

WILLAMETTE VALLEY FISH PASSAGE MONITORING – BULK MARKING & RESERVOIR DISTRIBUTION

Bi-Weekly Report: October 1, 2023 – October 15, 2023



Prepared for: United States Army Corps of Engineers

Prepared by: Cramer Fish Sciences

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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

Seven groups of PIT tagged juvenile Chinook salmon were released throughout the Upper Willamette River watershed during this reporting period (Table 3). The first two releases were conducted on 2 October 2023 at the Cougar head of Reservoir where we released a total of 8,012 PIT tagged juvenile Chinook salmon to target the beginning of the Cougar drawdown. The next three releases took place in the Middle Santiam basin where our goal was to release the fish prior to Green Peter Reservoir reaching an elevation of 887 feet. We released 2,502, 2516, and 4,002 tagged Chinook salmon into Quartzville Creek, the Middle Santiam, and the Green Peter Dam tailrace, respectively. Lastly, we released 5,001 tagged juvenile Chinook salmon into Foster head of reservoir and 4,000 into Foster Dam tailrace to target Fall operations at Foster Dam.

Recaptures

There were 39 new recaptures during this reporting period. The majority of recaptures occurred at the Cougar Dam rotary screw traps where four fish were recaptured in the powerhouse traps (mean travel time of 6.5 days) and 18 fish were recaptured in the regulating outlet trap (mean travel time of 13.5 days). There were also 8 recaptures at the Green Peter Tailrace rotary screw trap (mean travel time of 10.4 days), five recaptures at the Hills Creek Tailrace powerhouse trap (mean travel time of 123.2 days), and four recaptures at the Big Cliff Tailrace trap (mean travel time of 89.3 days). A total of 59 PIT tagged juvenile Chinook salmon have been recaptured 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	Morts	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

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	Transport 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
Detroit Head of Reservoir - North Santiam River	7/13/2023 11:45	6,640	11.5	13.1	13

Release Location	Release Date	N	Transport Temp Start	Transport Temp End	Release Site Temp
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

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.

PIT ID	Release Date	Release Location	Recapture Date	Recapture Location	Travel Time
3D6.15348025F1	5/22/2023	Green Peter Head of Reservoir - Middle Santiam Arm	5/28/2023	Green Peter Tailrace RST	6
3DD.003E4BA25E	NA	Marion Forks Hatchery Escape - Horn Creek	6/17/2023	North Santiam River RST	NA
3D6.15348010F9	5/30/2023	Lookout Point Head of Reservoir	6/27/2023	Lookout Point Reservoir Trap Net	28

PIT ID	Release Date	Release Location	Recapture Date	Recapture Location	Travel Time
3D6.15348426D4	NA	Marion Forks Hatchery Escape - Horn Creek	7/1/2023	North Santiam River RST	NA
3D6.1534831764	5/30/2023	Lookout Point Head of Reservoir	8/20/2023	Dexter Tailrace RST	82
3D6.1534831A94	6/5/2023	Hills Creek Head of Reservoir	9/16/2023	Hills Creek Tailrace RST - PH	103
3D6.153484353B	6/5/2023	Hills Creek Head of Reservoir	9/20/2023	Hills Creek Tailrace RST - PH	107
3D6.1534843D2A	9/18/2023	Lookout Point Head of Reservoir	9/20/2023	Lookout Point Reservoir Gill Net	2
3DD.003E4C26BB	9/18/2023	Lookout Point Head of Reservoir	9/20/2023	Lookout Point Reservoir Gill Net	2
3D6.1534803019	5/12/2023	Hills Creek Head of Reservoir	9/21/2023	Hills Creek Tailrace RST - RO	132
3D6.1534831FE7	6/5/2023	Hills Creek Head of Reservoir	9/23/2023	Hills Creek Tailrace RST - PH	110
3D6.15347FE8E5	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	Hills Creek Tailrace RST - PH	112
3D6.15347FEC09	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	Hills Creek Tailrace RST - PH	112
3D6.15347FEDD1	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	Hills Creek Tailrace RST - PH	112
3D6.15347FF81F	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	Hills Creek Tailrace RST - PH	112
3D6.1534802DEB	5/12/2023	Hills Creek Head of Reservoir	9/25/2023	Hills Creek Tailrace RST - PH	136
3D6.1534843B57	6/5/2023	Hills Creek Head of Reservoir	9/25/2023	Hills Creek Tailrace RST - PH	112
3D6.15347FEAD8	6/5/2023	Hills Creek Head of Reservoir	9/26/2023	Hills Creek Tailrace RST - PH	113
3D6.1534801912	6/5/2023	Hills Creek Head of Reservoir	9/26/2023	Hills Creek Tailrace RST - PH	113
3DD.003E561672	9/18/2023	Lookout Point Forebay	9/28/2023	Dexter Dam Tailrace RST	10
3D6.1534843157	6/5/2023	Hills Creek Head of Reservoir	10/2/2023	Hills Creek Tailrace RST - PH	119
3DD.003E50D416	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/2/2023	Green Peter Tailrace RST	11
3D6.15347FE7D3	6/5/2023	Hills Creek Head of Reservoir	10/3/2023	Hills Creek Tailrace RST - PH	120
3DD.003E568E7A	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/3/2023	Green Peter Tailrace RST	12
3DD.003E56B029	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/3/2023	Green Peter Tailrace RST	12
3DD.003E56DDDA	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/3/2023	Green Peter Tailrace RST	12
3DD.003E567C6E	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/4/2023	Green Peter Tailrace RST	13
3DD.003E56E51F	9/21/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/4/2023	Green Peter Tailrace RST	13
3DD.003E4BB068	7/13/2023	Detroit Head of Reservoir - North Santiam	10/6/2023	Big Cliff Tailrace RST	85
3D6.15348436D8	6/5/2023	Hills Creek Head of Reservoir	10/7/2023	Hills Creek Tailrace RST - PH	124
3D6.153484327C	6/5/2023	Hills Creek Head of Reservoir	10/8/2023	Hills Creek Tailrace RST - PH	125
3DD.003E4DDB1D	10/2/2023	Cougar Head of Reservoir	10/8/2023	Cougar Tailrace RST - PH	6

