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WILLAMETTE VALLEY FISH PASSAGE MONITORING –RESERVOIR DISTRIBUTION & RIVERINE SAMPLING

Bi-Weekly Report: February 16 – February 28, 2025

Prepared for: United States Army Corps of Engineers

Prepared by: Cramer Fish Sciences

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RESERVOIR DISTRIBUTION SUMMARY

Reservoir sampling during the reporting period was conducted in the nearshore areas of Lookout Point and Green Peter reservoirs using Oneida lake traps and box minnow traps (Table 1). Each reservoir was sampled every other week.

On Lookout Point Reservoir, traps were deployed on 02/17/2025 and pulled on 02/20/2025. During the sampling week, average surface temperatures were 4.8 C (Table 2; Figure 1). Traps were set at the surface in each reservoir zone (Lower, Middle, and Upper). One Oneida trap and three box minnow traps were set in the Middle and Lower reservoir longitudinal zones per sampling day. One Oneida trap and only two box minnow traps were set per day in the Upper zone due to shallow conditions that made much of the upper zone inaccessible. Over the course of the sampling week (n=9 Oneida sets, n=21 box minnow sets), one yearling hatchery origin Chinook salmon (adipose clipped but no PIT tag), one adult natural origin *O. mykiss*, one juvenile natural origin *O. mykiss*, two cutthroat, one northern pikeminnow, one speckled dace, one bluegill and two smallmouth bass were captured (Tables 1, 3-5). The hatchery Chinook salmon was captured in the Lower zone, while both *O. mykiss* were captured in the Middle reservoir zone. The juvenile Chinook salmon and *O. mykiss* were implanted with PIT tags by our crew. Of note, one box minnow trap located on the south shore near the mouth of Goodman Creek was found on arrival 2/20/2025 with multiple bullet holes and bullets within the trap. CFS staff alerted USACE security personnel, the dam operator and the Lane County Sheriff's Office to the vandalism.

Green Peter Reservoir was sampled from 2/24/2025 – 2/27/2025. Sampling on Monday 2/24/2025 was suspended midday with only 2/3 of traps deployed due to high winds and unsafe conditions on the reservoir. The crew navigated around several downed trees on Quartzville Drive while departing on 2/24/2025. The road had been cleared by the following morning, and sampling recommenced with all traps deployed on 2/25/2025. Over the sampling week, average surface temperatures were 6.2 C (Table 2; Figure 2). Traps were set at the surface in each reservoir zone (Lower, Middle, Upper, and Quartzville). Over the sampling period (n=11 Oneida sets, n=26 box minnow sets), 28 Chinook salmon (all were natural origin fry/parr), one juvenile natural origin *O. mykiss*, four cutthroat trout, three northern pikeminnow, and 15 bluegill were captured (Tables 1, 3-5). The Chinook salmon were captured in the Upper, Middle and Quartzville zones. The *O. mykiss* was captured in the Quartzville zone. Six of the natural origin Chinook salmon and the only *O. mykiss* specimen were implanted with PIT tags. Five Chinook salmon mortalities occurred, two of which were from tagging/handling while three appeared to have succumbed to fungal infection/disease.

Table 1. Start and end date by statistical week for 2025 reservoir sampling.

Week	Start	End	Reservoir	Net Type	Effort (# sets)	Effort (hrs)
6	2/3/2025	2/4/2025	Lookout Point	box minnow	5	118
6	2/3/2025	2/4/2025	Lookout Point	oneida	2	47
7	2/10/2025	2/12/2025	Green Peter	box minnow	18	414
7	2/10/2025	2/12/2025	Green Peter	oneida	8	187
8	2/17/2025	2/20/2025	Lookout Point	box minnow	21	485
8	2/17/2025	2/20/2025	Lookout Point	oneida	9	208
9	2/24/2025	2/27/2025	Green Peter	box minnow	26	615
9	2/24/2025	2/27/2025	Green Peter	oneida	11	261

Table 2. Mean surface water temperature measured during each trap net deployment.

