

WILLAMETTE VALLEY FISH PASSAGE MONITORING – BULK MARKING & RESERVOIR DISTRIBUTION

Bi-Weekly Report: October 15, 2023 – October 31, 2023



Prepared for: United States Army Corps of Engineers

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BULK MARKING SCHEDULE

Table 1. Tentative release schedule for brood year 2022. Green rows highlight the release groups that have been tagged and released so far this year. Orange rows highlight release groups that have been tagged but have not yet been released.

Release Year	Release Date (estimated)	Release Basin	Release Area	Release Location	Life stage	N
2023	February	North Santiam	Detroit Reservoir	Breitenbush River	fry	3750
2023	February	North Santiam	Detroit Reservoir	North Santiam River	fry	3750
2023	March	MF Willamette	Fall Creek Reservoir	Head of Reservoir	fry	5000
2023	March	MF Willamette	Lookout Point Reservoir	Head of Reservoir	fry	5000
2023	March	MF Willamette	Hills Creek Reservoir	Head of Reservoir	fry	5000
2023	March	SF McKenzie	Cougar Reservoir	Head of Reservoir	fry	5000
2023	March	SF McKenzie	Cougar Reservoir	Head of Reservoir	fry	5000
2023	March	MF Willamette	Fall Creek Reservoir	Head of Reservoir	fry	5000
2023	April	MF Willamette	Lookout Point Reservoir	Head of Reservoir	fry	5000
2023	April	North Santiam	Detroit Reservoir	Breitenbush River	fry	3750
2023	April	North Santiam	Detroit Reservoir	North Santiam River	fry	3750
2023	April	South Santiam	Green Peter Reservoir	Head of Middle Santiam Arm	fry	2500
2023	April	South Santiam	Green Peter Reservoir	Head of Quartzville Creek Arm	fry	2500
2023	April	MF Willamette	Hills Creek Reservoir	Head of Reservoir	fry	5000
2023	April	South Santiam	Green Peter Reservoir	Head of Middle Santiam Arm	fry	2500
2023	April	South Santiam	Green Peter Reservoir	Head of Quartzville Creek Arm	fry	2500
2023	August	South Santiam	Foster Reservoir	Tailrace	sub-yearling	1000
2023	August	South Santiam	Foster Reservoir	Head of Reservoir	sub-yearling	2000
2023	September	MF Willamette	Dexter Reservoir	Tailrace	sub-yearling	2000
2023	September	MF Willamette	Lookout Point Reservoir	Head of Reservoir	sub-yearling	5000
2023	September	MF Willamette	Lookout Point Reservoir	Forebay	sub-yearling	5000
2023	September	SF McKenzie	Cougar Reservoir	Head of Reservoir	sub-yearling	3000
2023	September	South Santiam	Green Peter Reservoir	Head of Middle Santiam Arm	sub-yearling	2500
2023	September	South Santiam	Green Peter Reservoir	Head of Quartzville Creek Arm	sub-yearling	2500
2023	October	North Santiam	Big Cliff Reservoir	Big Cliff Reservoir Tailrace	sub-yearling	8000
2023	October	North Santiam	Detroit Reservoir	Breitenbush River	sub-yearling	5000
2023	October	North Santiam	Detroit Reservoir	North Santiam River	sub-yearling	5000
2023	October	MF Willamette	Fall Creek Reservoir	Head of Reservoir	sub-yearling	5000
2023	October	MF Willamette	Fall Creek Reservoir	Tailrace	sub-yearling	1000
2023	October	SF McKenzie	Cougar Reservoir	Forebay	sub-yearling	5000
2023	October	SF McKenzie	Cougar Reservoir	Tailrace	sub-yearling	4000
2023	October	SF McKenzie	Cougar Reservoir	Head of Reservoir	sub-yearling	4000
2023	October	South Santiam	Green Peter Reservoir	Tailrace	sub-yearling	4000
2023	October	South Santiam	Green Peter Reservoir	Head of Middle Santiam Arm	sub-yearling	2500
2023	October	South Santiam	Green Peter Reservoir	Head of Quartzville Creek Arm	sub-yearling	2500
2023	October	South Santiam	Foster Reservoir	Tailrace	sub-yearling	4000
2023	October	South Santiam	Foster Reservoir	Head of Reservoir	sub-yearling	5000

Release Year	Release Date (estimated)	Release Basin	Release Area	Release Location	Life stage	N
2023	November	MF Willamette	Fall Creek Reservoir	Head of Reservoir	sub-yearling	5000
2023	November	MF Willamette	Fall Creek Reservoir	Tailrace	sub-yearling	1000
2023	November	North Santiam	Big Cliff Reservoir	Tailrace	sub-yearling	6000
2023	November	SF McKenzie	Cougar Reservoir	Forebay	sub-yearling	5000
2023	November	SF McKenzie	Cougar Reservoir	Tailrace	sub-yearling	4000
2023	November	SF McKenzie	Cougar Reservoir	Head of Reservoir	sub-yearling	4000
2023	November	MF Willamette	Hills Creek Reservoir	Head of Reservoir	sub-yearling	5000
2023	November	MF Willamette	Hills Creek Reservoir	Tailrace	sub-yearling	3000
2023	November	MF Willamette	Hills Creek Reservoir	Forebay or Mid Reservoir	sub-yearling	5000
2024	February	MF Willamette	Hills Creek Reservoir	Head of Reservoir	yearling	5000
2024	February	MF Willamette	Hills Creek Reservoir	Tailrace	yearling	3000
2024	February	MF Willamette	Hills Creek Reservoir	Forebay or Mid Reservoir	yearling	5000
2024	February	MF Willamette	Fall Creek Reservoir	Head of Reservoir	yearling	5000
2024	February	MF Willamette	Fall Creek Reservoir	Tailrace	yearling	1000
2024	March	MF Willamette	Lookout Point Reservoir	Head of Reservoir	yearling	5000
2024	March	MF Willamette	Dexter Reservoir	Tailrace	yearling	2000
2024	March	MF Willamette	Lookout Point Reservoir	Forebay	yearling	5000
2024	February	SF McKenzie	Cougar Reservoir	Forebay	yearling	2000
2024	February	SF McKenzie	Cougar Reservoir	Tailrace	yearling	1000
2024	February	SF McKenzie	Cougar Reservoir	Head of Reservoir	yearling	2000
2024	March	SF McKenzie	Cougar Reservoir	Forebay	yearling	2000
2024	March	SF McKenzie	Cougar Reservoir	Tailrace	yearling	1000
2024	March	SF McKenzie	Cougar Reservoir	Head of Reservoir	yearling	2000
2024	March	MF Willamette	Fall Creek Reservoir	Head of Reservoir	yearling	5000
2024	March	MF Willamette	Fall Creek Reservoir	Tailrace	yearling	1000
2024	March	MF Willamette	Lookout Point Reservoir	Head of Reservoir	yearling	5000
2024	March	MF Willamette	Dexter Reservoir	Tailrace	yearling	2000
2024	March	MF Willamette	Lookout Point Reservoir	Forebay	yearling	5000
2024	April	North Santiam	Big Cliff Reservoir	Tailrace	yearling	2000
2024	April	North Santiam	Detroit Reservoir	Breitenbush River	yearling	2000
2024	April	North Santiam	Detroit Reservoir	North Santiam River	yearling	2000

BULK MARKING SUMMARY

Three groups of PIT tagged juvenile Chinook salmon were released into the South Fork McKenzie basin during the most recent reporting period (Table 3). On 18 October 2023, a group of 4,000 fish and a group of 5,010 fish were released into Cougar head of reservoir and Cougar forebay, respectively. The following day a group of 4,000 fish were released into the Cougar tailrace.

After the Cougar releases were completed, the field crew performed required maintenance on the tagging trailer and then moved operations back to Willamette Hatchery in Oakridge, Oregon. Once at Willamette Hatchery the crews built net pens to house fish for tagging operations and future release groups. After the

net pens were built, the crew resumed tagging brood year 2022 juvenile Chinook salmon that are slated for release during the Spring of 2024 (Table 2).

