



Willamette Valley Downstream Fish Passage Monitoring

Presented by: Dillon Alegre



Wholly Owned Subsidiary of Natives of Kodiak



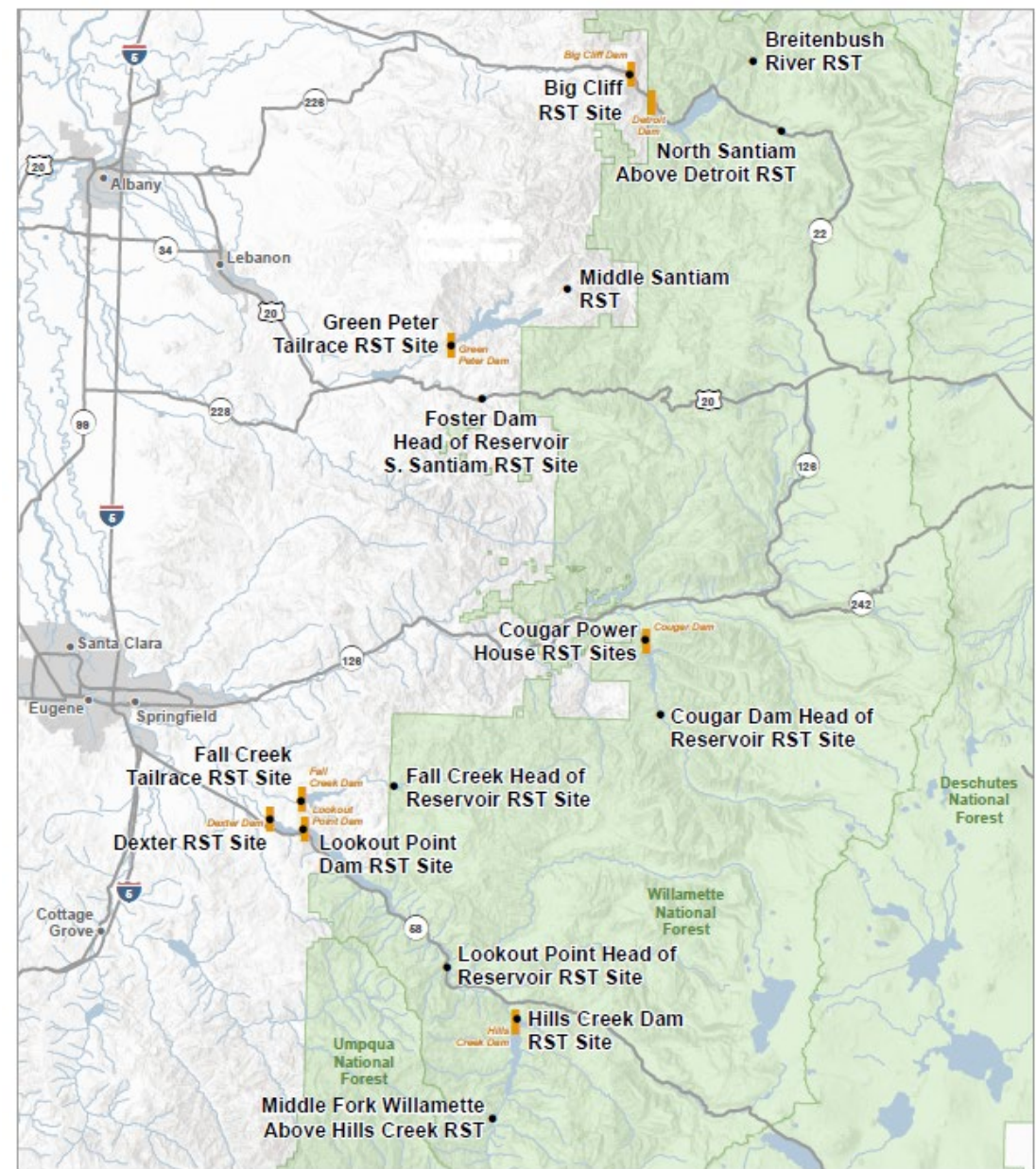
Objectives

- Passage Estimates of Juvenile Salmonids
 - Provide passage estimates by site and route of passage, where sufficient data allows
- Migration Timing, Age Class, and Size of Juvenile Salmonids
 - Provide data on migration/passage timing and size/age class of fish entering and exiting Willamette Valley Reservoirs
- Injuries and Mortality
 - Provide injury data on juvenile salmonids associated with passage through CORPs Willamette Valley Projects



Monitoring Sites

- 15 Monitoring sites across three river systems:
 - Santiam (North, Middle, and South Santiam)
 - McKenzie
 - Middle Fork Willamette
- 20 Rotary Screw Traps (RSTs)