PIT ID	Release Date	Release Location	Recapture Date	Recapture Location	Travel Time
3DD.003E4FA3E7	10/2/2023	Cougar Head of Reservoir	10/8/2023	Cougar Tailrace RST - PH	6
3DD.003E4C2AAA	10/4/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/9/2023	Green Peter Tailrace RST	5
3DD.003E4FA1C9	10/2/2023	Cougar Head of Reservoir	10/9/2023	Cougar Tailrace RST - PH	7
3DD.003E50BB0F	10/2/2023	Cougar Head of Reservoir	10/9/2023	Cougar Tailrace RST - PH	7
3DD.003E568A43	10/4/2023	Green Peter Head of Reservoir - Middle Santiam Arm	10/9/2023	Green Peter Tailrace RST	5
3D6.1534801D95	6/5/2023	Hills Creek Head of Reservoir	10/11/2023	Hills Creek Tailrace RST - PH	128
3DD.003E4B773D	7/13/2023	Detroit Head of Reservoir - Breitenbush	10/11/2023	Big Cliff Tailrace RST	90
3DD.003E4DE900	10/2/2023	Cougar Head of Reservoir	10/11/2023	Cougar Tailrace RST - RO	9
3DD.003E4B78FE	7/13/2023	Detroit Head of Reservoir - North Santiam	10/12/2023	Big Cliff Tailrace RST	91
3DD.003E4B894D	7/13/2023	Detroit Head of Reservoir - North Santiam	10/12/2023	Big Cliff Tailrace RST	91
3DD.003E4B99F0	8/29/2023	Cougar Head of Reservoir	10/13/2023	Cougar Tailrace RST - RO	45
3DD.003E4F9C51	10/2/2023	Cougar Head of Reservoir	10/13/2023	Cougar Tailrace RST - RO	11
3DD.003E4F9D3E	10/2/2023	Cougar Head of Reservoir	10/13/2023	Cougar Tailrace RST - RO	11
3DD.003E4FAEF1	10/2/2023	Cougar Head of Reservoir	10/13/2023	Cougar Tailrace RST - RO	11
3DD.003E50B840	10/2/2023	Cougar Head of Reservoir	10/13/2023	Cougar Tailrace RST - RO	11
3DD.003E56A03B	10/2/2023	Cougar Head of Reservoir	10/13/2023	Cougar Tailrace RST - RO	11
3DD.003E4F9D98	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E4FA55F	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E4FA584	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E4FB615	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E4FC469	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E4FD761	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E50C430	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E569943	10/2/2023	Cougar Head of Reservoir	10/14/2023	Cougar Tailrace RST - RO	12
3DD.003E4DDB3C	10/2/2023	Cougar Head of Reservoir	10/15/2023	Cougar Tailrace RST - RO	13
3DD.003E4FA12D	10/2/2023	Cougar Head of Reservoir	10/15/2023	Cougar Tailrace RST - RO	13
3DD.003E4FB368	10/2/2023	Cougar Head of Reservoir	10/15/2023	Cougar Tailrace RST - RO	13

