO Trial*	2/25/2023	519	0	0%
Hills Creek Dam Regulating Outlet*	2/25/2023	478	0	0%
Hills Creek Dam Powerhouse*	4/26/2023	506	62	12.3%
Hills Creek Dam Powerhouse- RO Trial*	4/26/2023	506	12	2.4%
Hills Creek Dam Powerhouse*	5/17/2023	505	57	11.3%
Hills Creek Dam Powerhouse- RO Trial*	5/17/2023	505	2	0.4%
Hills Creek Dam Powerhouse*	6/3/2023	508	36	7.1%
Hills Creek Dam Powerhouse- RO*	6/3/2023	508	2	0.4%
Hills Creek Dam Regulating Outlet*	6/13/2023	760	0	0%
Hills Creek Dam Powerhouse*	6/27/2023	507	22	4.3%
Hills Creek Dam Powerhouse- RO Trial*	6/27/2023	507	0	0%
Hills Creek Dam Powerhouse	9/27/2023	510	10	2.0%
Hills Creek Dam Powerhouse	10/31/2023	503	8	1.6%
Hills Creek Dam Powerhouse	11/15/2023	500	47	9.4%
Hills Creek Dam Regulating Outlet Route	11/21/2023	503	3	0.6%
Hills Creek Dam Regulating Outlet Route	11/29/2023	504	2	0.4%
Hills Creek Dam Regulating Outlet Route	12/26/2023	505	10	1.98%

**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	N/A
Breitenbush River	5 ft	*O. mykiss*	N/A
Big Cliff Dam	8 ft	Chinook	N/A
Big Cliff Dam	8 ft	*O. mykiss*	N/A
Detroit Head of Reservoir – North Santiam	5 ft	Chinook	N/A
Detroit Head of Reservoir – North Santiam	5 ft	*O. mykiss*	N/A
Green Peter Head of Reservoir – Middle Santiam	5 ft	Chinook	N/A
Green Peter Head of Reservoir – Middle Santiam	5 ft	*O. mykiss*	N/A
Green Peter Tailrace- Middle Santiam	8 ft	Chinook	N/A
Green Peter Tailrace- Middle Santiam	8 ft	*O. mykiss*	N/A
Foster Head of Reservoir – South Santiam	5 ft	Chinook	N/A
Foster Head of Reservoir – South Santiam	5 ft	*O. mykiss*	N/A
Cougar Dam	PWR	Chinook	25
Cougar Dam	RO	Chinook	22
Cougar Dam Head of Reservoir	5 ft	Chinook	N/A
Fall Creek Head of Reservoir	8 ft	Chinook	N/A
Fall Creek Dam Tailrace	8 ft	Chinook	N/A
Dexter Dam Tailrace	5 ft	Chinook	N/A
Lookout Dam Tailrace	Spill	Chinook	N/A
Lookout Dam Tailrace	PWR	Chinook	N/A
Lookout Point Head of Reservoir	5 ft	Chinook	2
Hills Creek Head of Reservoir	5 ft	Chinook	N/A
Hills Creek Dam	RO	Chinook	N/A
Hills Creek Dam	PWR	Chinook	N/A

Summary of EAS VIE Marked Fish for Reporting Period

Site	Trap	VIE Mark Code	Species	# VIE
Breitenbush River	5 ft	HPP	Chinook	N/A
Breitenbush River	5 ft	HPP	*O. mykiss*	N/A
Detroit Head of Reservoir – North Santiam River	5 ft	RDPP	Chinook	N/A
Detroit Head of Reservoir – North Santiam River	5 ft	RDPP	*O. mykiss*	N/A
Green Peter Head of Reservoir – Middle Santiam River	5 ft	RDPP	Chinook	N/A
Green Peter Head of Reservoir – Middle Santiam River	5 ft	RDPP	*O. mykiss*	N/A
Cougar Dam Head of Reservoir	5 ft	RDPP	Chinook	N/A
Fall Creek Head of Reservoir	8 ft	RDPP	Chinook	N/A
Lookout Dam Tailrace	Spill	PPP	Chinook	N/A
Lookout Dam Tailrace	PWR	PPP	Chinook	N/A
Lookout Point Head of Reservoir	5 ft	RDPP	Chinook	N/A
Hills Creek Head of Reservoir	5 ft	LDPP	Chinook	N/A

Hills Creek Dam	RO	HPP	Chinook	N/A
Hills Creek Dam	PWR	HPP	Chinook	N/A

RDPP denotes location and color (Right Dorsal Pink (two stripes))