Week	Reservoir	Mean Water Surface Temperature °C
6	Lookout Point	4.3
7	Green Peter	4.8
8	Lookout Point	4.8
9	Green Peter	6.2

Table 3. Summary of total catch by reservoir. CHS – Chinook salmon, RBT – *O. mykiss*, CUT - Cutthroat trout, KOK – Kokanee, NPM - Northern Pikeminnow, SCU – Sculpin, DAC – Speckled Dace, BLG - Bluegill, LWB – Western Brook Lamprey, BBH- Brown bullhead, YBH – Yellow bullhead, LSS - Large-scale sucker, SMB - Smallmouth Bass, LMB – largemouth bass, BLC – black crappie, WHC – white crappie, WAL – walleye, UNID – unidentified. *Unidentified larval centrarchid.

Week	Reservoir	CHS	RBT	CUT	KOK	NPM	SCU	DAC	BLG	LWB	BBH	YBH	LSS	SMB	LMB	BLC	WHC	WAL	UNID
6	Lookout Point	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Green Peter	11	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8	Lookout Point	1	2	2	0	1	0	1	1	0	0	0	0	2	0	0	0	0	0
9	Green Peter	28	1	4	0	3	0	0	15	0	0	0	0	0	0	0	0	0	0

Table 4. Catch summary of Chinook salmon and *O. mykiss* by reservoir zone. CHS-AD = ad clipped Chinook salmon, CHS-natural = natural origin Chinook salmon, RBT-AD = ad clipped *O. mykiss,* RBT-natural = natural origin *O. mykiss.*

Week	Reservoir	Species	Lifestage	LOWER	MIDDLE	UPPER	QUARTZVILLE
6	Lookout Point	RBT-natural	Adult	0	0	1	0
7	Green Peter	CHS-AD	Yearling	0	1	0	0
7	Green Peter	CHS-natural	Fry	0	0	10	0
7	Green Peter	RBT-AD	Adult	0	1	0	0
8	Lookout Point	CHS-AD	Yearling	1	0	0	0
8	Lookout Point	RBT-natural	Adult	0	1	0	0
8	Lookout Point	RBT-natural	Juvenile	0	1	0	0
9	Green Peter	CHS-natural	Fry	0	8	11	1
9	Green Peter	CHS-natural	Sub-Yearling	0	4	4	0
9	Green Peter	RBT-natural	Juvenile	0	0	0	1

Table 5. Summary of Chinook salmon and *O. mykiss* lengths, tags implanted, recaptures and sampling mortalities. LOP – Lookout Point Reservoir, GPR – Green Peter Reservoir. FL = fork length.

Week	Reservoir	Species	Lifestage	Catch	Min FL (mm)	Mean FL (mm)	Max FL (mm)	# VIE tagged	# PIT tagged	# Recap	mortalities
6	Lookout Point	RBT-natural	Adult	1	235	235	235	0	0	0	0
7	Green Peter	CHS-AD	Yearling	1	95	95	95	0	0	0	1
7	Green Peter	CHS-natural	Fry	10	39	42.4	45	0	0	0	1

Week	Reservoir	Species	Lifestage	Catch	Min FL (mm)	Mean FL (mm)	Max FL (mm)	# VIE tagged	# PIT tagged	# Recap	mortalities
7	Green Peter	RBT-AD	Adult	1	334	334	334	0	0	0	0
8	Lookout Point	CHS-AD	Yearling	1	120	120	120	0	1	0	0
8	Lookout Point	RBT-natural	Adult	1	359	359	359	0	0	0	0
8	Lookout Point	RBT-natural	Juvenile	1	80	80	80	0	1	0	0
9	Green Peter	CHS-natural	Fry	20	34	39	44	0	0	0	2
9	Green Peter	CHS-natural	Sub-Yearling	8	46	49.9	53	0	6	0	3
9	Green Peter	RBT-natural	Juvenile	1	182	182	182	0	1	0	0