Reservoir Distribution Summary

Reservoir sampling during the reporting period was conducted using 30' small mesh suspended gill nets on Lookout Point Reservoir (10/02/2023-10/05/2023) (Table 5). No sampling was conducted on Green Peter Reservoir during this reporting period because the CFS boat moored on Green Peter Reservoir sank on 10/2/2023. An account of what is known about the boat sinking, recovery efforts and anticipated next steps are summarized in the next section of this report. Sampling is indefinitely suspended on Green Peter Reservoir until a new boat is available and on the reservoir.

On Lookout Point Reservoir, surface temperatures at netting locations averaged 17.9 C during the reporting period (Table 6). In the forebay, 17C extended from the surface to 16 m, and 16-17C was observed from 16 m to the maximum station depth of 26.7m. Turbidity was high throughout the reservoir with secchi disk measurements ranging from 0.4-1.1 m, with lowest clarity at the upstream end of the reservoir. Floating algae was additionally observed in the reservoir from Signal Point boat launch to the river mouth.

Suspended gill nets were set in Lookout Point Reservoir near each site's maximum depth to try to get as close as possible to the target temperature of 15C. Over four days of sampling, 25 juvenile walleye (mean fork length 161 mm), one black crappie (fork length 310 mm), and one white crappie (fork length 305 mm) were captured (Table 7). Additionally, one natural origin sub-yearling Chinook was captured (fork length 140 mm) in the middle zone of the reservoir near Signal Point boat launch.

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

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
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

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

Week	Reservoir	Species	Catch
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
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

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

CFS Boat Sinking on Green Peter Reservoir

On Tuesday, 3 October 2023 CFS was notified by the Army Corps of Engineers that our 2023 Riverhawk ProV boat that had been moored on Green Peter Reservoir had sunk in approximately 14 m of water (Figure 1). It was reported that the boat was listing to one side, and then sank quickly. The boat had last been used on 1 October 2023 for sampling, and the crew left the reservoir around 16:02. The boat was floating normally at that time and the bilge was pumped out just prior to the crew's departure. Once alerted to the sinking, we dispatched a field crew to Billings Park on Green Peter Reservoir to salvage floating gear and meet with USACE staff. The crew used an inflatable kayak to retrieve floating lines and buoys that were aggregated near the log boom.

We contacted Cascade Diving Company that afternoon and met one of their divers for a consult on site on 4 October 2023. On 12 October 2023 at 08:00, Cascade Dive Company arrived at Billings Park on Green Peter Reservoir to raise the boat and bring it to shore. The depth of the boat was approximately 11.5 m. That afternoon the boat was raised and brought to the shoreline, with attached lifting bags (Figure 2), and tied to the shoreline. The following morning at 08:30, the boat's transom had filled with water, and was approximately 1/3 underwater. Additional lines and a chain were used to secure the boat to shore and the boat has remained in that place ever since, with CFS staff and the Linn County Sheriff's Officers checking on it each day (Figure 3, Figure 4).

Options are being explored and discussions are underway to get the boat off of the shoreline of Green Peter Reservoir. We have spoken with a timber contractor, a towing company, and a helicopter company recommended by the Linn County Sheriff's Office. Our best option moving forward is with Leading Edge Aviation out of Bend, Oregon. Pending permit approval, the plan is to have the boat removed in the near future via helicopter and be placed on the trailer, after which we will work with the Sheriff's Office on their investigation of the hull.



Figure 1. Photo of CFS Green Peter boat sinking provided by USACE on 02 October 2023.