List of Captured Fish Containing PIT Tags This Season

Site	Trap	PIT Tag	Date	Species
Detroit Head of Reservoir- North Santiam River	5 ft	3D6.15348426D4	7/1/2023	Chinook
Detroit Head of Reservoir- North Santiam River	5 ft	3DD.003E55AB07	7/19/2023	Chinook
Breitenbush River	5 ft	3DD.003BD22BF1	9/15/2023	Chinook
Breitenbush River	5 ft	3DD.003BEE1A9E	9/15/2023	Chinook
Breitenbush River	5 ft	3DD.003BD22BF3	9/15/2023	Chinook
Hills Creek Dam	PH	3D6.1534831A94	9/16/2023	Chinook
Hills Creek Dam	PH	3D6.153484353B	9/20/2023	Chinook
Hills Creek Dam	RO	3D6.1534803019	9/21/2023	Chinook
Hills Creek Dam	PH	3D6.1534831FE7	9/23/2023	Chinook
Hills Creek Dam	PH	3D6.1534843B57	9/25/2023	Chinook
Hills Creek Dam	PH	3D6.15347FF81F	9/25/2023	Chinook
Hills Creek Dam	PH	3D6.15347FE8E5	9/25/2023	Chinook
Hills Creek Dam	PH	3D6.15347FEC09	9/25/2023	Chinook
Hills Creek Dam	PH	3D6.15347FEDD1	9/25/2023	Chinook
Hills Creek Dam	PH	3D6.1534802DEB	9/25/2023	Chinook
Hills Creek Dam	PH	3D6.15347FEAD8	9/26/2023	Chinook
Hills Creek Dam	PH	3D6.1534801912	9/26/2023	Chinook
Hills Creek Dam	PH	3D6.1534843157	10/2/2023	Chinook
Hills Creek Dam	PH	3D6.15347FE7D3	10/3/2023	Chinook
Hills Creek Dam	PH	3D6.15348436D8	10/7/2023	Chinook
Hills Creek Dam	PH	3D6.153484327C	10/8/2023	Chinook
Hills Creek Dam	PH	3D6.1534801D95	10/11/2023	Chinook
Big Cliff Dam	8 ft	3DD.003E4B7697	11/1/2023	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E4C249E	11/1/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5713A4	11/5/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D7B9	11/5/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570B68	11/5/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E561550	11/5/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C2767	11/5/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0ACD	11/5/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D951	11/5/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E571893	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56138C	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C37C0	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D6B9	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D456	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C08BD	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55E62D	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C10E4	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560B49	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56CE9E	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560CF5	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A3ED	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D0D4	11/6/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D9EA	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570FA2	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C1F04	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A322	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D61B	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5618BA	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C32EA	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C37F0	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A8F0	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C1149	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAAAF3	11/7/2023	Chinook

Fall Creek Dam Tailrace	8 ft	3DD.0078DAC075	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB7C0	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB25C	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACC85	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABED4	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB7DD	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560D96	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C07AF	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5675D4	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570C75	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C32CC	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56AB78	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C2D42	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E571846	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C19B3	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560653	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4FE360	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56DC1F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56CA5F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55EBB0	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABD4E	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACDA9	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC2E2	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB7FF	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB11F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC1EE	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C197A	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A57E	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAAE4F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAAE3F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB58A	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC847	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E566B7C	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C20D3	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5595A3	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E567AFC	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E57087E	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACD76	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56FAB2	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E57045F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55BF4D	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB808	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D8CC	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB9EF	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D137	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E559746	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56CDC6	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56FAA7	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55E8D8	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB800	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACCDD	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C272D	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56AB33	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55F087	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570A1B	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D664	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56B0FB	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E559570	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E57034B	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C15A0	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0B8E	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAADCC	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560E01	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A5C6	11/7/2023	Chinook

Fall Creek Dam Tailrace	8 ft	3DD.003E55949D	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D2A8	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E561838	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C2C35	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C263E	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A6D5	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C115F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A9ED	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56CF9B	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0CA8	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAA96F	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB374	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC143	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABFEA	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAAEF1	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAAEBC	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACB88	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAA8FF	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAACA8	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56DCBE	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E559665	11/7/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D505	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A70B	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABAF5	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAA9F7	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC83B	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC1D1	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55E742	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABD24	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5709C9	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A3F3	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E571517	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56CB3D	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACD84	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A6DD	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55CD06	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C1028	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C11B1	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABF7F	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5607BA	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0B70	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB8EF	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D174	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAA8FC	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5668B6	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C10AD	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC2D1	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5610BD	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB11A	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0CB3	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4FB050	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56ADEC	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACCF8	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D11F	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570D34	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3D6.1534844186	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C03F2	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACA6E	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC5A4	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB8DF	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E566C8A	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3D6.15348461BE	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC5D6	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB354	11/8/2023	Chinook