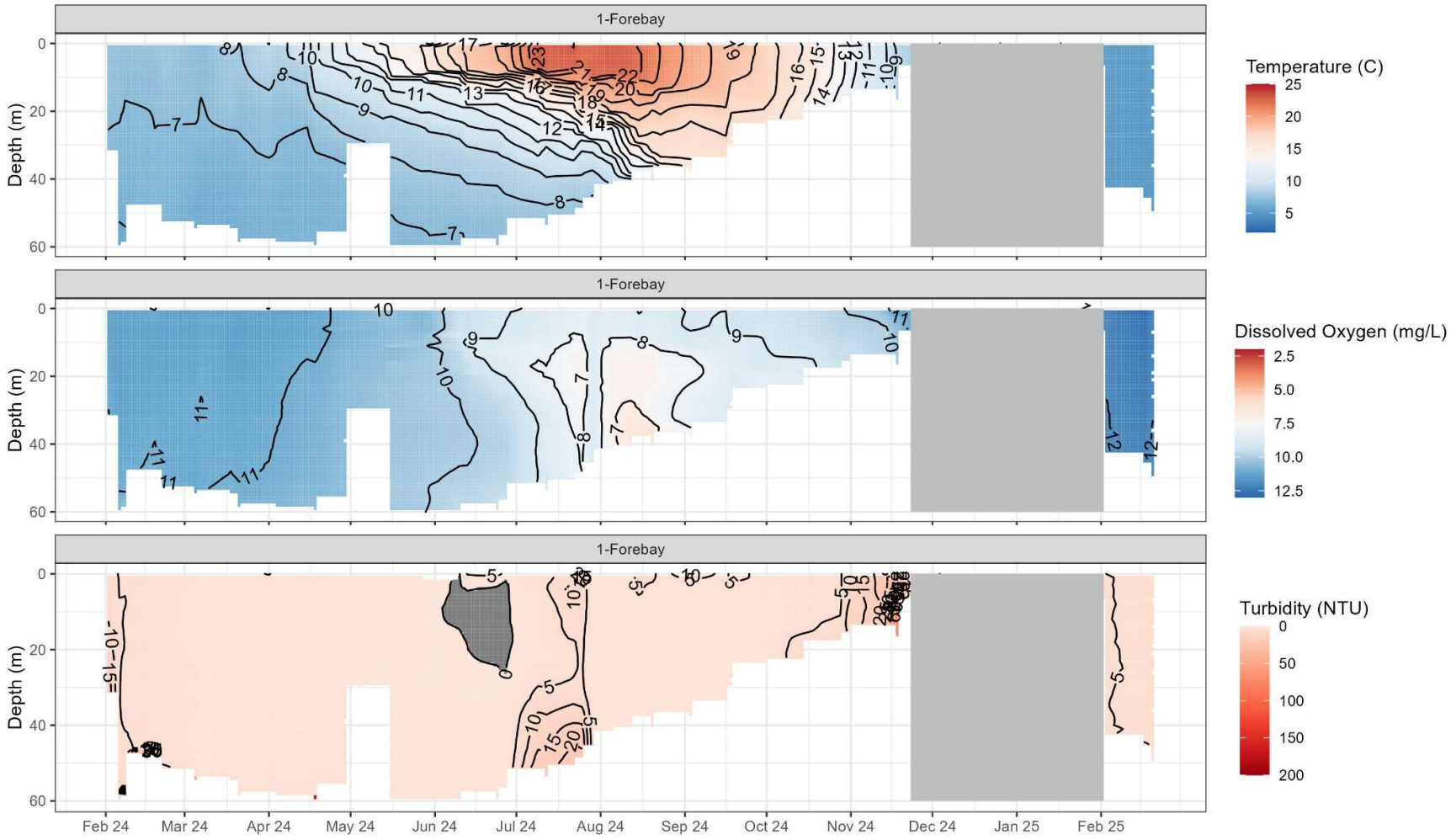

Figure 1. Lookout Point limnology data. Light gray indicates no sampling. Turbidity data in dark gray have been removed due to a sensor malfunction/calibration issue.