Recaptures

A total of 55 PIT tagged juvenile Chinook salmon were recaptured or otherwise observed passing PIT tag arrays during this reporting period. The majority of observations occurred at the Lebanon Dam PIT tag array (n = 40) with five detected at the South Ladder, 13 at the North Ladder, 14 at Diversion Bypass, and 8 at the spillway. In addition, there were 11 PIT tags detected in the Columbia River Estuary (rkm 70), three recaptured via rotary screw trap in the Cougar Dam Tailrace, and a single PIT-tagged Chinook salmon was caught in Lookout Point Reservoir via gill net. The fish that were detected in the Columbia Estuary were originally released into Big Cliff tailrace (n = 5), Fall Creek head of reservoir (n = 2), Green Peter tailrace (n = 2), Foster head of reservoir (n = 1) and Lookout Point head of reservoir (n = 1). A total of 126 PIT tagged fish have been detected so far this year (Table 4).

Table 2. Bulk marking summary statistics. Total number of fish marked (N), mean fork length (FL), mean weight, start date of marking, end date of marking, total mortalities from start of tagging to release, mortality percentage, total shed tags from start of tagging to release, and shed tag percentage.

Mark Group	N	Mean FL (mm)	Mean Weight (g)	Date Start	Date End	Mor ts	Mort. %	Sheds	Shed %
Green Peter Head of Reservoir - Middle Santiam Arm	5,071	56.1		5/15/2023	5/16/2023	74	1.46	32	0.63
Green Peter Head of Reservoir - Quartzville Creek Arm	5,203	58.5		5/17/2023	5/18/2023	18	0.35	19	0.37
Lookout Point Head of Reservoir	10,041	63.1	2.9	5/22/2023	5/24/2023	39	0.39	53	0.53
Hills Creek Head of Reservoir	10,117	64.6	2.9	5/30/2023	6/1/2023	22	0.22	9	0.09
Fall Creek Head of Reservoir	10,040	67.3	3.2	6/1/2023	6/7/2023	68	0.68	30	0.30
Detroit Head of Reservoir - Breitenbush Arm	7,530	66.9	3.6	6/13/2023	6/14/2023	70	0.92	24	0.32
Detroit Head of Reservoir - North Santiam Arm	7,528	66.9	3.6	6/14/2023	6/15/2023	70	0.92	25	0.32
Cougar Head of Reservoir	5,626	67.7	3.5	6/20/2023	6/21/2023	475	8.4	44	0.78
North Santiam Basin – Fall 2023 and Spring 2024	30,680	67.3	3.5	6/26/2023	7/20/2023	TBD	TBD	TBD	TBD
Middle Fork Willamette – Fall 2023	50,743	NA	NA	7/26/2023	8/9/2023	TBD	TBD	TBD	TBD
South Santiam Basin – Fall 2023	23,706	NA	NA	8/14/2023	8/23/2023	TBD	TBD	TBD	TBD
McKenzie Basin – Fall 2023	36,001	NA	NA	8/30/2023	9/08/2023	TBD	TBD	TBD	TBD
Middle Fork Willamette – Spring 2024	3,835	NA	NA	10/30/2023	10/31/2023	TBD	TBD	TBD	TBD

Table 3. Release summary statistics. Date of release, number of marked fish released, transport tank water temperature and the beginning and end of the transport, and water temperature at the release location.

Release Location	Release Date	N	Transport Temp Start	Tranport Temp End	Release Site Temp
Green Peter Head of Reservoir - Quartzville Creek Arm	5/22/2023 14:35	5,203	12	13.2	18
Green Peter Head of Reservoir - Middle Santiam Arm	5/22/2023 20:35	5,071	11.9	12.9	18.3
Lookout Point Head of Reservoir - Black Canyon Boat Ramp	5/30/2023 10:35	9,741	11.9	12.5	13.2
Hills Creek Head of Reservoir - Bingham Boat Ramp	6/5/2023 10:35	9,817	12.9	13.2	11.4
Fall Creek Head of Reservoir	6/12/2023 15:00	9,642	16.5	17.4	19
Detroit Head of Reservoir - Breitenbush River	7/13/2023 9:35	7,000	11.5	11.5	12.5

Release Location	Release Date	N	Transport Temp Start	Transport Temp End	Release Site Temp
Detroit Head of Reservoir - North Santiam River	7/13/2023 11:45	6,640	11.5	13.1	13
Foster Tailrace	8/23/2023 16:40	1,031	12.7	11.7	10
Foster Head of Reservoir	8/24/2023 10:10	2,063	13.1	13.3	15.3
Cougar Head of Reservoir	8/29/2023 11:40	5,151	14.2	11.8	10.1
Lookout Point Head of Reservoir - Black Canyon Boat Ramp	9/18/2023 8:25	5,000	12.9	13	13.6
Lookout Point Forebay - Signal Point	9/18/2023 17:10	5,004	14	14.9	20.9
Dexter Dam Tailrace - Pengra Boat Ramp	9/19/2023 11:40	2,011	12.6	17.7	19.3
Green Peter Head of Reservoir - Quartzville Creek Arm	9/20/2023 14:10	2,518	11.2	11.9	14.8
Green Peter Head of Reservoir - Middle Santiam Arm	9/21/2023 13:50	2,508	10.1	11.2	12.5
Detroit Head of Reservoir - Breitenbush River	9/26/2023 10:55	5,002	7.6	9.3	10.3
Detroit Head of Reservoir - North Santiam River	9/26/2023 16:10	4,999	6.9	8.9	10.5
Big Cliff Dam Tailrace	9/27/2023 15:45	8,009	7.1	10.7	12.7
Fall Creek Head of Reservoir	9/28/2023 14:45	5,006	11.6	12.2	13.8
Fall Creek Dam Tailrace	9/28/2023 19:25	1,001	12.5	16.3	18.3
Cougar Head of Reservoir	10/2/2023 14:25	5,006	10.5	9.9	8.3
Cougar Head of Reservoir	10/2/2023 19:10	3,006	8.8	9.1	8.7
Green Peter Head of Reservoir - Quartzville Creek Arm	10/3/2023 12:55	2,502	11	11.8	12.5
Green Peter Head of Reservoir - Middle Santiam Arm	10/4/2023 14:45	2,516	11.5	12.6	13.3
Green Peter Tailrace - Sunnyside	10/9/2023 16:10	4,002	11.5	16.1	18.1
Foster Head of Reservoir	10/10/2023 14:25	5,001	11.5	12.2	13.2
Foster Tailrace	10/11/2023 15:20	4,000	10.6	11.3	12.0
Cougar Head of Reservoir	10/18/2023 11:55	4,000	11.3	10.0	8.0
Cougar Forebay	10/18/2023 18:05	5,010	13.2	13.6	15.4
Cougar Tailrace	10/19/2023 12:45	4,000	11.2	11.7	10.5

Table 4. PIT tag recoveries at established interrogation sites, rotary screw traps (RST), and reservoir sampling locations. Recoveries during screw trap efficiency testing that were recaptured during the test (i.e., within one week of release) are not included in this table.