Fall Creek Dam Tailrace	8 ft	3DD.003E4C3CCD	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5613D7	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC402	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5675BA	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAA98F	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAACEA	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56B33D	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB610	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABE70	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC4F7	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAA831	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC668	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55EA8F	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E57160E	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E567343	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570137	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0C6B	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C3699	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55CD9A	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4FD6C4	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56FB54	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570FFD	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56F9AB	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5617C9	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C1800	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55E473	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0635	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C199A	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC872	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56FB67	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56DBB3	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D132	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5715AA	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560F91	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0915	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56DA13	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55EB40	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C08D9	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560802	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55CC8D	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACCC8	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAACBB	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55E91D	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5615E7	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB260	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABB7E	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C209C	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55E63E	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC519	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC33B	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C3A58	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560CBB	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56702E	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5594DB	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560CA5	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56C9C6	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC534	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB97A	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570EF6	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB627	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C3B16	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABF08	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56C96B	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C3553	11/8/2023	Chinook

Fall Creek Dam Tailrace	8 ft	3DD.003E560FC6	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E567764	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C17C1	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56D292	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C02A0	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB63A	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB5D8	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5712F1	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56B4BF	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55EA8E	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C11A0	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABA25	11/8/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56CB66	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56FE73	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56112C	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560A87	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E566E76	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56794D	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560CC8	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5670CD	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E566E5C	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAA970	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC760	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABCEC	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55CD01	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C1AEA	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABACE	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570E4A	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0280	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E570F70	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC0A3	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C2629	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC9FE	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5607A6	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A58C	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56CD95	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56B533	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5677FF	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E561579	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C325D	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0DFF	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAAB31	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55EE31	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACA19	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C12A5	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC4E6	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C1014	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56794E	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAB248	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55ECA6	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C36C5	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C179B	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C3471	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E560A8B	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C27F4	11/9/2023	Chinook
Hills Creek Dam	PH	3D6.153484365C	11/9/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C216D	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C20C5	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACBA5	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55DE1D	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55CCFD	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55EE4C	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC605	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E567528	11/10/2023	Chinook

Fall Creek Dam Tailrace	8 ft	3DD.003E566996	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E567127	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56690A	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56A6CD	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E566AAD	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0E18	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C35E4	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C30E8	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C1E94	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55D559	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3D6.1534841A6D	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56F9EB	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E56767E	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DACA96	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DAC3D3	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E4C0523	11/10/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E5614B2	11/11/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.0078DABC4A	11/11/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E55CC0F	11/12/2023	Chinook
Fall Creek Dam Tailrace	8 ft	3DD.003E561590	11/12/2023	Chinook
Hills Creek Dam	RO	3D6.1534831225	11/12/2023	Chinook
Hills Creek Dam	PH	3DD.003E561305	11/12/2023	Chinook
Hills Creek Dam	PH	3DD.003E560FCF	11/12/2023	Chinook
Hills Creek Dam	PH	3DD.003E56D38C	11/12/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C2FB6	11/12/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E55DE30	11/13/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E4C37AA	11/13/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DAA7B5	11/13/2023	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E56A3C5	11/14/2023	Chinook
Hills Creek Dam	PH	3D6.1534832028	11/14/2023	Chinook
Hills Creek Dam	PH	3DD.003E56D3D1	11/14/2023	Chinook
Hills Creek Dam	PH	3DD.003E56CBFB	11/14/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E560829	11/16/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.0078DACE36	11/16/2023	Chinook
Hills Creek Dam	PH	3DD.003E56A8D8	11/18/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C0DD9	11/18/2023	Chinook
Detroit Head of Reservoir- North Santiam River	5 ft	3D6.1534844B29	11/19/2023	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E56A330	11/19/2023	Chinook
Dexter Dam Tailrace	5 ft	3DD.0078DAC060	11/19/2023	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E55D6DE	11/19/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C09BB	11/19/2023	Chinook
Hills Creek Dam	PH	3DD.003E56FE90	11/19/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C205A	11/19/2023	Chinook
Hills Creek Dam	RO	3DD.003E56FCE4	11/19/2023	Chinook
Hills Creek Dam	RO	3DD.003E56FF42	11/19/2023	Chinook
Hills Creek Dam	RO	3DD.003E56CE15	11/19/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAA7AA	11/19/2023	Chinook
Hills Creek Dam	RO	3DD.003E56FE90	11/19/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C28B0	11/20/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAAB2C	11/20/2023	Chinook
Hills Creek Dam	RO	3DD.003E55F226	11/20/2023	Chinook
Hills Creek Dam	RO	3DD.003E55E2B6	11/20/2023	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E4C0DF2	11/21/2023	Chinook
Dexter Dam Tailrace	5 ft	3DD.003E56D5D8	11/21/2023	Chinook
Hills Creek Dam	PH	3DD.003E55EDC8	11/21/2023	Chinook
Hills Creek Dam	RO	3DD.003E56A57D	11/21/2023	Chinook
Hills Creek Dam	PH	3DD.0078DAAB36	11/22/2023	Chinook
Hills Creek Dam	PH	3DD.003E55E965	11/22/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C27AA	11/22/2023	Chinook
Hills Creek Dam	RO	3DD.003E56B55B	11/22/2023	Chinook
Hills Creek Dam	RO	3DD.003E56D88D	11/22/2023	Chinook
Hills Creek Dam	RO	3DD.003E55D018	11/22/2023	Chinook
Hills Creek Dam	RO	3DD.003E560F93	11/22/2023	Chinook
Hills Creek Dam	RO	3D6.1534831FB9	11/22/2023	Chinook