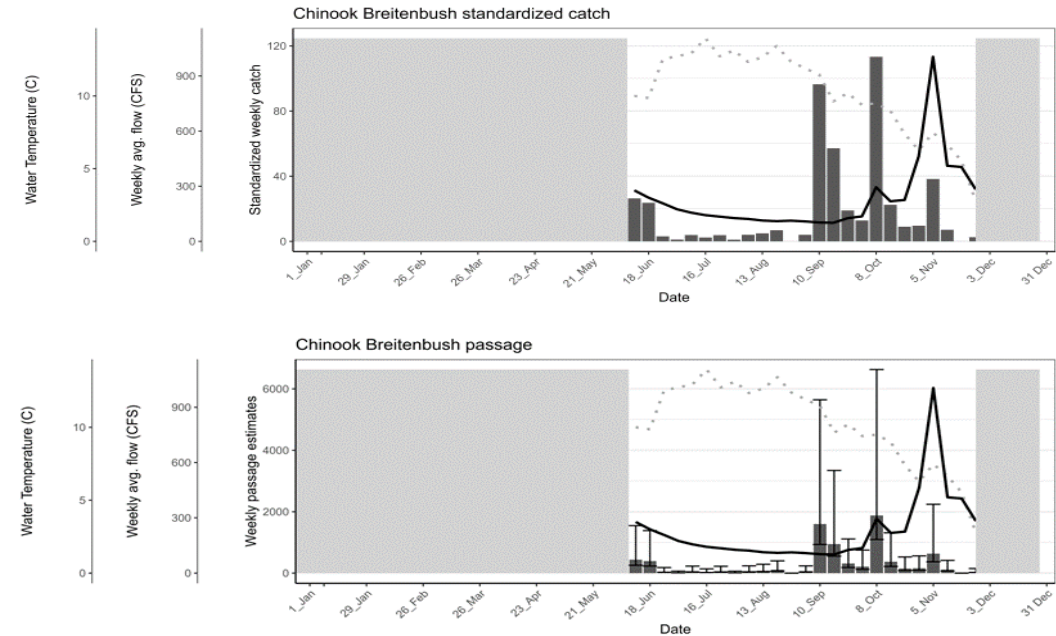
Rotary Screw Trap Locations

- RST Locations
- USACE Dams



Breitenbush River- North Santiam Basin

- Trap sampled 147 days in 2023 starting on June 16th and captured a total of 377 juvenile Chinook salmon and 361 juvenile *O. mykiss*.
- Estimated 15,587 (95% C.I. 9,138 to 55,368) Chinook passed during the times the trap sampled in 2023.

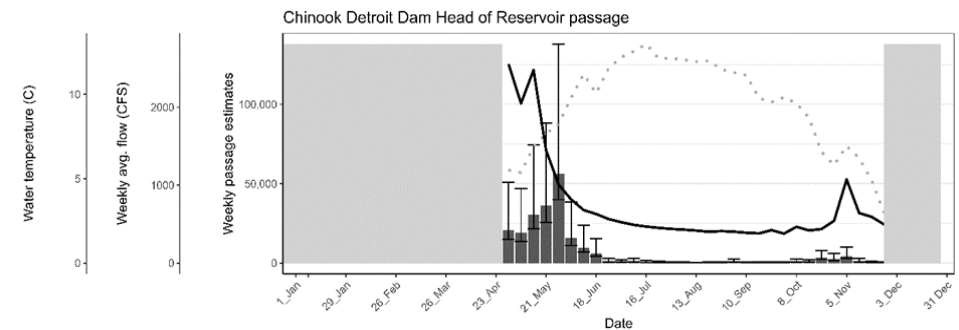
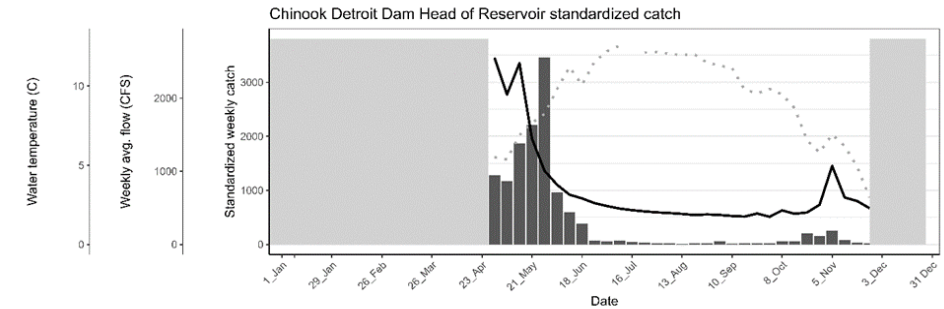


Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	June 16 to June 30	30	55 mm
2022 (Sub-yearlings)	July 1 to November 30	347	91 mm