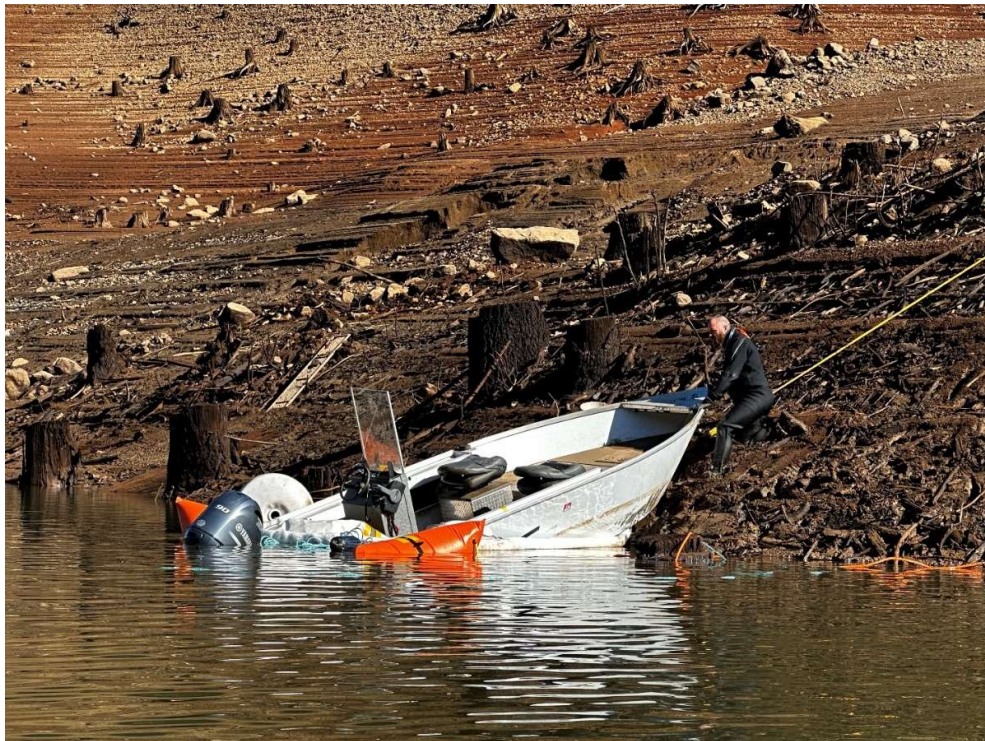


Figure 2. Photo of boat being raised by Cascade Dive Company on 12 October 2023.



Figure 3. Photo of CFS boat secured on shore on 15 October 2023.



Figure 4. Photo of CFS boat secured to shore on 19 October 2023. Reservoir elevations are dropping rapidly, and it is now apparent that the boat is perched above a steep drop off.

Appendix A. Release Site Maps

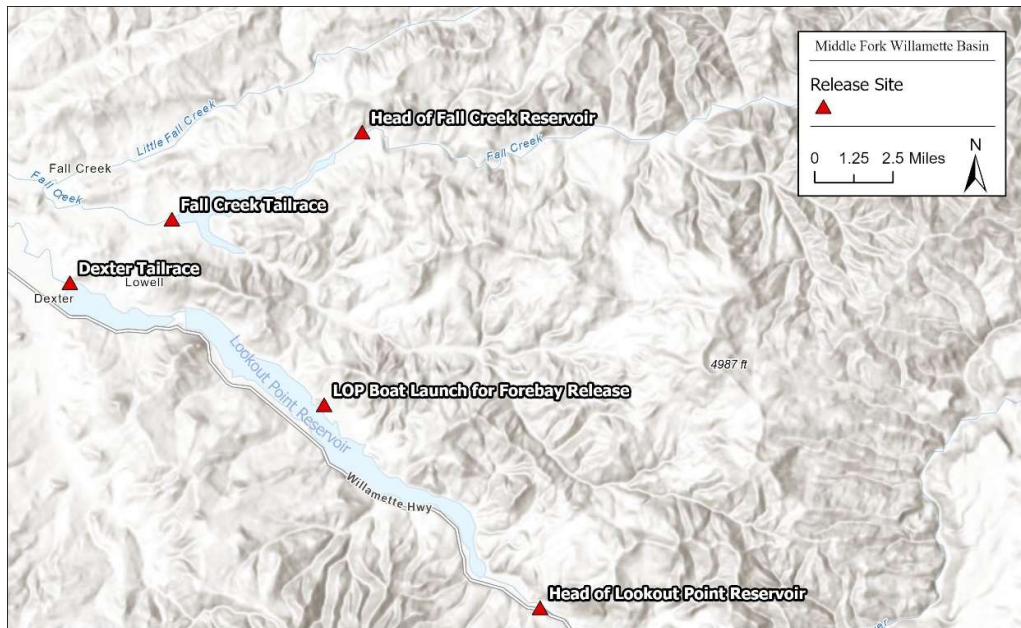


Figure 1. Map of Lookout Point, Dexter tailrace and Fall Creek release locations within the Middle Fork Willamette Basin.