Tag Code	Release Date	Release Location	Observation Date	Observation Location	Travel Time
3D6.1534802DEB	5/18/2023	Hills Creek Reservoir Head of Reservoir	9/25/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	130
3D6.1534803019	5/18/2023	Hills Creek Reservoir Head of Reservoir	9/21/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	126
3D6.1534831764	5/30/2023	LOP Head of Reservoir - Black Canyon	8/20/2023	DEX - Dexter Dam (USACE), Middle Fork Willamette River	82
3D6.15347FE8E5	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	112
3D6.15347FEAD8	6/5/2023	Hills Creek Head of Reservoir	9/26/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	113
3D6.15347FEC09	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	112
3D6.15347FEDD1	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	112
3D6.15347FF7D3	6/5/2023	Hills Creek Head of Reservoir	10/3/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	120
3D6.15347FF81F	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	112
3D6.1534801912	6/5/2023	Hills Creek Head of Reservoir	9/26/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	113
3D6.1534801D95	6/5/2023	Hills Creek Head of Reservoir	10/11/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	128
3D6.1534831A94	6/5/2023	Hills Creek Head of Reservoir	9/16/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	103
3D6.1534831FE7	6/5/2023	Hills Creek Head of Reservoir	9/23/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	110
3D6.153484327C	6/5/2023	Hills Creek Head of Reservoir	10/8/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	125
3D6.1534843517	6/5/2023	Hills Creek Head of Reservoir	10/2/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	119
3D6.153484353B	6/5/2023	Hills Creek Head of Reservoir	9/20/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	107
3D6.15348436D8	6/5/2023	Hills Creek Head of Reservoir	10/7/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	124
3D6.1534843B57	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	HCR - Hills Creek Dam, Middle Fork Willamette River	112
3D6.15348426D4	6/16/2023	Escaped Marion Forks	7/1/2023	NSANTR - North Santiam River, Oregon	15
3DD.003E4BA25E	6/16/2023	Escaped Marion Forks	6/17/2023	NSANTR - North Santiam River, Oregon	1
3DD.003E4B773D	7/13/2023	Detroit Head of Reservoir - Breitenbush River	10/11/2023	BCL - Big Cliff Dam - North Santiam River	90
3DD.003E4B78FE	7/13/2023	Detroit Head of Reservoir - North Santiam River	10/12/2023	BCL - Big Cliff Dam - North Santiam River	91
3DD.003E4B894D	7/13/2023	Detroit Head of Reservoir - North Santiam River	10/12/2023	BCL - Big Cliff Dam - North Santiam River	91
3DD.003E4BB068	7/13/2023	Detroit Head of Reservoir - North Santiam River	10/6/2023	BCL - Big Cliff Dam - North Santiam River	85
3DD.003E568158	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/25/2023	LD1 - Lebanon Dam South Ladder	2
3DD.003E56816D	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD3 - Lebanon Dam Diversion Bypass	1
3DD.003E56831C	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E568435	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E568525	8/23/2023	Foster Tailrace - South Santiam Hatchery	10/10/2023	LD4 - Lebanon Dam Spillway	48

Tag Code	Release Date	Release Location	Observation Date	Observation Location	Travel Time
3DD.003E568555	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD3 - Lebanon Dam Diversion Bypass	1
3DD.003E568954	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E56895E	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/28/2023	LD1 - Lebanon Dam South Ladder	5
3DD.003E56897C	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD3 - Lebanon Dam Diversion Bypass	1
3DD.003E568989	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E568B5D	8/23/2023	Foster Tailrace - South Santiam Hatchery	10/27/2023	LD3 - Lebanon Dam Diversion Bypass	65
3DD.003E568B6E	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/27/2023	LD1 - Lebanon Dam South Ladder	4
3DD.003E568B91	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD3 - Lebanon Dam Diversion Bypass	1
3DD.003E56BD1A	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/25/2023	LD1 - Lebanon Dam South Ladder	2
3DD.003E56BD4B	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E56BD5D	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E56BD6A	8/23/2023	Foster Tailrace - South Santiam Hatchery	8/24/2023	LD3 - Lebanon Dam Diversion Bypass	1
3DD.003E4C20CC	9/18/2023	LOP Head of Reservoir - Black Canyon	10/23/2023	PD7 - Columbia River Estuary rkm 70	35
3DD.003E561672	9/18/2023	LOP Forebay - Signal Point	9/28/2023	DEX - Dexter Dam (USACE), Middle Fork Willamette River	10
3DD.003E50D416	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/2/2023	GPD - Green Peter Dam	11
3DD.003E567C6E	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/4/2023	GPD - Green Peter Dam	13
3DD.003E568E7A	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/3/2023	GPD - Green Peter Dam	12
3DD.003E56B029	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/3/2023	GPD - Green Peter Dam	12
3DD.003E56DDDA	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/3/2023	GPD - Green Peter Dam	12
3DD.003E56E51F	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/4/2023	GPD - Green Peter Dam	13
3DD.003E4B9A12	9/27/2023	Big Cliff Tailrace - Packsaddle Boat Ramp	10/21/2023	PD7 - Columbia River Estuary rkm 70	24
3DD.003E4BF7A4	9/27/2023	Big Cliff Tailrace - Packsaddle Boat Ramp	10/20/2023	PD7 - Columbia River Estuary rkm 70	23
3DD.003E4DC548	9/27/2023	Big Cliff Tailrace - Packsaddle Boat Ramp	10/25/2023	PD7 - Columbia River Estuary rkm 70	28
3DD.003E4DCA65	9/27/2023	Big Cliff Tailrace - Packsaddle Boat Ramp	10/23/2023	PD7 - Columbia River Estuary rkm 70	26
3DD.003E55C762	9/27/2023	Big Cliff Tailrace - Packsaddle Boat Ramp	10/22/2023	PD7 - Columbia River Estuary rkm 70	25
3DD.003E56CE76	9/28/2023	Fall Creek Head of Reservoir - Old Boat Ramp	10/26/2023	PD7 - Columbia River Estuary rkm 70	28
3DD.003E57139E	9/28/2023	Fall Creek Head of Reservoir - Old Boat Ramp	10/28/2023	PD7 - Columbia River Estuary rkm 70	30
3DD.003E4DDB1D	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/8/2023	CGR - Cougar Dam	6
3DD.003E4DDB3C	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/15/2023	CGR - Cougar Dam	13

Tag Code	Release Date	Release Location	Observation Date	Observation Location	Travel Time
3DD.003E4DE900	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/11/2023	CGR - Cougar Dam	9
3DD.003E4F9D98	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E4FA12D	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/15/2023	CGR - Cougar Dam	13
3DD.003E4FA1C9	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/9/2023	CGR - Cougar Dam	7
3DD.003E4FA3E7	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/8/2023	CGR - Cougar Dam	6
3DD.003E4FA55F	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E4FA584	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E4FB368	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/15/2023	CGR - Cougar Dam	13
3DD.003E4FB615	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E4FC469	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E4FD761	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E50BB0F	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/9/2023	CGR - Cougar Dam	7
3DD.003E50C430	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E569943	10/2/2023	Cougar Head of Reservoir - Cougar Crossing Bridge	10/14/2023	CGR - Cougar Dam	12
3DD.003E56B090	10/3/2023	Green Peter Head of Reservoir - Quartzville Creek Arm (during drawdown 2023)	10/31/2023	LD3 - Lebanon Dam Diversion Bypass	28
3DD.003E56C403	10/3/2023	Green Peter Head of Reservoir - Quartzville Creek Arm (during drawdown 2023)	10/30/2023	LD4 - Lebanon Dam Spillway	27
3DD.003E56E1B3	10/3/2023	Green Peter Head of Reservoir - Quartzville Creek Arm (during drawdown 2023)	10/31/2023	LD4 - Lebanon Dam Spillway	28
3DD.003E4C2AAA	10/4/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/9/2023	GPD - Green Peter Dam	5
3DD.003E568A43	10/4/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/9/2023	GPD - Green Peter Dam	5
3DD.003E568BD0	10/4/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/31/2023	LD4 - Lebanon Dam Spillway	27
3DD.003E568C4E	10/4/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/28/2023	LD4 - Lebanon Dam Spillway	24
3DD.003E4C2B93	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/24/2023	PD7 - Columbia River Estuary rkm 70	15
3DD.003E50C7E0	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/20/2023	LD3 - Lebanon Dam Diversion Bypass	11
3DD.003E50D5DD	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/13/2023	LD2 - Lebanon Dam North Ladder	4
3DD.003E5656B0	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/24/2023	PD7 - Columbia River Estuary rkm 70	15
3DD.003E565768	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/27/2023	LD3 - Lebanon Dam Diversion Bypass	18
3DD.003E565B71	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/28/2023	LD2 - Lebanon Dam North Ladder	19