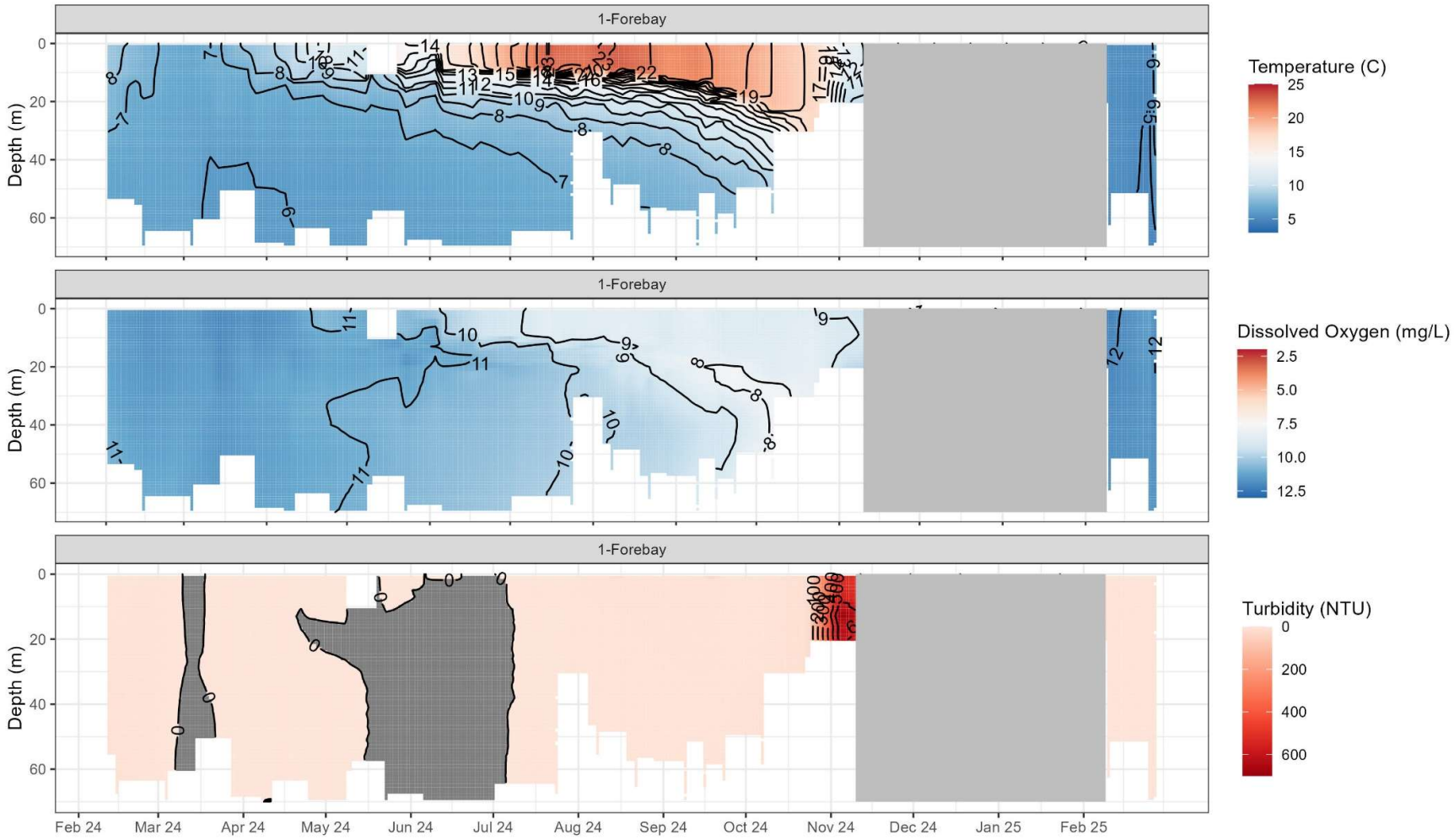

Figure 2. Green Peter limnology data. Light gray indicates no sampling. Turbidity data in dark gray have been removed due to a sensor malfunction/calibration issue.

RIVERINE SAMPLING SUMMARY

Riverine sampling was conducted on a weekly basis during the reporting for both the Middle Santiam River and Quartzville Creek using beach seines.

This was the first full effort conducted on Quartzville Creek this season. Quartzville Creek was sampled this reporting period from 2/19/2025 - 2/20/2025 (Week 8) and 2/27/2025 - 3/1/2025 (Week 9) (Table 6). Week 8 effort consisted of 12 seine hauls over 2 days (Table 6). The water temperature averaged 5.46 C (Table 7). Over two days of sampling (n=11 pole seine hauls, n=1 river seine hauls), three natural origin Chinook salmon fry were captured. Twelve non-target fish were caught, consisting of 11 unidentified dace, and one unidentified sculpin (Tables 8-10). Week 9 effort consisted of 24 seine hauls over three days (Table 6). The water temperature averaged 6.32 C (Table 7). Over three days of sampling (n=18 pole seine hauls, n=6 river seine hauls), one natural origin Chinook salmon fry was captured. Thirty non-target fish were caught, consisting of 26 unidentified dace, and four unidentified sculpin. No Chinook salmon fry were PIT tagged this reporting period as all were beneath the tagging fork length threshold of 45 mm.