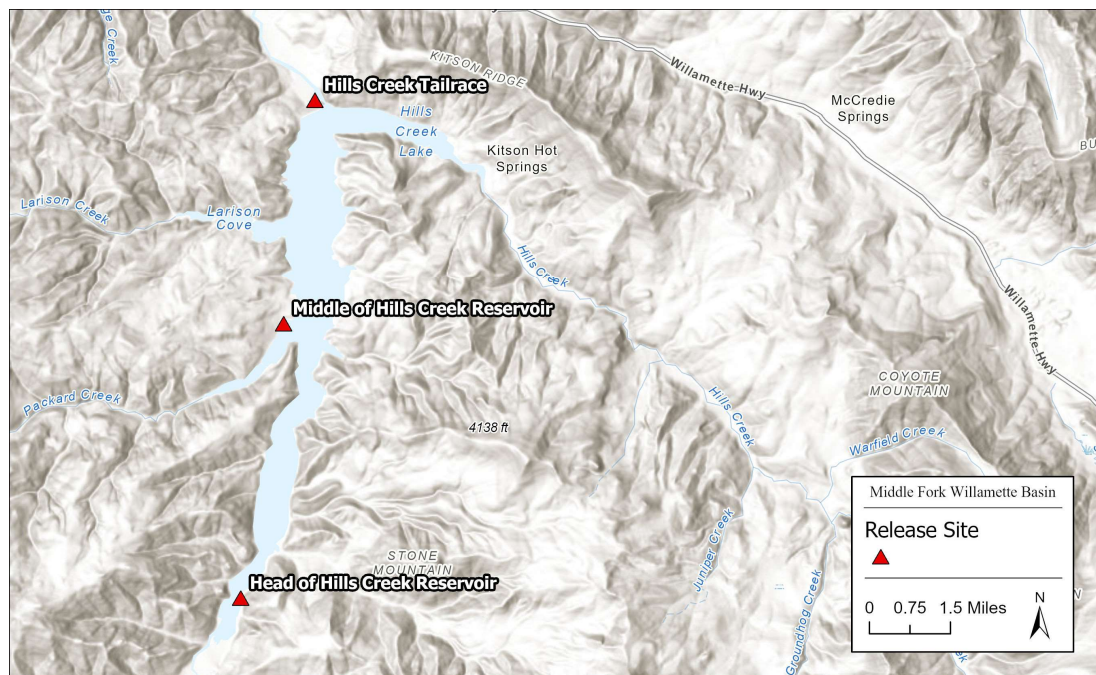


Figure 2. Map of Hills Creek Reservoir release locations within the Middle Fork Willamette Basin.

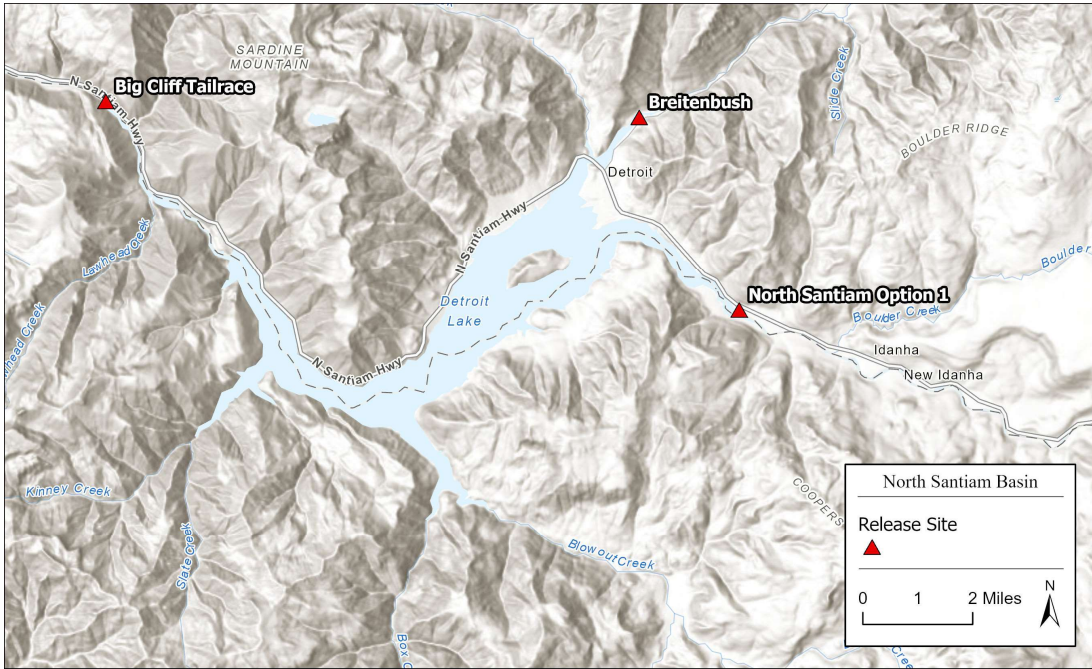


Figure 3. Map of release locations within the North Santiam Basin.