Tag Code	Release Date	Release Location	Observation Date	Observation Location	Travel Time
3DD.003E565CB0	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/17/2023	LD3 - Lebanon Dam Diversion Bypass	8
3DD.003E56602E	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/31/2023	LD2 - Lebanon Dam North Ladder	22
3DD.003E566E19	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/29/2023	LD4 - Lebanon Dam Spillway	20
3DD.003E568A42	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/15/2023	LD1 - Lebanon Dam South Ladder	6
3DD.003E56AEEA	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/18/2023	LD2 - Lebanon Dam North Ladder	9
3DD.003E56BCD4	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/29/2023	LD4 - Lebanon Dam Spillway	20
3DD.003E56BE25	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/20/2023	LD3 - Lebanon Dam Diversion Bypass	11
3DD.003E56E470	10/9/2023	Green Peter Tailrace - Sunnyside Boat Ramp	10/23/2023	LD1 - Lebanon Dam South Ladder	14
3DD.003E50D7B9	10/10/2023	Foster Reservoir Head of Reservoir - Cascadia Covered Bridge	10/18/2023	LD2 - Lebanon Dam North Ladder	8
3DD.003E565A4F	10/10/2023	Foster Reservoir Head of Reservoir - Cascadia Covered Bridge	10/27/2023	LD2 - Lebanon Dam North Ladder	17
3DD.003E56802C	10/10/2023	Foster Reservoir Head of Reservoir - Cascadia Covered Bridge	10/22/2023	LD3 - Lebanon Dam Diversion Bypass	12
3DD.003E56B3F3	10/10/2023	Foster Reservoir Head of Reservoir - Cascadia Covered Bridge	10/26/2023	LD1 - Lebanon Dam South Ladder	16
3DD.003E56C266	10/10/2023	Foster Reservoir Head of Reservoir - Cascadia Covered Bridge	10/14/2023	LD1 - Lebanon Dam South Ladder	4
3DD.003E56DF98	10/10/2023	Foster Reservoir Head of Reservoir - Cascadia Covered Bridge	10/29/2023	LD1 - Lebanon Dam South Ladder	19
3DD.003E56E7F0	10/10/2023	Foster Reservoir Head of Reservoir - Cascadia Covered Bridge	10/29/2023	PD7 - Columbia River Estuary rkm 70	19
3D6.153483F461	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/14/2023	LD3 - Lebanon Dam Diversion Bypass	3
3DD.003E50C96B	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/18/2023	LD3 - Lebanon Dam Diversion Bypass	7
3DD.003E50CFDE	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/31/2023	LD3 - Lebanon Dam Diversion Bypass	20
3DD.003E50D1B7	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/19/2023	LD1 - Lebanon Dam South Ladder	8
3DD.003E50D428	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/29/2023	LD2 - Lebanon Dam North Ladder	18
3DD.003E565571	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/29/2023	LD2 - Lebanon Dam North Ladder	18
3DD.003E5658DB	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/29/2023	LD3 - Lebanon Dam Diversion Bypass	18
3DD.003E565ACF	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/15/2023	LD2 - Lebanon Dam North Ladder	4
3DD.003E565C3B	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/30/2023	LD3 - Lebanon Dam Diversion Bypass	19

Tag Code	Release Date	Release Location	Observation Date	Observation Location	Travel Time
3DD.003E5665F2	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/13/2023	LD2 - Lebanon Dam North Ladder	2
3DD.003E5666D4	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/12/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E566E43	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/30/2023	LD3 - Lebanon Dam Diversion Bypass	19
3DD.003E567DC8	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/24/2023	LD2 - Lebanon Dam North Ladder	13
3DD.003E5682E7	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/29/2023	LD3 - Lebanon Dam Diversion Bypass	18
3DD.003E5686B8	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/29/2023	LD2 - Lebanon Dam North Ladder	18
3DD.003E568A2E	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/11/2023	LD4 - Lebanon Dam Spillway	0
3DD.003E568C7B	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/14/2023	LD1 - Lebanon Dam South Ladder	3
3DD.003E56A87F	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/12/2023	LD1 - Lebanon Dam South Ladder	1
3DD.003E56AC8A	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/29/2023	LD2 - Lebanon Dam North Ladder	18
3DD.003E56DD11	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/12/2023	LD3 - Lebanon Dam Diversion Bypass	1
3DD.003E56DFA4	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/12/2023	LD3 - Lebanon Dam Diversion Bypass	1
3DD.003E56E49A	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/23/2023	LD3 - Lebanon Dam Diversion Bypass	12
3DD.003E56E546	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/28/2023	LD2 - Lebanon Dam North Ladder	17
3DD.003E56E901	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/31/2023	LD2 - Lebanon Dam North Ladder	20
3DD.003E56E931	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/29/2023	LD4 - Lebanon Dam Spillway	18
3DD.003E56EFF6	10/11/2023	Foster Tailrace - South Santiam Hatchery	10/26/2023	LD4 - Lebanon Dam Spillway	15

Reservoir Distribution Summary

Reservoir sampling during the reporting period was conducted using 30' small mesh suspended gill nets on Lookout Point Reservoir (10/17/2023 - 10/20/2023, 10/23/2023-10/26/2023 and 10/30/2023-11/02/2023) (Table 5). No sampling was conducted on Green Peter Reservoir during this reporting period because the CFS boat moored on that reservoir sank on 10/2/2023. The sunken boat was raised to the surface using float bags and secured to shore by Cascade Diving Company on 10/12/2023. On 10/25/2023, the boat was winched up the reservoir bank and placed on its trailer by Allstar Towing and Recovery. The boat was then removed from the project area and was transferred into the possession of the Linn County Sheriff's Office so that they can complete an inspection for their investigation. Efforts are currently underway to enable resumption of sampling by placing a new boat on Green Peter Reservoir, however these efforts are contingent on securing approvals and evaluation of safety considerations.

On Lookout Point Reservoir, surface temperatures at netting locations averaged 16.1 C during week 42 (10/17/2023-10/20/2023) (Table 6, Figure 1). Turbidity was high throughout the reservoir with secchi disk measurements ranging from 0.25-0.75m. Suspended gill nets were set at the depth corresponding to 15C (centered on 13m or near the site's maximum depth for sites <13m deep). Over four days of sampling, 18 juvenile walleye (mean fork length 164 mm) (Table 7) and one hatchery origin (pit-tagged) sub-yearling Chinook were captured (fork length 130 mm). The Chinook was captured in the forebay in a gill net that was fishing at 13m.

During week 43 (10/23/2023-10/26/2023), surface temperatures in Lookout Point at net sites averaged 14.5 C (Table 6). Turbidity was high throughout the reservoir with secchi disk measurements ranging from 0.25 - 0.50 m. With the reservoir surface area rapidly shrinking with the drawdown, only sites in the lower zone of the reservoir were of sufficient depth to safely sample. Suspended gill nets were set centered on 15 C (8-10 m depth). In addition, surface nets (0-2 m) were set at each site because most targets visible on the fish finder were located near the surface. Over four days of sampling, 34 juvenile walleye (mean fork length 169 mm), one adult walleye (fork length 560 mm), two white crappie (mean fork length 77 mm), and one black crappie (fork length 70 mm) were captured (Table 7). One sub-yearling natural origin Chinook (fork length 130 mm) and one hatchery origin (pit tagged) Chinook (fork length 139 mm) were captured, both of which were captured in surface nets.

During sampling week 44 (10/30/2023-11/2/2023), Lookout Point Reservoir approached the elevation of maximum drawdown. Surface temperatures at netting locations averaged 11.9 C and turbidity measurements were the highest seen of the sampling season to date (Figure 1, mean secchi depth 0.25 m). Suspended gill nets were set at each site on the surface and centered on 5 and 10 m depths (3 nets/site). Over four days of sampling, 9 juvenile walleye (mean fork length 169 mm) and one white crappie (fork length 62 mm) were captured (Table 7). No Chinook were captured during sampling week 44.