The Middle Santiam River was sampled this reporting period from 2/17/2025- 2/18/2025 and 2/20/2025-2/21/2025 (Week 8), as well as sampled 2/28/2025 – 3/01/2025 (Week 9) (Table 6). Week 8 effort on the Middle Santiam consisted of 15 hauls over four days. The water temperature for the week averaged 5.14 C (Table 7). Over four days of sampling (n=15 pole seine hauls), six juvenile Chinook salmon were captured (Tables 8-10). Chinook salmon catch consisted of six natural origin fry. All fry were too small to be tagged or sampled (Table 10). Week 9 effort on the Middle Santiam consisted of nine hauls over two days. The water temperature for the week averaged 5.88 C (Table 7). Over two days of sampling (n=9 pole seine hauls), one unidentified dace was captured (Tables 8-10). No Chinook salmon were captured during week 9 on the Middle Santiam.

Zero recaptures were encountered on either tributary this reporting period.

Table 6. Start and end date by statistical week for riverine sampling.

Week	Start	End	River	Seine Type	Effort (# Hauls)
4	1/23/2025	1/24/2025	Middle Santiam	Pole	17
4	1/23/2025	1/24/2025	Middle Santiam	River	0
5	1/29/2025	1/31/2025	Middle Santiam	Pole	18
5	1/29/2025	1/31/2025	Middle Santiam	River	0
6	2/3/2025	2/4/2025	Quartzville Creek	Pole	11
6	2/3/2025	2/4/2025	Quartzville Creek	River	7
6	2/5/2025	2/7/2025	Middle Santiam	Pole	17
6	2/5/2025	2/7/2025	Middle Santiam	River	4
7	2/11/2025	2/14/2025	Middle Santiam	Pole	17
7	2/11/2025	2/14/2025	Middle Santiam	River	1
8	2/19/2025	2/20/2025	Quartzville Creek	Pole	11
8	2/19/2025	2/20/2025	Quartzville Creek	River	1

Week	Start	End	River	Seine Type	Effort (# Hauls)
8	2/17/2025	2/21/2025	Middle Santiam	Pole	15
8	2/17/2025	2/21/2025	Middle Santiam	River	0
9	2/27/2025	3/1/2025	Quartzville Creek	Pole	18
9	2/27/2025	3/1/2025	Quartzville Creek	River	6
9	2/28/2025	3/1/2025	Middle Santiam	Pole	9
9	2/28/2025	3/1/2025	Middle Santiam	River	0

Table 7. Mean water temperature per sample week for riverine sampling.

Week	River	Mean Water Temperature °C
4	Middle Santiam	4.45
5	Middle Santiam	3.01
5	Quartzville Creek	2.68
6	Middle Santiam	3.75
6	Quartzville Creek	3.65
7	Middle Santiam	2.76
7	Quartzville Creek	2.60
8	Middle Santiam	5.14
8	Quartzville Creek	5.46
9	Middle Santiam	5.88
9	Quartzville Creek	6.32

Table 8. Summary of total catch by river. CHS – Chinook salmon, RBT – *O. mykiss*, DACE – Unidentified Dace, SCU – Unidentified Sculpin.