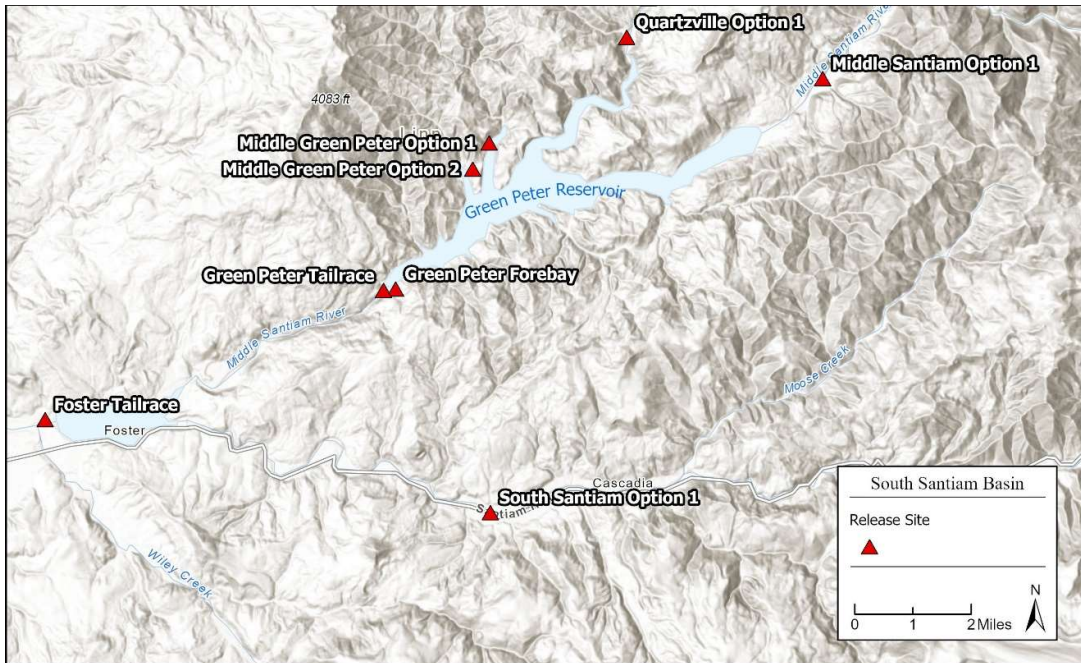


Figure 4. Map of release locations in the Middle/South Santiam basin including Green Peter Reservoir.