Hills Creek Dam	PH	3D6.15348320AC	11/23/2023	Chinook
Hills Creek Dam	RO	3DD.003E55EBEE	11/23/2023	Chinook
Hills Creek Dam	RO	3DD.003E571151	11/23/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAB278	11/23/2023	Chinook
Hills Creek Dam	RO	3DD.003E4FD039	11/23/2023	Chinook
Hills Creek Dam	RO	3D6.15347FE992	11/23/2023	Chinook
Hills Creek Dam	RO	3DD.003E5710B4	11/23/2023	Chinook
Hills Creek Dam	RO	3DD.003E55E76C	11/23/2023	Chinook
Lookout Dam Tailrace	PH 1	3D6.15348434DD	11/23/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E4C33FA	11/23/2023	Chinook
Hills Creek Dam	RO	3DD.003E5607F4	11/24/2023	Chinook
Hills Creek Dam	RO	3DD.003E55D20C	11/24/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAC6DE	11/25/2023	Chinook
Hills Creek Dam	RO	3DD.003E560763	11/25/2023	Chinook
Hills Creek Dam	RO	3DD.003E55E151	11/25/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.0078DAAFD4	11/25/2023	Chinook
Hills Creek Dam	RO	3DD.003E55EDD9	11/26/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C36E6	11/26/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C1169	11/28/2023	Chinook
Hills Creek Dam	RO	3DD.003E55CD3D	11/28/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C108E	11/28/2023	Chinook
Hills Creek Dam	RO	3DD.003E56FB62	11/28/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C2F21	11/29/2023	Chinook
Hills Creek Dam	RO	3DD.003E56B163	11/29/2023	Chinook
Hills Creek Dam	PH	3DD.0078DAC035	11/30/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C0B6F	11/30/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAC13E	11/30/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C247A	12/1/2023	Chinook
Hills Creek Dam	RO	3DD.003E570CE0	12/1/2023	Chinook
Cougar Dam	RO	3DD.003E4FA553	12/2/2023	Chinook
Hills Creek Dam	PH	3D6.15348317DC	12/2/2023	Chinook
Hills Creek Dam	RO	3DD.00378DA7CB	12/2/2023	Chinook
Hills Creek Dam	RO	3DD.003E571AD9	12/2/2023	Chinook
Big Cliff Dam	8 ft	3DD.003E55BC5D	12/3/2023	Chinook
Cougar Dam	RO	3DD.003E4FCE64	12/3/2023	Chinook
Cougar Dam	RO	3DD.003E4FDAAE	12/3/2023	Chinook
Cougar Dam	RO	3DD.003E4FE815	12/3/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C1593	12/3/2023	Chinook
Hills Creek Dam	PH	3DD.003E5678C4	12/3/2023	Chinook
Hills Creek Dam	PH	3D6.1534843758	12/3/2023	Chinook
Cougar Dam	RO	3DD.003E4FABC7	12/4/2023	Chinook
Cougar Dam	RO	3DD.003E50D460	12/4/2023	Chinook
Cougar Dam	RO	3DD.003E56A090	12/4/2023	Chinook
Cougar Dam	RO	3DD.003E4FB55A	12/4/2023	Chinook
Cougar Dam	RO	3DD.003E50BFB4	12/4/2023	Chinook
Cougar Dam	RO	3DD.003E4FDB8D	12/4/2023	Chinook
Cougar Dam	RO	3DD.003E4DD9ED	12/4/2023	Chinook
Hills Creek Dam	PH	3DD.003E56DB46	12/4/2023	Chinook
Hills Creek Dam	PH	3D6.1534831C60	12/4/2023	Chinook
Cougar Dam	RO	3DD.003E4DDF0F	12/5/2023	Chinook
Cougar Dam	RO	3DD.003E569A82	12/5/2023	Chinook
Cougar Dam	RO	3DD.003E569A13	12/5/2023	Chinook
Cougar Dam	RO	3DD.003E4DE812	12/5/2023	Chinook
Cougar Dam	RO	3DD.003E4FD353	12/5/2023	Chinook
Hills Creek Dam	PH	3D6.15348432D2	12/5/2023	Chinook
Hills Creek Dam	PH	3D6.15347FEB63	12/5/2023	Chinook
Hills Creek Dam	PH	3DD.0078DAB50A	12/5/2023	Chinook
Hills Creek Dam	PH	3DD.003E55DC8D	12/5/2023	Chinook
Hills Creek Dam	RO	3D6.15347FF7EC	12/5/2023	Chinook
Hills Creek Dam	RO	3DD.003E4FB864	12/5/2023	Chinook
Hills Creek Dam	RO	3D6.15347FE994	12/5/2023	Chinook
Hills Creek Dam	RO	3D6.153480282F	12/5/2023	Chinook
Hills Creek Dam	PH	3D6.1534830C78	12/6/2023	Chinook
Hills Creek Dam	PH	3DD.003E571902	12/6/2023	Chinook