Detroit Head of Reservoir-North Santiam River



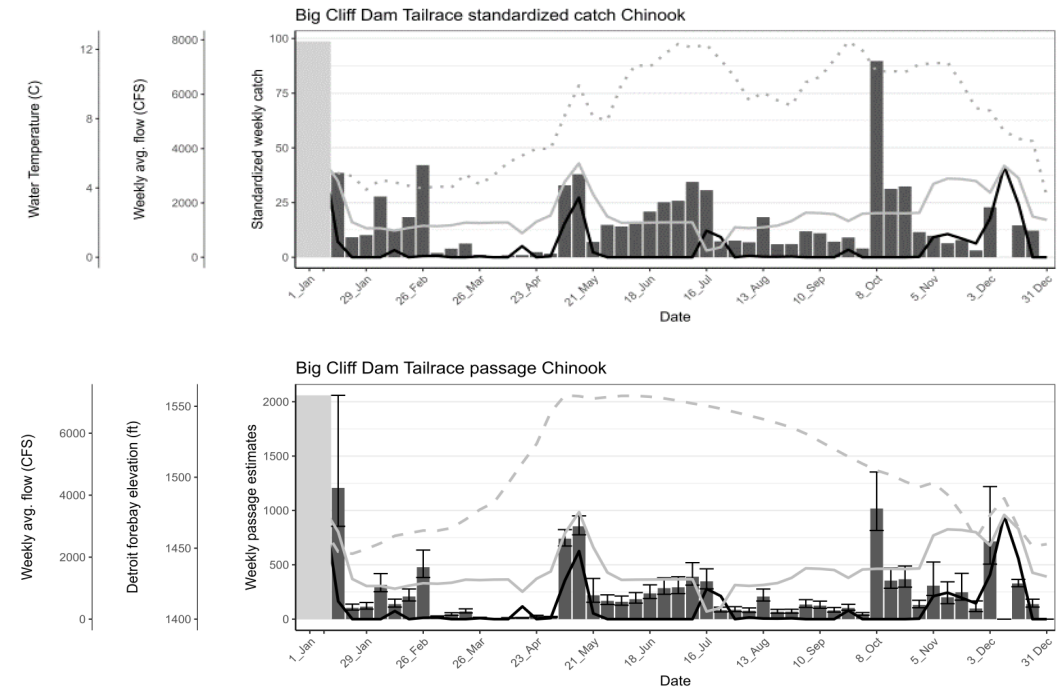
- Trap sampled 191 days in 2023 starting on May 4th and captured a total of 10,141 juvenile Chinook and 590 juvenile *O. mykiss*.
- Estimated 216,134 (95% C.I. 153,414 to 528,666) Chinook passed during the times the trap sampled in 2023.



Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	May 4 to June 30	9,125	35 mm
2021 (Yearlings)	May 4 to June 30	1	61 mm
2022 (Sub-yearlings)	July 1 to November 30	1,015	79 mm

Big Cliff Dam - North Santiam River

- Trap sampled 320 days in 2023 and captured 704 juvenile Chinook and 251 juvenile *O. mykiss*.
- Estimated 11,647 (95% C.I. 9,257 to 16,196) Chinook passed during the times the trap sampled in 2023.

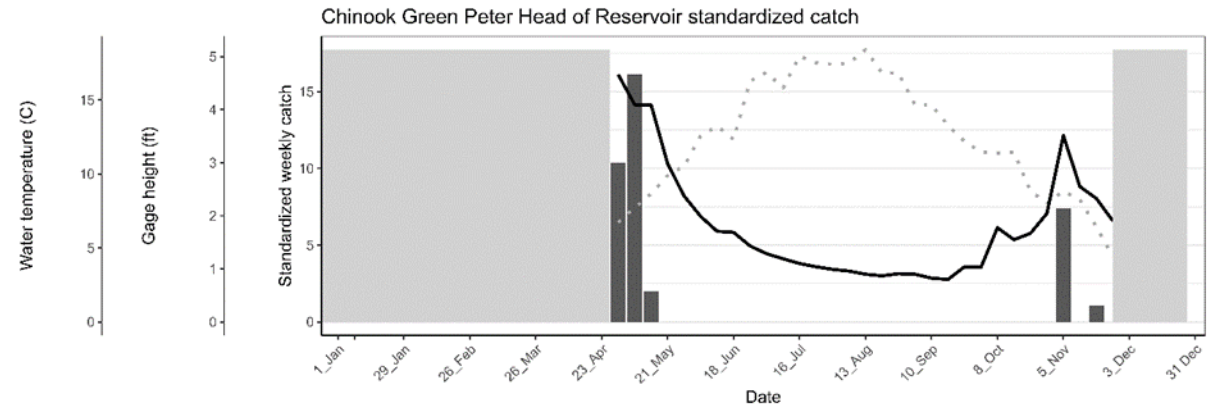


Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	January 1 to June 30	156	37 mm
2021 (Yearlings)	January 1 to June 30	125	160 mm
2020	January 1 to June 30	42	195 mm
2022 & 2021	July 1 to December 31	377	137 mm
2020	July 1 to December 31	4	220 mm

Green Peter Head of Reservoir - Middle Santiam River



- Trap sampled 188 days in 2023 starting on May 4th and captured 25 juvenile Chinook and 1 juvenile *O. mykiss*.