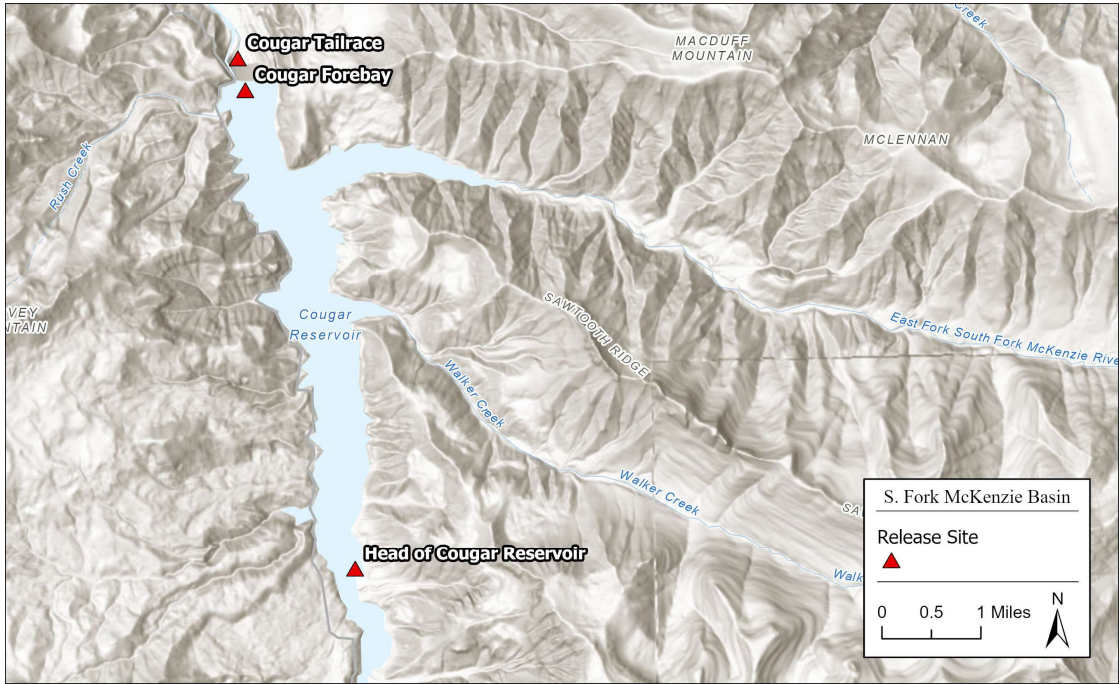


Figure 5. Map of release locations at Cougar Reservoir.