Hills Creek Dam	PH	3D6.15348320E7	12/6/2023	Chinook
Hills Creek Dam	PH	3D6.15347FEA5A	12/6/2023	Chinook
Hills Creek Dam	PH	3DD.0078DAA7EB	12/6/2023	Chinook
Hills Creek Dam	PH	3DD.003E56FD59	12/6/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C30AD	12/6/2023	Chinook
Hills Creek Dam	RO	3D6.15348322A3	12/6/2023	Chinook
Hills Creek Dam	RO	3DD.0077B43B28	12/6/2023	Chinook
Hills Creek Dam	RO	3D6.15347FF7C3	12/6/2023	Chinook
Hills Creek Dam	RO	3DD.0077B43B28	12/6/2023	Chinook
Hills Creek Dam	RO	3D6.15347FE7BD	12/6/2023	Chinook
Hills Creek Dam	RO	3D6.1534831D57	12/6/2023	Chinook
Hills Creek Dam	RO	3DD.003E4F9BF3	12/6/2023	Chinook
Cougar Dam	RO	3DD.003E4FB198	12/7/2023	Chinook
Hills Creek Dam	PH	3DD.0078DABC9F	12/7/2023	Chinook
Hills Creek Dam	PH	3DD.003E55D795	12/7/2023	Chinook
Hills Creek Dam	PH	3D6.1534843B59	12/7/2023	Chinook
Hills Creek Dam	PH	3DD.003E56B1E2	12/7/2023	Chinook
Hills Creek Dam	PH	3DD.003DF5128E	12/7/2023	Chinook
Hills Creek Dam	PH	3D6.1534831D95	12/7/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C29A6	12/7/2023	Chinook
Hills Creek Dam	PH	3D6.15347FEEC7	12/7/2023	Chinook
Hills Creek Dam	RO	3DD.003E56162A	12/7/2023	Chinook
Cougar Dam	RO	3DD.003E50CCE3	12/8/2023	Chinook
Cougar Dam	RO	3DD.00334FE598	12/8/2023	Chinook
Cougar Dam	RO	3DD.003E4FADC9	12/8/2023	Chinook
Cougar Dam	RO	3DD.003E569BE8	12/8/2023	Chinook
Cougar Dam	RO	3DD.003E4FCEF1	12/8/2023	Chinook
Hills Creek Dam	PH	3DD.0078DAC413	12/8/2023	Chinook
Hills Creek Dam	PH	3D6.15347FF621	12/8/2023	Chinook
Hills Creek Dam	PH	3D6.15348432CA	12/8/2023	Chinook
Hills Creek Dam	PH	3D6.1534843A99	12/8/2023	Chinook
Hills Creek Dam	PH	3D6.1534843A4D	12/8/2023	Chinook
Hills Creek Dam	PH	3D6.15348018FE	12/8/2023	Chinook
Hills Creek Dam	PH	3DD.003E560E94	12/8/2023	Chinook
Hills Creek Dam	PH	3D6.15348315A6	12/8/2023	Chinook
Hills Creek Dam	RO	3D6.1534843F68	12/8/2023	Chinook
Hills Creek Dam	RO	3DD.003E55CFB0	12/8/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E567118	12/8/2023	Chinook
Cougar Dam	RO	3DD.003E4FE40C	12/9/2023	Chinook
Cougar Dam	RO	3DD.003E4FD5A6	12/9/2023	Chinook
Cougar Dam	RO	3DD.003EE0B54A	12/9/2023	Chinook
Cougar Dam	RO	3DD.003E4FAA39	12/9/2023	Chinook
Cougar Dam	RO	3DD.003E4FDF5B	12/9/2023	Chinook
Hills Creek Dam	PH	3DD.003E55E5BB	12/9/2023	Chinook
Hills Creek Dam	PH	3DD.003E55F133	12/9/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C0E7D	12/9/2023	Chinook
Hills Creek Dam	PH	3D6.1534832371	12/9/2023	Chinook
Hills Creek Dam	PH	3DD.003E571851	12/9/2023	Chinook
Hills Creek Dam	PH	3D6.1534831F79	12/9/2023	Chinook
Hills Creek Dam	RO	3D6.1534831BDA	12/9/2023	Chinook
Cougar Dam	RO	3DD.003E4DE8C7	12/10/2023	Chinook
Hills Creek Dam	PH	3DD.0078DABE63	12/10/2023	Chinook
Hills Creek Dam	PH	3DD.003E56FF16	12/10/2023	Chinook
Hills Creek Dam	PH	3DD.003E55D8C7	12/10/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAAADE	12/10/2023	Chinook
Hills Creek Dam	RO	3DD.003E56A9FA	12/10/2023	Chinook
Hills Creek Dam	RO	3D6.1534830C82	12/10/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C326C	12/10/2023	Chinook
Hills Creek Dam	RO	3DD.003E55E14D	12/10/2023	Chinook
Hills Creek Dam	RO	3D6.1534831FB4	12/10/2023	Chinook
Cougar Dam	RO	3DD.003E4FDD6F	12/11/2023	Chinook
Cougar Dam	RO	3DD.003E4DDD60	12/11/2023	Chinook
Cougar Dam	RO	3DD.003E4FAA40	12/11/2023	Chinook
Hills Creek Dam	RO	3DD.0078DACE1D	12/11/2023	Chinook