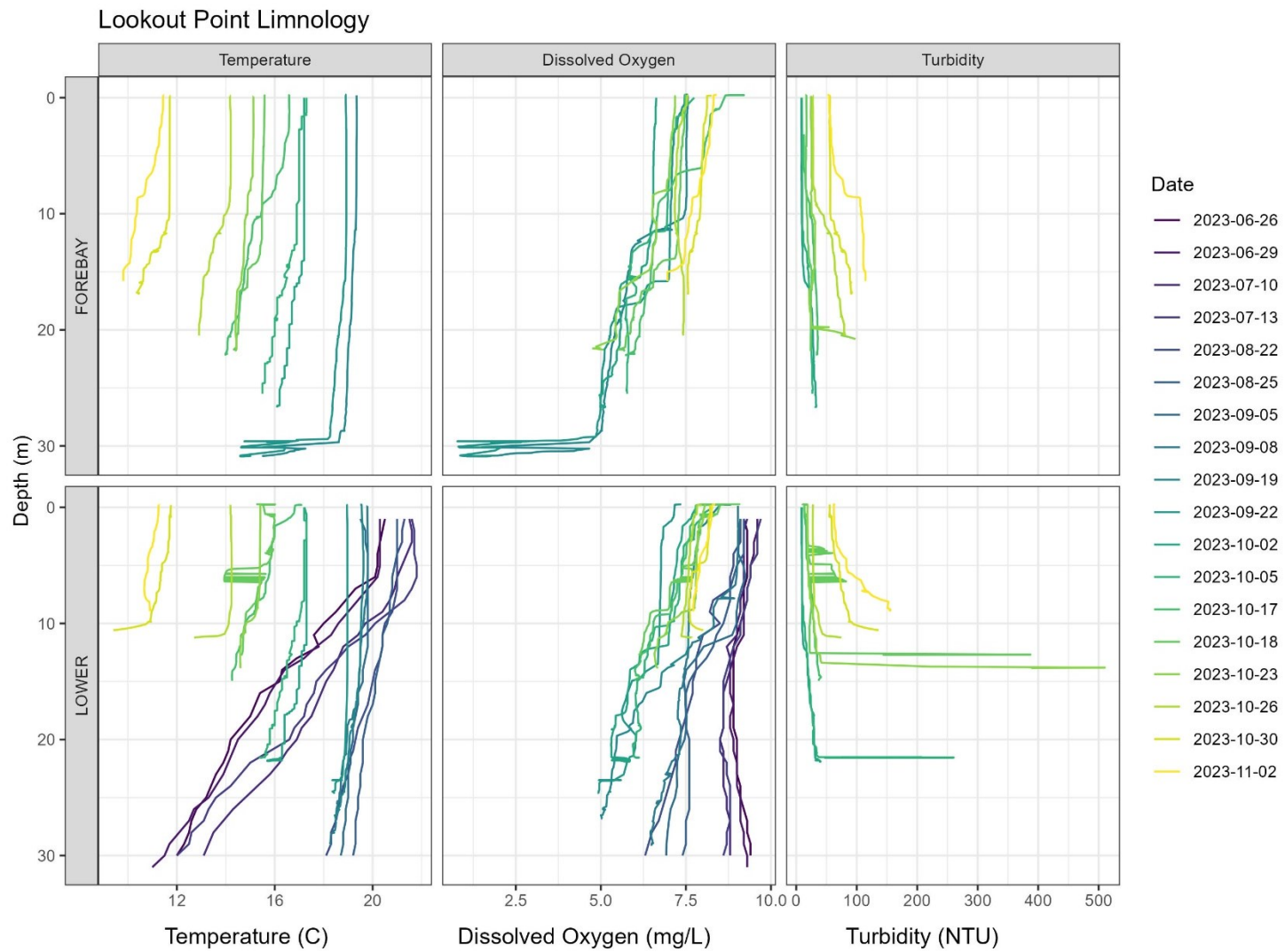


Figure 1. Temperature, dissolved oxygen and turbidity profiles taken in the forebay and at the “lower” limnology station in Lookout Point Reservoir.

Table 5. Start and end date by statistical week.

Week	Start	End	Reservoir	Net Type	Effort
24	6/11/2023	6/17/2023	Green Peter	oneida	47.7 hours
25	6/18/2023	6/24/2023	Green Peter	box minnow	746.5 hours
25	6/18/2023	6/24/2023	Green Peter	oneida	304.1 hours
26	6/25/2023	7/1/2023	Lookout Point	box minnow	682.7 hours
26	6/25/2023	7/1/2023	Lookout Point	oneida	217.1 hours
27	7/2/2023	7/8/2023	Green Peter	box minnow	689.1 hours
27	7/2/2023	7/8/2023	Green Peter	oneida	298.0 hours
28	7/9/2023	7/15/2023	Lookout Point	box minnow	642.5 hours
28	7/9/2023	7/15/2023	Lookout Point	oneida	210.6 hours
29	7/16/2023	7/22/2023	NA	NA	0 hours
30	7/23/2023	7/29/2023	NA	NA	0 hours
31	7/30/2023	8/5/2023	Green Peter	Gill Net – 30'	537.7 hours
31	7/30/2023	8/5/2023	Green Peter	Gill Net – 80'	70.1 hours
32	8/6/2023	8/11/2023	NA	NA	0 hours
33	8/13/2023	8/19/2023	Green Peter	Gill Net – 30'	215.9 hours
34	8/20/2023	8/25/2023	Lookout Point	Gill Net – 30'	600.8 hours
35	8/27/2023	9/2/2023	Green Peter	Gill Net – 30'	632.3 hours
36	9/3/2023	9/9/2023	Lookout Point	Gill Net – 30'	395.3 hours
37	9/10/2023	9/16/2023	Green Peter	Gill Net – 30'	472.8 hours
38	9/17/2023	9/23/2023	Lookout Point	Gill Net – 30'	566.0 hours
39	9/24/2023	9/30/2023	Green Peter	Gill Net – 30'	545.1 hours
40	10/01/2023	10/07/2023	Lookout Point	Gill Net – 30'	548.6 hours
41	10/08/2023	10/14/2023	NA	NA	0 hours
42	10/15/2023	10/21/2023	Lookout Point	Gill Net – 30'	563.5 hours
43	10/22/2023	10/28/2023	Lookout Point	Gill Net – 30'	573.5 hours
44	10/29/2023	11/04/2023	Lookout Point	Gill Net – 30'	567.1 hours

Table 6. Mean surface water temperature measure during each trap net deployment.

Week	Reservoir	Mean Water Surface Temperature °C
24	Green Peter	20.5
25	Green Peter	21.1
26	Lookout Point	21.7
27	Green Peter	24.1
28	Lookout Point	23.3
29	NA	NA
30	NA	NA
31	Green Peter	24.7
32	NA	NA
33	Green Peter	25.5
34	Lookout Point	21.4
35	Green Peter	23.6

Week	Reservoir	Mean Water Surface Temperature °C
36	Lookout Point	20.6
37	Green Peter	22.9
38	Lookout Point	19.8
39	Green Peter	21.0
40	Lookout Point	17.9
41	NA	NA
42	Lookout Point	16.1
43	Lookout Point	14.5
44	Lookout Point	11.9

Table 7. Summary of catch by reservoir. BLC - Black Crappie, BLG - Bluegill, CHS – Chinook salmon, CUT - Cutthroat trout, LMB - Largemouth bass, LSS - Large-scale sucker, NPM - Northern Pike Minnow, SMB - Smallmouth Bass, WAL - Walleye.