Appendix B. Reservoir Sampling Zones

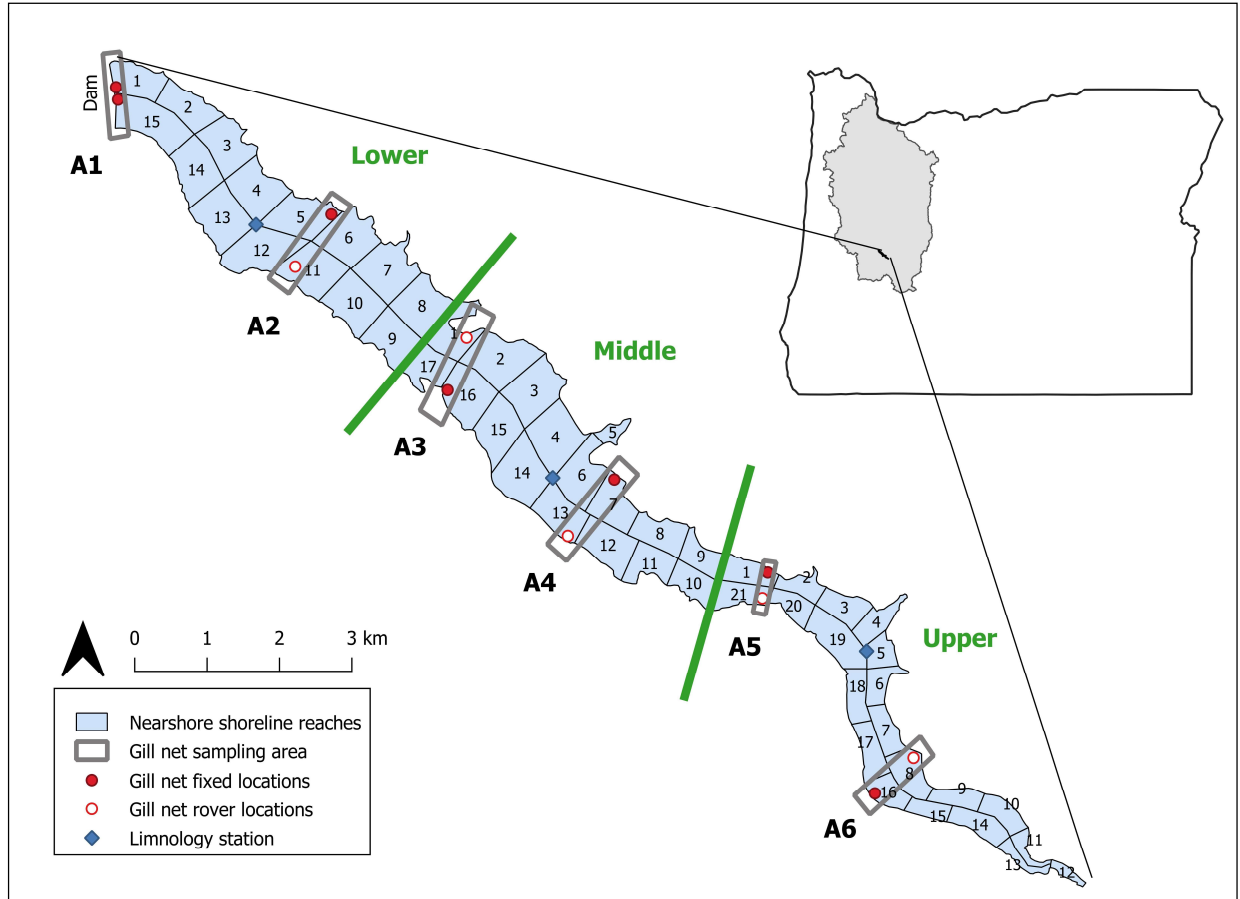


Figure 6. Map of Lookout Point Reservoir nearshore shoreline reaches, reservoir zones (lower, middle and upper), gill netting sampling areas and limnological stations.

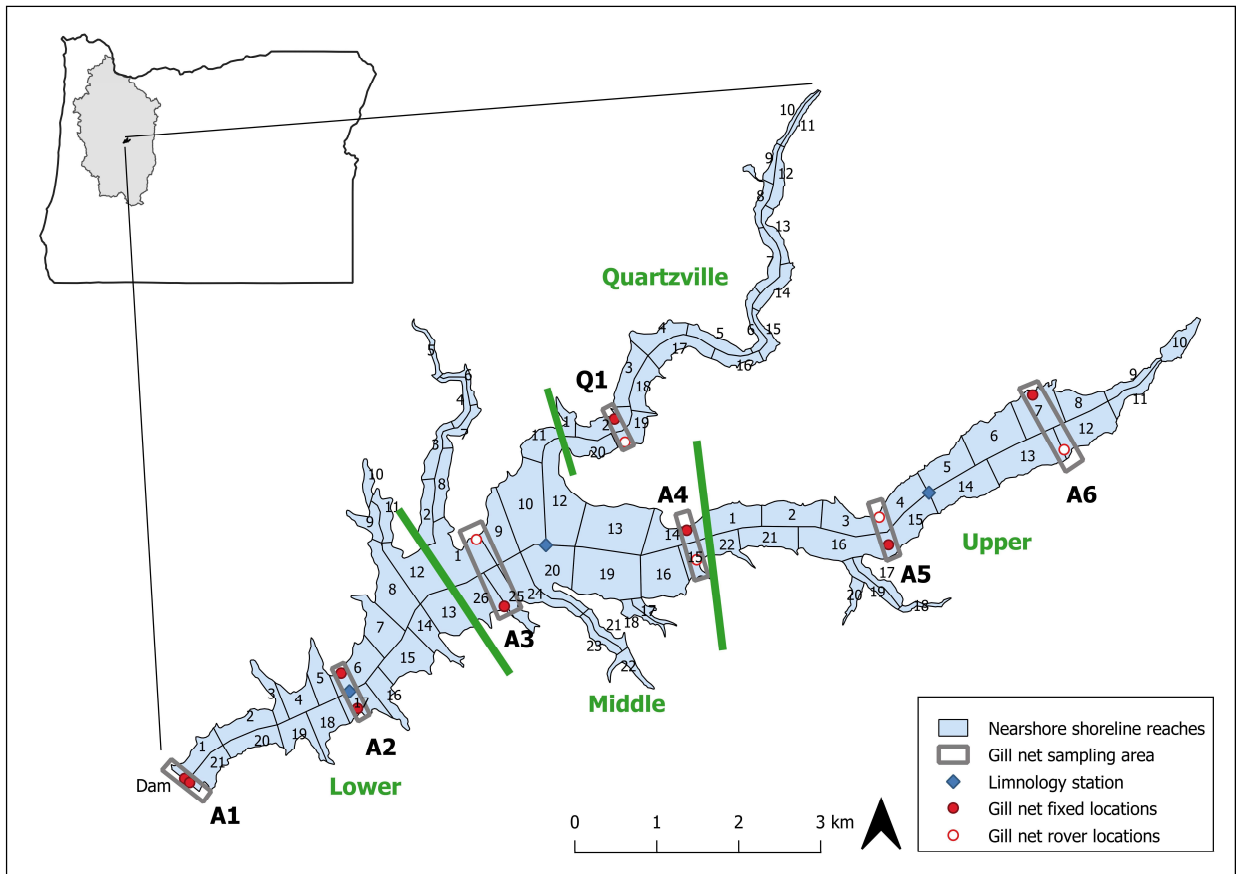


Figure 7. Map of Green Peter Reservoir nearshore shoreline reaches, reservoir zones (lower, middle and upper), gill netting sampling areas and limnological stations.