Hills Creek Dam	RO	3D6.15347FEBBF	12/11/2023	Chinook
Hills Creek Dam	RO	3D6.1534843793	12/11/2023	Chinook
Hills Creek Dam	RO	3DD.003E55F16C	12/11/2023	Chinook
Hills Creek Dam	RO	3D6.15347FF527	12/11/2023	Chinook
Hills Creek Dam	RO	3D6.15347FF068	12/11/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C1061	12/11/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C394D	12/11/2023	Chinook
Hills Creek Dam	RO	3DD.0078D8B4EA	12/11/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E4C062D	12/11/2023	Chinook
Cougar Dam	RO	3DD.003E4DDA74	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4FA9A5	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E50D492	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4DD837	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E50B5EC	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4FB5F1	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E50CCD0	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4FEABA	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E5697B6	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E50B7BA	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E50BFCB	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4F9C5D	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4F9FEF	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4FA85D	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E569C06	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E569DB1	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4F9DD2	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4DE59D	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4DDE26	12/12/2023	Chinook
Cougar Dam	RO	3DD.003E4FA27A	12/12/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C2D45	12/12/2023	Chinook
Hills Creek Dam	PH	3DD.003E560A1A	12/12/2023	Chinook
Hills Creek Dam	PH	3DD.003E566B37	12/12/2023	Chinook
Hills Creek Dam	RO	3DD.003E5716D0	12/12/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FB93D	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E5691CA	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E50C243	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E50B67D	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FCBE7	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E52845A	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E50C0BB	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FA514	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FCC03	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E50BEA6	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FB55A	12/13/2023	Chinook
Cougar Dam	PH 1	3D6.1534841580	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FBA78	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E56966F	12/13/2023	Chinook
Cougar Dam	RO	3DD.003E4F9A27	12/13/2023	Chinook
Cougar Dam	RO	3DD.003E4FD121	12/13/2023	Chinook
Cougar Dam	RO	3DD.003E4FDCD6	12/13/2023	Chinook
Cougar Dam	RO	3DD.003E4FBEC8	12/13/2023	Chinook
Hills Creek Dam	PH	3DD.003E4C2FFD	12/13/2023	Chinook
Hills Creek Dam	RO	3DD.0078DACB9E	12/13/2023	Chinook
Hills Creek Dam	RO	3DD.003E570300	12/13/2023	Chinook
Hills Creek Dam	RO	3D6.15348436E7	12/13/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C1C02	12/13/2023	Chinook
Hills Creek Dam	RO	3DD.003E55D0F5	12/13/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FBEA9	12/14/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FDC09	12/14/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FDCEB	12/14/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FA56E	12/14/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FDEEB	12/14/2023	Chinook
Cougar Dam	PH 1	3DD.003E4F9AF1	12/14/2023	Chinook
Cougar Dam	PH 1	3DD.003E56940A	12/14/2023	Chinook