Week	Reservoir	Species	Catch
24	Green Peter	BLC	1
24	Green Peter	BLG	128
24	Green Peter	SMB	2
25	Green Peter	BLC	1
25	Green Peter	BLG	220
25	Green Peter	CUT	1
25	Green Peter	LMB	52
25	Green Peter	NPM	1
25	Green Peter	SMB	6
26	Lookout Point	BLG	6,474
26	Lookout Point	CHS	9
26	Lookout Point	LMB	1
26	Lookout Point	LSS	1
26	Lookout Point	SMB	283
26	Lookout Point	WAL	19
27	Green Peter	BLC	1
27	Green Peter	BLG	253
27	Green Peter	CUT	2
27	Green Peter	LMB	2
27	Green Peter	NPM	2
27	Green Peter	SMB	25
28	Lookout Point	BBH	1
28	Lookout Point	BLG	6,000
28	Lookout Point	CHS	9
28	Lookout Point	LMB	1
28	Lookout Point	NPM	3
28	Lookout Point	SMB	105

Week	Reservoir	Species	Catch
28	Lookout Point	SMG	4
28	Lookout Point	WAL	1
31	Green Peter	KOK	6
31	Green Peter	RBT	11
31	Green Peter	SMB	2
34	Lookout Point	BLG	2
34	Lookout Point	WAL	29
35	Green Peter	KOK	2
36	Lookout Point	WAL	6
38	Lookout Point	BLG	4
38	Lookout Point	LMB	1
38	Lookout Point	RMT	1
38	Lookout Point	WAL	53
39	Green Peter	BLG	1
39	Green Peter	CHS	1
39	Green Peter	CUT	1
39	Green Peter	KOK	8
40	Lookout Point	BLC	1
40	Lookout Point	CHS	1
40	Lookout Point	WAL	25
40	Lookout Point	WHC	1
42	Lookout Point	CHS	1
42	Lookout Point	WAL	18
43	Lookout Point	BLC	1
43	Lookout Point	CHS	2
43	Lookout Point	WAL	35
43	Lookout Point	WHC	2
44	Lookout Point	WAL	9
44	Lookout Point	WHC	1

Table 8. Detailed catch summary of target species.

Week	Reservoir	Zone	Species	Catch	length_min	length_mean	length_max
26	Lookout Point	MIDDLE	CHS	4	80	87.2	92
26	Lookout Point	UPPER	CHS	5	73	83.6	95
28	Lookout Point	UPPER	CHS	8	77	84.8	100
38	Lookout Point	MIDDLE	CHS	2	132	134	136
39	Green Peter	UPPER	CHS	1	119	119	119
40	Lookout Point	UPPER	CHS	1	140	140	140
42	Lookout Point	MIDDLE	CHS	1	159	159	159
43	Lookout Point	LOWER	CHS	1	130	130	130
43	Lookout Point	LOWER	CHS	1	139	139	139

Appendix A. Release Site Maps

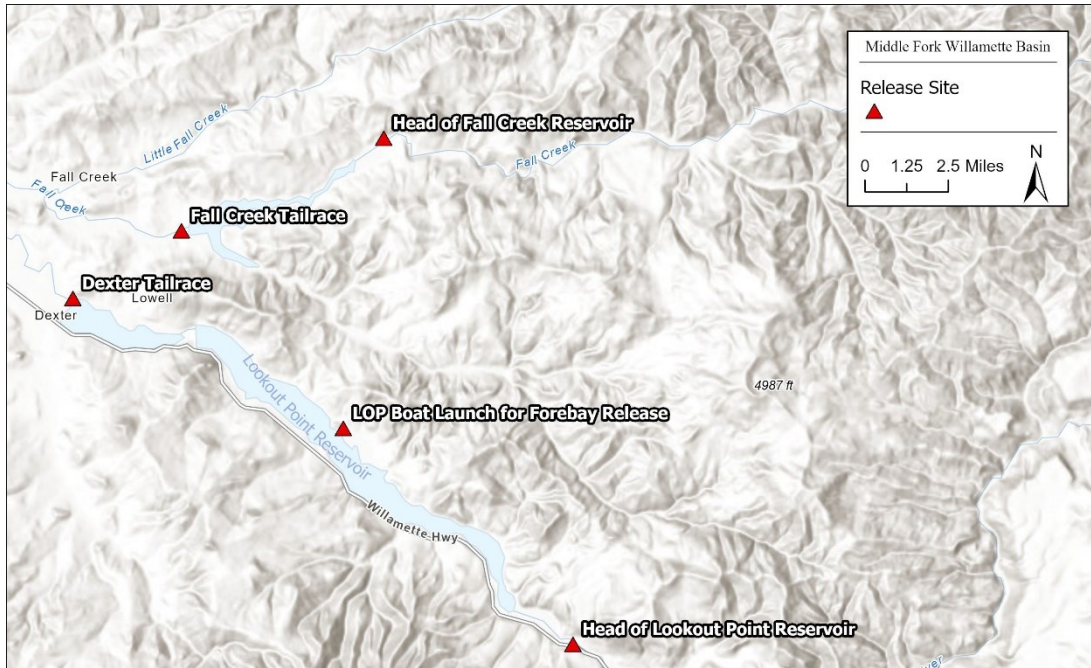


Figure 1. Map of Lookout Point, Dexter tailrace and Fall Creek release locations within the Middle Fork Willamette Basin.

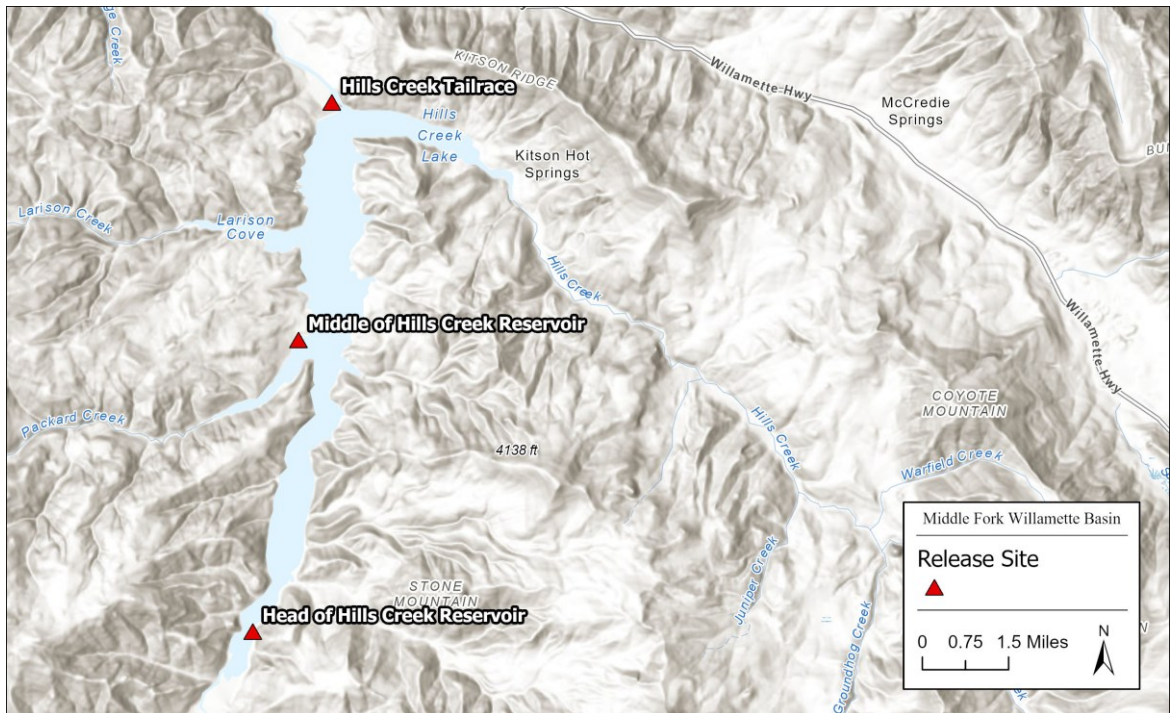


Figure 2. Map of Hills Creek Reservoir release locations within the Middle Fork Willamette Basin.