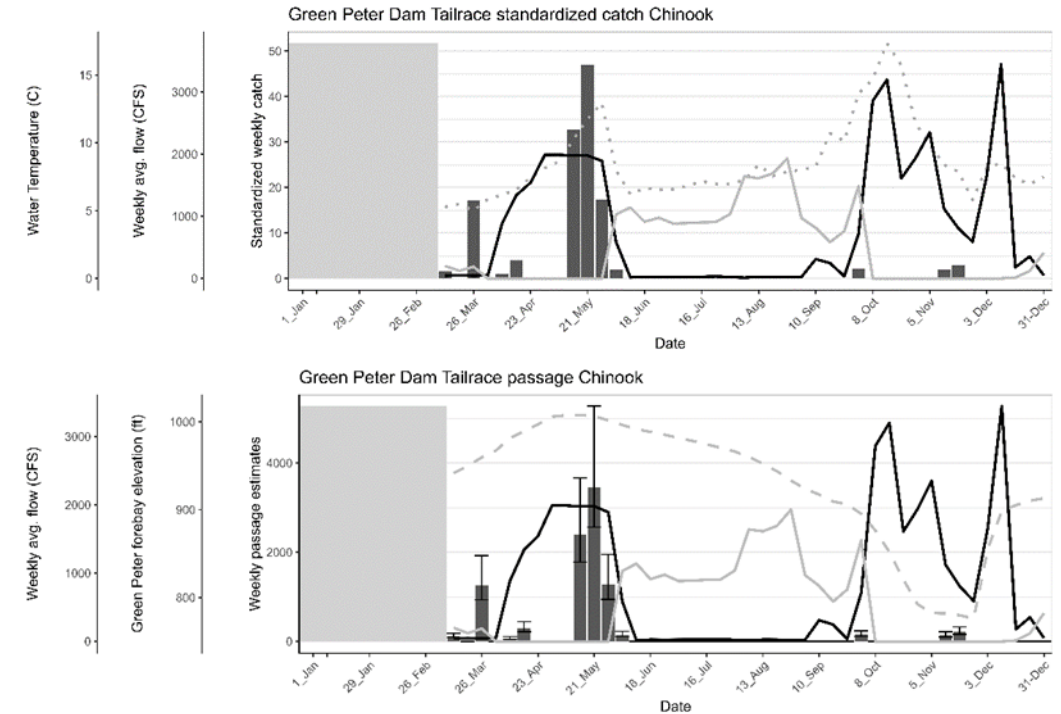


Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	May 4 to June 30	21	36 mm
2022 (Sub-yearlings)	July 1 to November 30	4	98 mm

Green Peter Dam Tailrace- Middle Santiam River



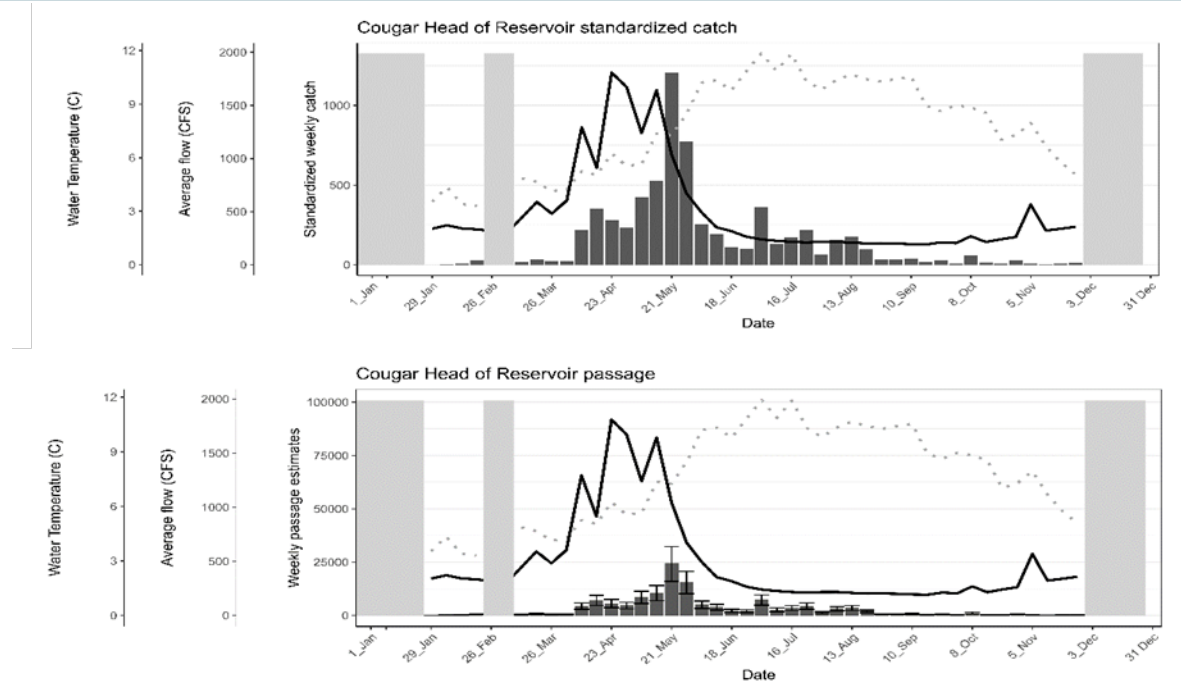
- Trap sampled 277 days in 2023 starting on March 14th and captured 107 juvenile Chinook and 12 juvenile *O. mykiss*.
- Estimated 9,533 (95% CI: 7,083 to 14,751) Chinook passed through the site during the times the trap sampled in 2023.



Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	March 14 to June 30	100	66 mm
2022 (Sub-yearlings)	July 1 to December 31	7	103 mm