Cougar Dam	PH 1	3DD.003E4FC680	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E4DDB92	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E4DE543	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E4FD536	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E4FE8C4	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E4DE78D	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E50D023	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E4FD560	12/14/2023	Chinook
Cougar Dam	PH 2	3DD.003E4FB1E5	12/14/2023	Chinook
Cougar Dam	RO	3DD.003E4FCB82	12/14/2023	Chinook
Cougar Dam	RO	3DD.003E4F9DE4	12/14/2023	Chinook
Cougar Dam	RO	3DD.003E568F06	12/14/2023	Chinook
Cougar Dam	RO	3DD.003E50D264	12/14/2023	Chinook
Hills Creek Dam	RO	3DD.003E571020	12/14/2023	Chinook
Hills Creek Dam	RO	3DD.003E55D116	12/14/2023	Chinook
Hills Creek Dam	RO	3DD.0078DACC78	12/14/2023	Chinook
Hills Creek Dam	RO	3D6.15347FEE82	12/14/2023	Chinook
Hills Creek Dam	RO	3D6.15348314AC	12/14/2023	Chinook
Hills Creek Dam	RO	3D6.1534831006	12/14/2023	Chinook
Hills Creek Dam	RO	3D6.15348020A4	12/14/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DAAD14	12/14/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E4C274F	12/14/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.0078DAAADB	12/14/2023	Chinook
Lookout Dam Tailrace	PH 1	3D6.1534831826	12/14/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E55E93C	12/14/2023	Chinook
Lookout Dam Tailrace	PH 1	3D6.15347FEA86	12/14/2023	Chinook
Lookout Dam Tailrace	PH 1	3DD.003E560946	12/14/2023	Chinook
Lookout Dam Tailrace	PH 2	3D6.15348313F5	12/14/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E56DB86	12/14/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E4C31AF	12/14/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E5670EF	12/14/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.0078DABBC1	12/14/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E56D2B6	12/14/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E4C1709	12/14/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E56B31C	12/14/2023	Chinook
Cougar Dam	PH 1	3DD.003E569112	12/15/2023	Chinook
Cougar Dam	PH 1	3D6.15348413FE	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FA354	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4F9D92	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4DE0D7	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FCEDC	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4DDB27	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E50B653	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FE646	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E569427	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E50B8D4	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E50B632	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FCE85	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E50C1D7	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FE0DF	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FE19B	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4F9D31	12/15/2023	Chinook
Cougar Dam	PH 1	3D6.1534841263	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E4DE3DC	12/15/2023	Chinook
Cougar Dam	RO	3DD.003E50C71E	12/15/2023	Chinook
Cougar Dam	RO	3DD.003E4DE94E	12/15/2023	Chinook
Cougar Dam	RO	3DD.003E50C009	12/15/2023	Chinook
Hills Creek Dam	RO	3D6.15347FE8BA	12/15/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAC5B2	12/15/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C28E4	12/15/2023	Chinook
Lookout Dam Tailrace	PH 2	3D6.153483235F	12/15/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.0078DAC00E	12/15/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E571350	12/15/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.003E4C03E4	12/15/2023	Chinook

Lookout Dam Tailrace	Spill	3DD.003E4C2C36	12/15/2023	Chinook
Lookout Dam Tailrace	Spill	3D6.15347FFA47	12/15/2023	Chinook
Cougar Dam	PH 1	3DD.003E5693E3	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FBDF9	12/16/2023	Chinook
Cougar Dam	RO	3DD.003E4FBDB0	12/16/2023	Chinook
Cougar Dam	RO	3DD.003E4FD421	12/16/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAC808	12/16/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E566921	12/16/2023	Chinook
Lookout Dam Tailrace	Spill	3DD.0078DAADCB	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E50BFF7	12/17/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FDDCE	12/17/2023	Chinook
Cougar Dam	PH 1	3DD.003E4FA99F	12/17/2023	Chinook
Cougar Dam	PH 2	3DD.003E4DE60B	12/17/2023	Chinook
Cougar Dam	PH 2	3DD.003E4FE373	12/17/2023	Chinook
Cougar Dam	PH 2	3DD.003E4F9EF0	12/17/2023	Chinook
Cougar Dam	PH 2	3DD.003E4DDD48	12/17/2023	Chinook
Cougar Dam	PH 2	3DD.003E56A082	12/17/2023	Chinook
Cougar Dam	PH 2	3DD.003E4DD948	12/17/2023	Chinook
Cougar Dam	RO	3DD.003E4F9F65	12/17/2023	Chinook
Cougar Dam	RO	3DD.003E4FE75A	12/17/2023	Chinook
Cougar Dam	RO	3DD.003E50C68F	12/17/2023	Chinook
Cougar Dam	RO	3DD.003E4FA042	12/17/2023	Chinook
Hills Creek Dam	RO	3DD.003E5614C6	12/17/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C1D41	12/17/2023	Chinook
Hills Creek Dam	RO	3DD.003E5596FC	12/17/2023	Chinook
Cougar Dam	PH 2	3DD.003E4FCF5B	12/18/2023	Chinook
Cougar Dam	PH 2	3DD.003E4F9D20	12/18/2023	Chinook
Cougar Dam	PH 2	3DD.003E4DDB72	12/18/2023	Chinook
Cougar Dam	PH 2	3DD.003E4FB7B7	12/18/2023	Chinook
Cougar Dam	PH 2	3DD.003E50CB06	12/18/2023	Chinook
Cougar Dam	RO	3DD.003E50D4BB	12/18/2023	Chinook
Cougar Dam	RO	3DD.003E4FBF21	12/18/2023	Chinook
Cougar Dam	RO	3DD.003E4DE934	12/18/2023	Chinook
Cougar Dam	RO	3DD.003E4FB8E8	12/19/2023	Chinook
Hills Creek Dam	PH	3DD.0078DABEE6	12/19/2023	Chinook
Cougar Dam	RO	3DD.003E569E33	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E4FD03E	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E50B6C9	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E4F9C30	12/20/2023	Chinook
Hills Creek Dam	RO	3DD.003E559704	12/20/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DAAAAB	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E4FAF65	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E4FB1D4	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E4F9BFE	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E4FCA58	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E4FA23B	12/21/2023	Chinook
Hills Creek Dam	RO	3DD.003E561280	12/21/2023	Chinook
Hills Creek Dam	RO	3DD.0078DACAB0	12/21/2023	Chinook
Hills Creek Dam	RO	3DD.0078DACBF8	12/21/2023	Chinook
Hills Creek Dam	RO	3DD.0078DAB24F	12/21/2023	Chinook
Hills Creek Dam	RO	3D6.15347FEE7D	12/21/2023	Chinook
Hills Creek Dam	RO	3DD.003E55E08D	12/21/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E56A53F	12/21/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.0078DAAA76	12/21/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E56D652	12/21/2023	Chinook
Lookout Dam Tailrace	PH 2	3DD.003E56AD3A	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E4F9E24	12/22/2023	Chinook
Cougar Dam	RO	3DD.003E4FDD86	12/22/2023	Chinook
Hills Creek Dam	RO	3DD.003E4C2383	12/22/2023	Chinook
Hills Creek Dam	RO	3DD.003E5679F0	12/22/2023	Chinook
Hills Creek Dam	RO	3DD.0078DACA85	12/22/2023	Chinook
Cougar Dam	RO	3DD.003E50C306	12/23/2023	Chinook
Cougar Dam	RO	3DD.003E568FC6	12/23/2023	Chinook
Hills Creek Dam	PH	3DD.003E55E303	12/23/2023	Chinook