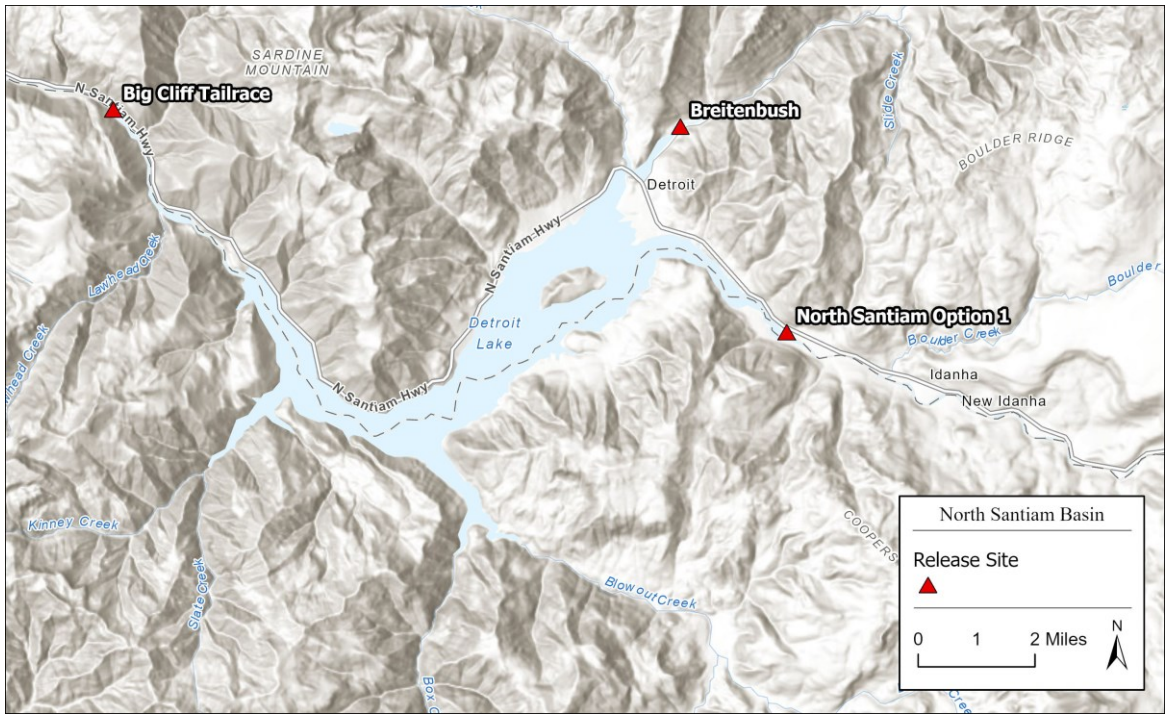


Figure 3. Map of release locations within the North Santiam Basin.

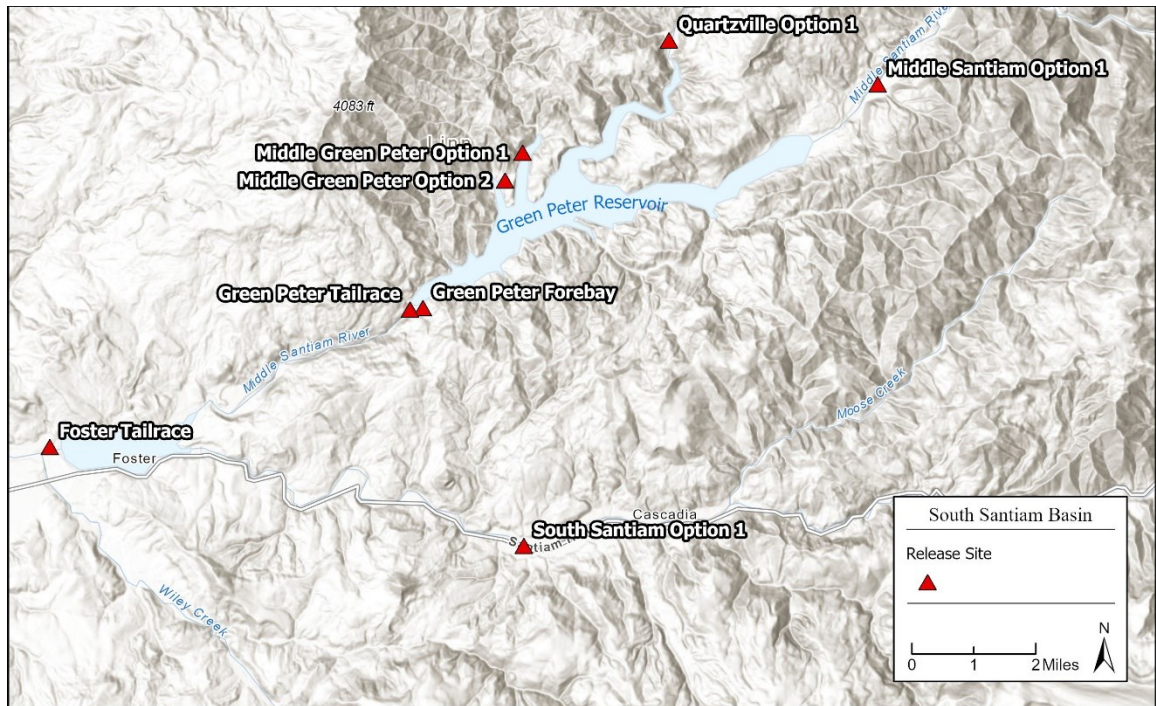


Figure 4. Map of release locations in the Middle/South Santiam basin including Green Peter Reservoir.

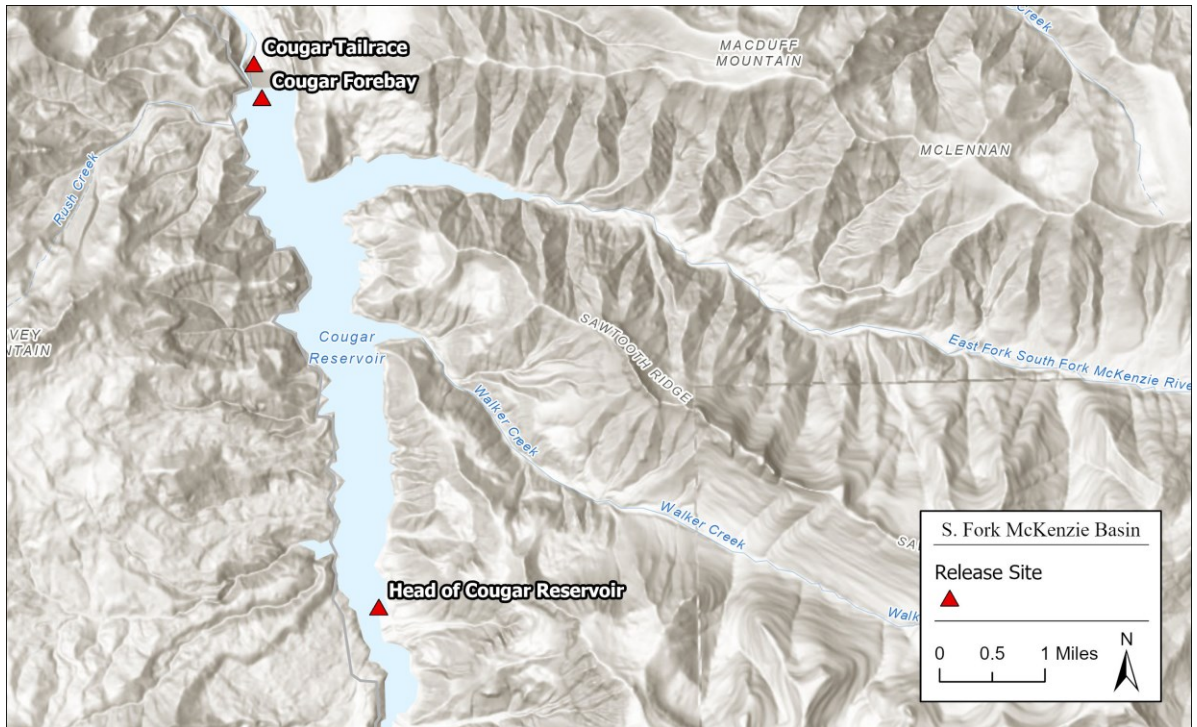


Figure 5. Map of release locations at Cougar Reservoir.