Week	River	CHS	RBT	DACE	SCU
4	Middle Santiam	4	0	1	0
5	Middle Santiam	1	0	1	0
6	Quartzville Creek	0	0	3	1
6	Middle Santiam	6	0	1	0
7	Middle Santiam	2	0	0	0
8	Quartzville Creek	3	0	11	1
8	Middle Santiam	6	0	0	0
9	Quartzville Creek	1	0	26	4
9	Middle Santiam	0	0	1	0

Table 9. Catch summary of target species by habitat unit type for riverine sampling. CHS-AD = ad clipped Chinook salmon, CHS-natural = natural origin Chinook salmon, RBT-AD = ad clipped *O. mykiss,* RBT-natural = natural origin *O. mykiss.*

Week	River	Species	Lifestage	Riffle	Run	Pool	Pooltail	Total
4	Middle Santiam	CHS-natural	fry	0	0	4	0	4
5	Middle Santiam	CHS-natural	fry	0	0	1	0	1
6	Quartzville Creek	No Catch	-	0	0	0	0	0
6	Middle Santiam	CHS-natural	fry	0	0	6	0	6
7	Middle Santiam	CHS-natural	fry	0	0	2	0	2
8	Quartzville Creek	CHS-natural	fry	0	0	3	0	3
8	Middle Santiam	CHS-natural	fry	0	0	7	0	7
9	Quartzville Creek	CHS-natural	fry	0	0	1	0	1
9	Middle Santiam	No Catch	-	0	0	0	0	0

Table 10. Summary of target species lengths, tags implanted and recaptures from riverine sampling. MS = Middle Santiam.

Week	River	Species	Lifestage	Catch	Min FL	Mean FL	Max FL	# PIT tagged	# recap
4	MS	CHS-natural	fry	4	32	35.2	40	0	0
5	MS	CHS-natural	fry	1	39	39	39	0	1
6	QTZ	No Catch	-	0	-	-	-	0	0
6	MS	CHS-natural	fry	6	37	39.4	45	2	0
7	MS	CHS-natural	fry	2	35	35.5	36	0	0
8	QTZ	CHS-natural	fry	3	31	34	37	0	0
8	MS	CHS-natural	fry	7	34	35.9	42	0	0
9	QTZ	CHS-natural	fry	1	29	29	29	0	0
9	MS	No Catch	-	0	-	-	-	0	0