Hills Creek Dam	PH	3DD.0078DABA3F	12/24/2023	Chinook
Cougar Dam	RO	3DD.003E4FB73A	12/25/2023	Chinook
Hills Creek Dam	PH	3DD.0078DAA87F	12/26/2023	Chinook
Hills Creek Dam	PH	3D6.15347FF037	12/26/2023	Chinook
Cougar Dam	RO	3DD.003E4FC516	12/28/2023	Chinook
Hills Creek Dam	PH	3DD.0078DAABB9	12/30/2023	Chinook

List of EAS PIT Tagged Fish for Reporting Period

Site	Trap	PIT Tag	Date	Species
Cougar Dam	PH 1	3DD.003E528299	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E52827B	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E5282B1	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E5282B7	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E52826A	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E5282AA	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E5282B6	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E528297	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E528275	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E528274	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E5282AF	12/16/2023	Chinook
Cougar Dam	PH 1	3DD.003E528286	12/16/2023	Chinook
Cougar Dam	RO	3DD.003E5282A1	12/16/2023	Chinook
Cougar Dam	RO	3DD.003E52827D	12/16/2023	Chinook
Cougar Dam	RO	3DD.003E52827A	12/16/2023	Chinook
Cougar Dam	RO	3DD.003E5282BD	12/16/2023	Chinook
Cougar Dam	PH 2	3DD.003E5280E0	12/19/2023	Chinook
Cougar Dam	PH 2	3DD.003E528129	12/19/2023	Chinook
Cougar Dam	PH 2	3DD.003E528114	12/19/2023	Chinook
Cougar Dam	PH 2	3DD.003E5280D3	12/19/2023	Chinook
Cougar Dam	PH 2	3DD.003E5280EE	12/19/2023	Chinook
Cougar Dam	PH 2	3DD.003E528113	12/19/2023	Chinook
Cougar Dam	PH 2	3DD.003E52810F	12/19/2023	Chinook
Cougar Dam	PH 2	3DD.003E52811E	12/19/2023	Chinook
Cougar Dam	RO	3DD.003E5280E5	12/19/2023	Chinook
Cougar Dam	PH 1	3DD.003E528278	12/20/2023	Chinook
Cougar Dam	PH 1	3DD.003E52829B	12/20/2023	Chinook
Cougar Dam	PH 1	3DD.003E528281	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E528296	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E52826D	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E528288	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E52827C	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E52826B	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E528293	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E5282B8	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E5282C3	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E528265	12/20/2023	Chinook
Cougar Dam	RO	3DD.003E5282AC	12/20/2023	Chinook
Cougar Dam	PH 2	3DD.003E5282A2	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E5282A4	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E52827F	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E528280	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E5282C1	12/21/2023	Chinook
Lookout Point Head of Reservoir	5 ft	3DD.003E528258	12/21/2023	Chinook
Cougar Dam	RO	3DD.003E5280E8	12/22/2023	Chinook
Cougar Dam	RO	3DD.003E52812C	12/22/2023	Chinook
Cougar Dam	RO	3DD.003E5280DC	12/22/2023	Chinook

Cougar Dam	PH 1	3DD.003E5280FE	12/23/2023	Chinook
Lookout Point Head of Reservoir	5 ft	3DD.003E528429	12/25/2023	Chinook