Appendix B. Reservoir Sampling Zones

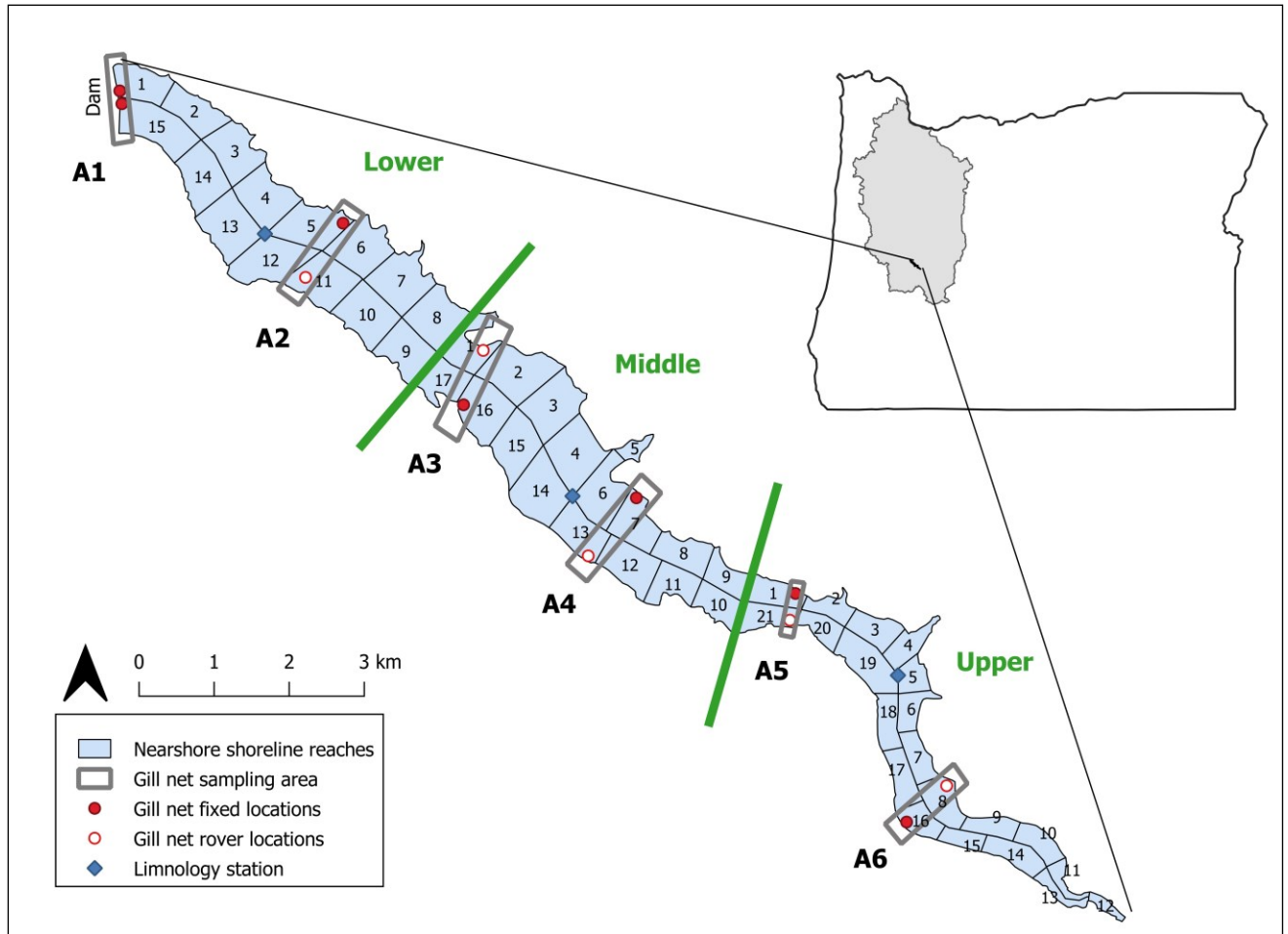


Figure 6. Map of Lookout Point Reservoir nearshore shoreline reaches, reservoir zones (lower, middle and upper), gill netting sampling areas and limnological stations.

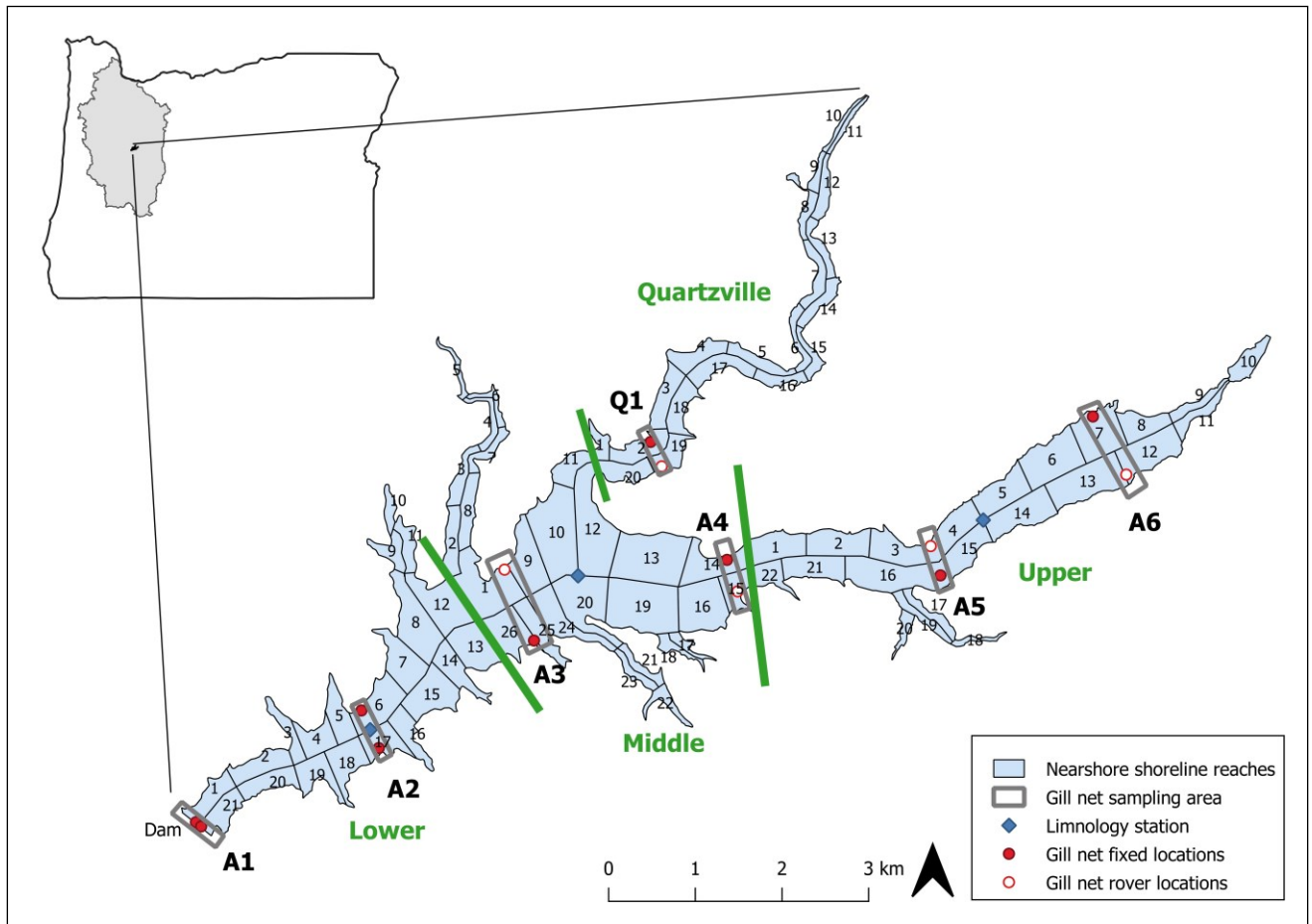


Figure 7. Map of Green Peter Reservoir nearshore shoreline reaches, reservoir zones (lower, middle and upper), gill netting sampling areas and limnological stations.