Cougar Dam Head of Reservoir

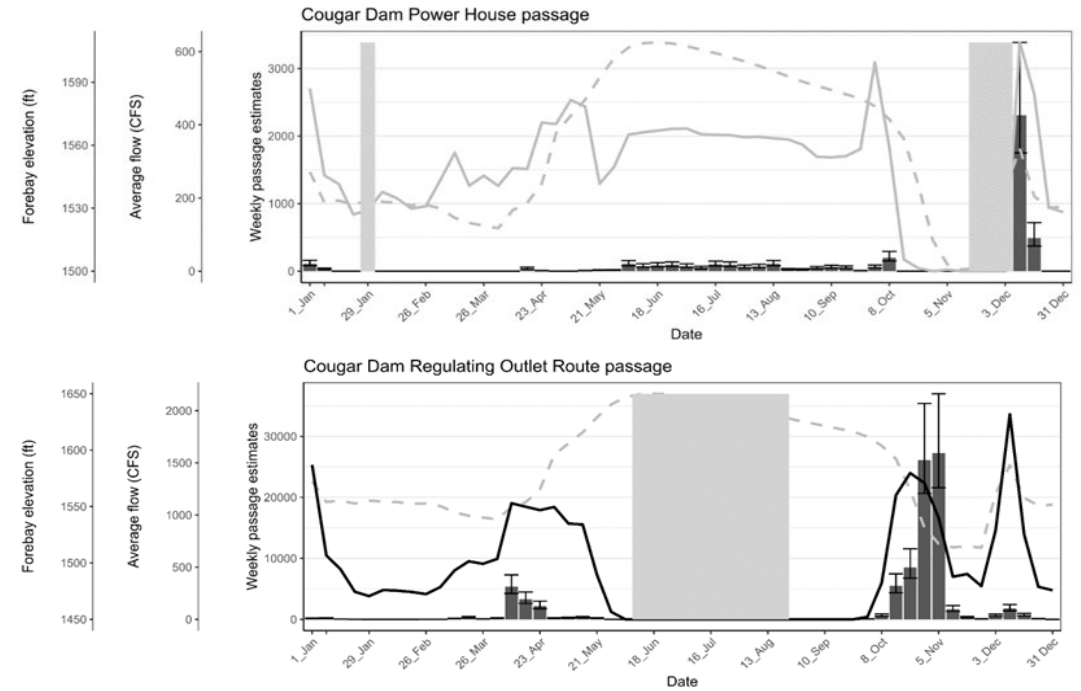
- Trap sampled 265 days in 2023 starting on February 1st and captured 5,913 juvenile Chinook.
- Estimated 132,566 (95% CI: 86,443 to 174,027) Chinook passed during the times the trap sampled in 2023.



Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	February 1 to June 30	4,592	36 mm
2021 (Yearlings)	February 1 to June 30	32	89 mm
2022 (Sub-yearlings)	July 1 to November 30	1,228	56 mm
2021 (Yearlings)	July 1 to November 30	1	104 mm

Cougar Dam- South Fork McKenzie

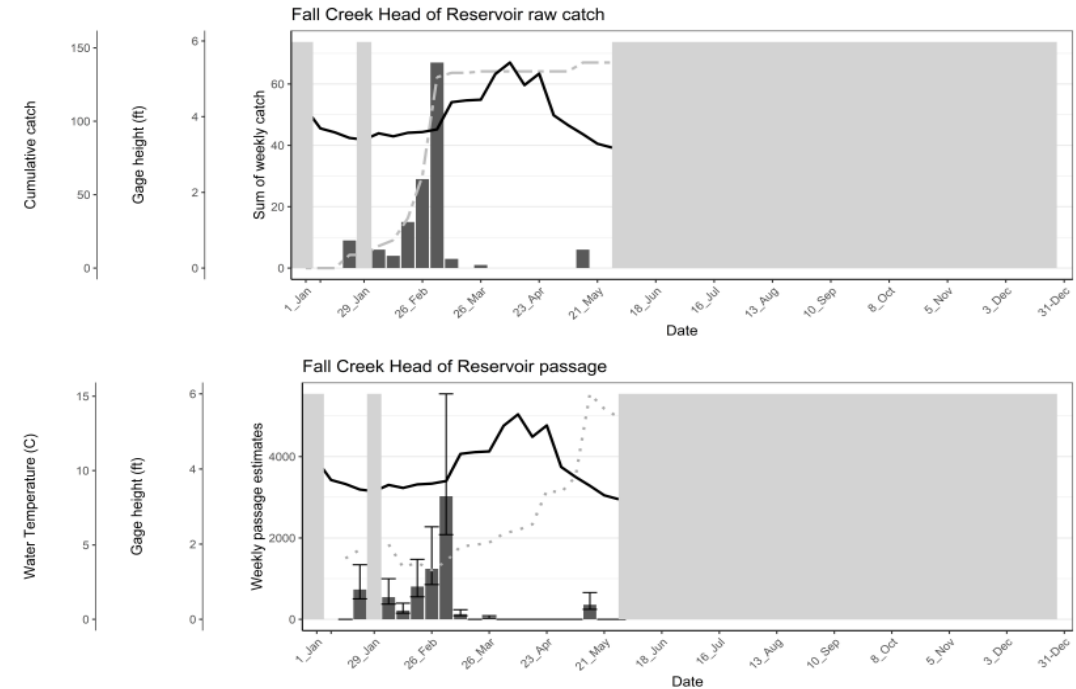
- Powerhouse traps (two 8-ft traps) sampled 311 days in 2023.
- RO trap (one 5-ft trap) sampled 283 days in 2023.
- Captured 5,269 juvenile Chinook, 198 (3.8%) in the powerhouse traps and 5,071 (96.2%) in the RO trap.
- Estimated 90,384 (95% CI: 71,755 to 123,788) Chinook passed the sampling sites in 2023.



Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	January 1 to June 30	62	55 mm
2021 (Yearlings)	January 1 to June 30	802	149 mm
2022 & 2021	July 1 to December 31	4,264	115 mm
2020	July 1 to December 31	141	209 mm

Fall Creek Head of Reservoir

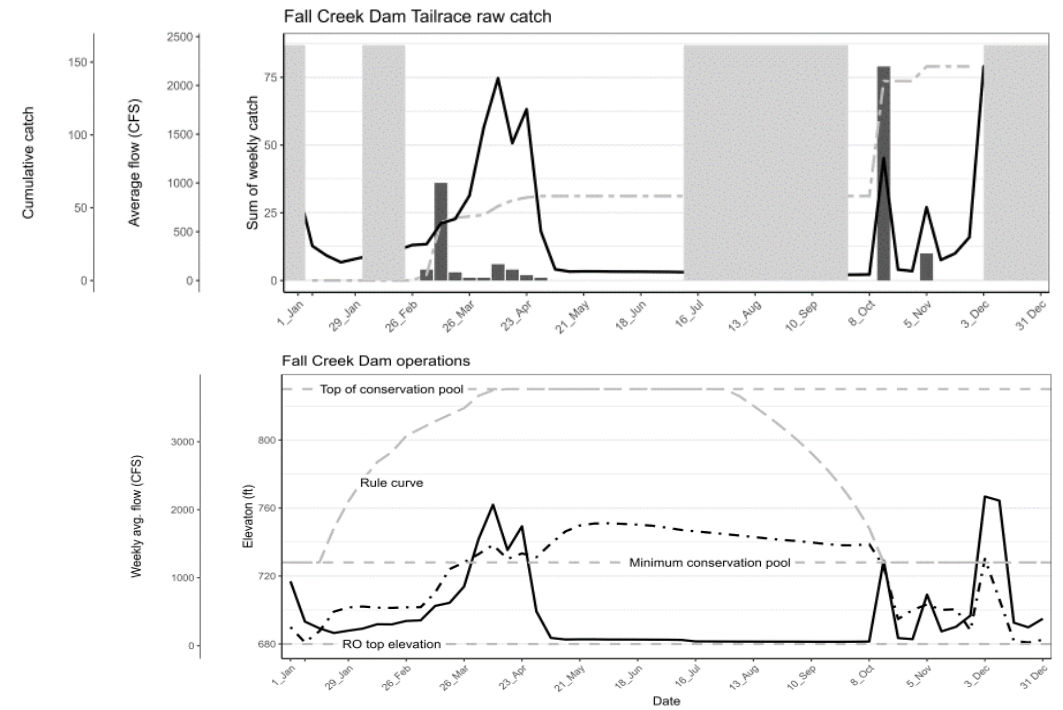
- Trap sampled 125 days in 2023 starting on January 18th and captured 148 juvenile Chinook.
- Estimated 7,100 (95% CI: 4,883 to 13,010) Chinook passed the sampling sites while the trap was sampling in 2023.



Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	January 18 to May 31	148	34 mm

Fall Creek Dam

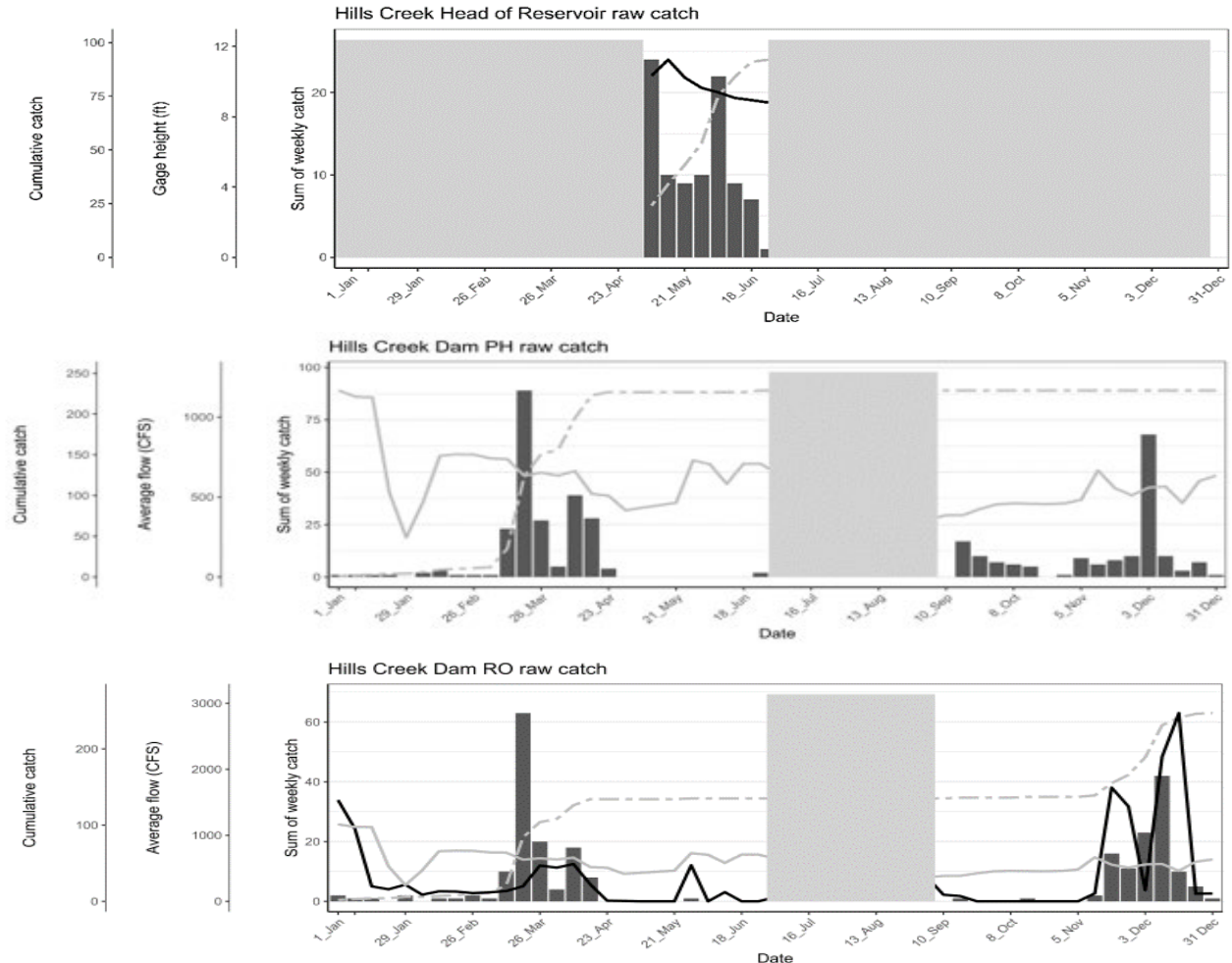
- Trap sampled 211 days in 2023 from January 1st to July 15th and October 1st to December 31st.
- Trap captured 150 juvenile Chinook in 2023.



Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	January 1 to June 30	61	37 mm
2022 (Sub-yearlings)	July 1 to December 31	4	100 mm
2021 (Yearlings)	July 1 to December 31	85	185 mm

Hills Creek HOR & Hills Creek Dam

- The Head of Reservoir trap sampled 52 days in 2023 starting on May 9th and captured 93 Chinook.
- Two traps below Hills Creek Dam sampled 286 days in 2023 and captured 644 juvenile Chinook, 397 in the Powerhouse and 247 in the RO Trap.
- Estimate of 7,881 (95% CI: 5,519 to 13,782) Chinook passed through the Powerhouse passed during the times the trap sampled in 2023.
- Catch below Hills Creek Dam was comprised of fish from multiple brood years: 2022, 2021, 2020, and 2019.

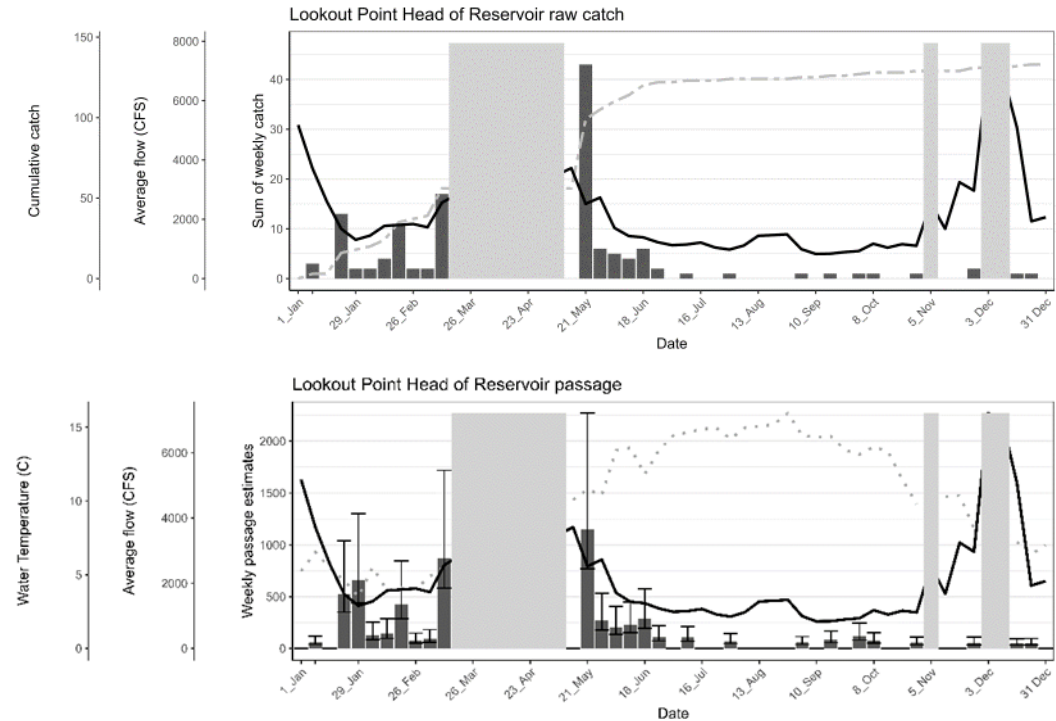


*RO trap catches fish from both RO and Powerhouse passage routes.