APPENDIX A. RESERVOIR SAMPLING ZONES

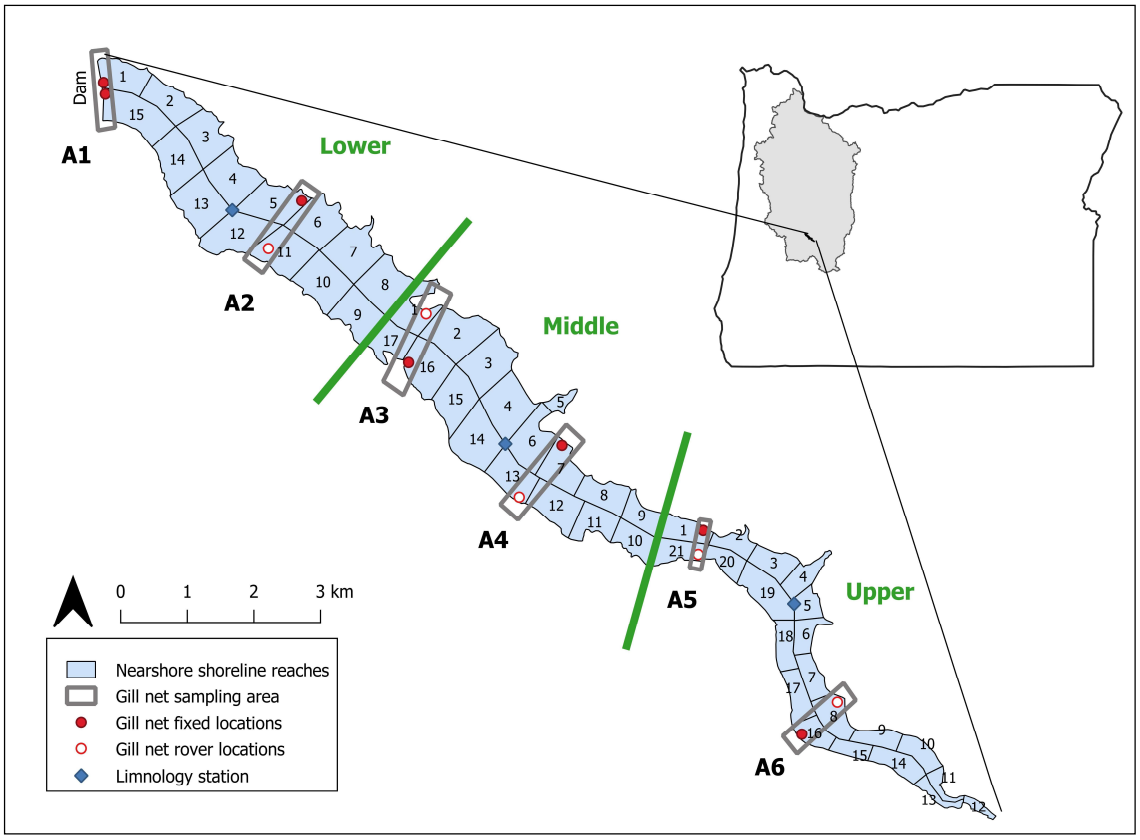

Figure A1. Map of LOP Reservoir nearshore shoreline reaches, reservoir zones (lower, middle and upper), gill netting sampling areas and limnological stations.

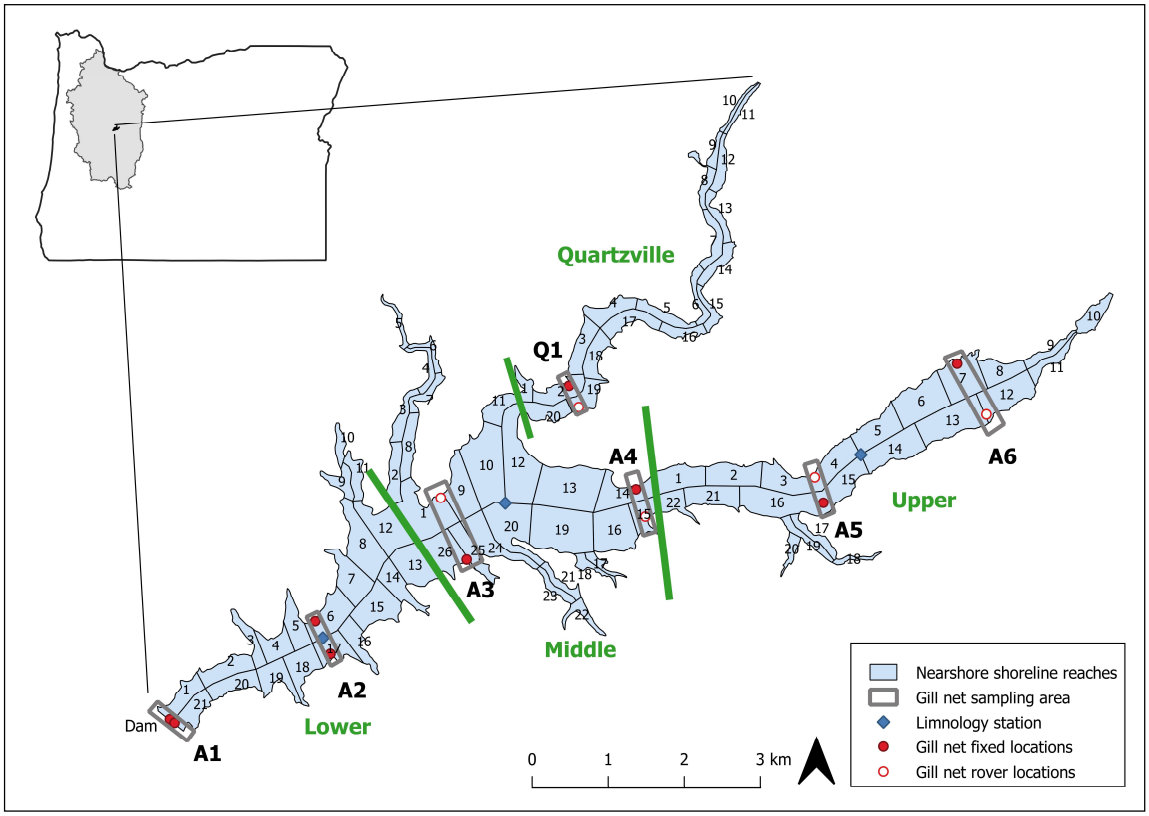

Figure A2. Map of Green Peter Reservoir nearshore shoreline reaches, reservoir zones (lower, middle and upper), gill netting sampling areas and limnological stations.