Lookout Point HOR- Middle Fork Willamette River



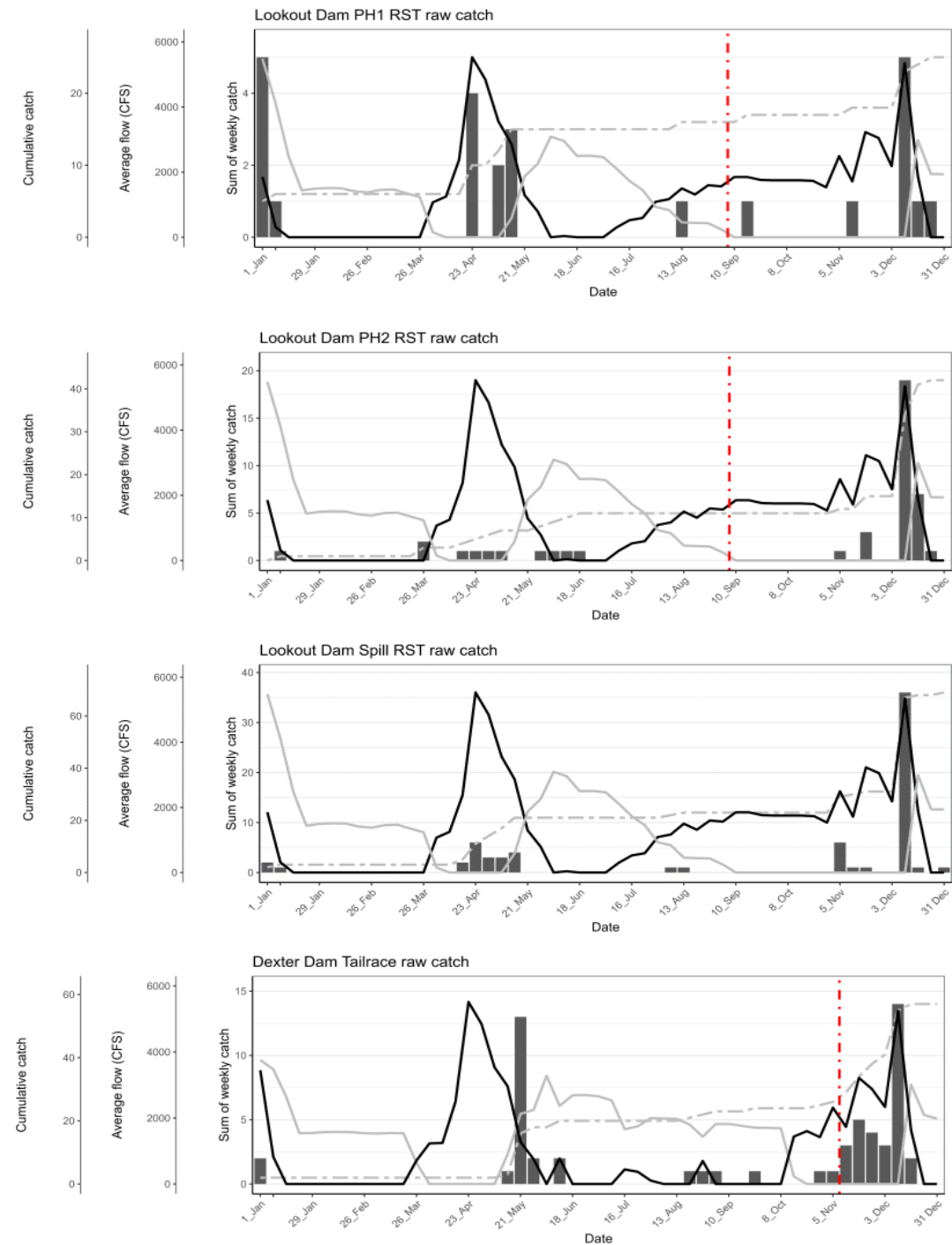
- Trap sampled 254 days in 2023 starting on January 6th and captured 142 juvenile Chinook.
- Estimated 5,967 (95% CI: 3,992 to 11,805) Chinook passed during the times the trap sampled in 2023.



Brood Year	Time Period	Number Captured	Median Fork Length
2022 (Sub-yearlings)	January 1 to June 30	123	42 mm
2021 (Yearlings)	January 1 to June 30	5	97 mm
2022 (Sub-yearlings)	July 1 to December 31	14	105 mm

Lookout and Dexter Dams- Middle Fork Willamette River

- Lookout Dam traps sampled 361 days in 2023 and captured 139 Chinook.
- 68 Chinook were captured in the two Powerhouse traps and 71 Chinook were captured in the Spill trap.
- Dexter Dam sampled 363 days in 2023 and captured 57 Chinook.
- At Dexter Dam, estimated 7,782 (95% CI: 5,648 to 23,612) Chinook passed during the times the trap sampled in 2023.



Acknowledgements

- USACE- David Trachtenbarg, Doug Garletts, Chad Helms, Jesse Jernigan, Todd Peirce, Jessica Borden, Fenton Khan, and all the Dam Operators
- ODFW- Hatchery staff, District Biologists, Bull Trout Team, and Permitting Team
- NOAA- Josie Thompson and Anne Mullan
- Cramer Fish Sciences
- Mount Hood Environmental
- EAS- Rachel Ellison, Jason Phillips, Rand Romas, Joseph Welch, Skylar O'Rourke, Jazmin Horvet, Bailey Morgan, Cole Hutson, Cameron Blair, Abigail Sader, Ellie Rondon, Sarah Snow, Riley Olson, Kayla Kelly, Emmah Johannes, Drake Scrafford, Ryan Chen, Brandon Yang, William Schmidt, Erik Jackson, Beda Hernandez-Rivera, Andrew Kvien, Amanda Olmos, Andrew Morley, Kelsey Scott, Ed Call, Tyler Phillips, Dennis Miller, Mark Morasch, and Paul Burke

Questions?

