



Kirsten Brudevold
M&E Biologist
Chief Joseph Hatchery Science Program



2021 Okanogan Juvenile Chinook Monitoring Rotary Screw Trap & Beach Seine

Rotary Screw Trap



RST



wild steelhead



We caught 16 pacific lamprey in 2021

RST Configuration

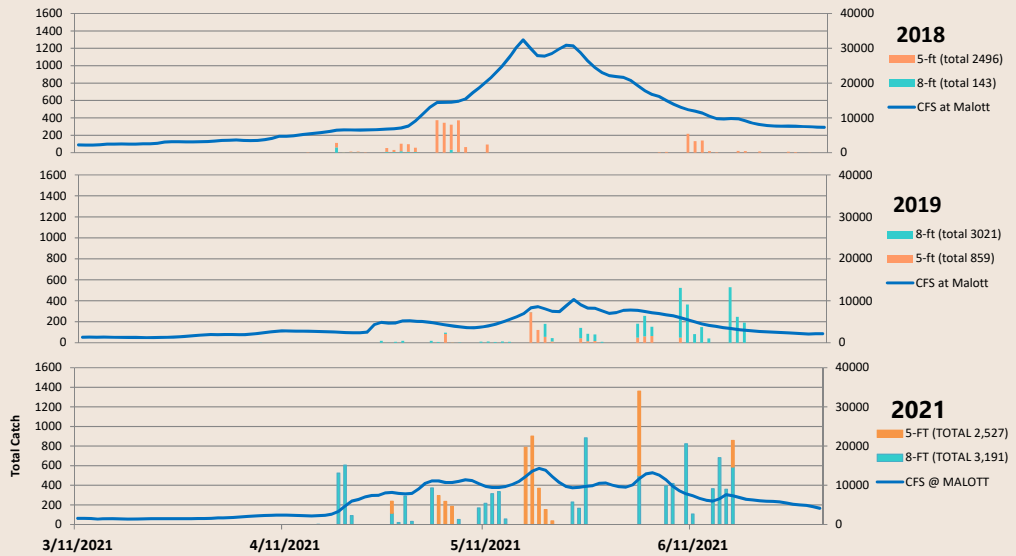
The 5-ft cone fishes along the bank at flows over ~5,000 cfs

The 8-ft cone typically fishes at the margin of the thalweg



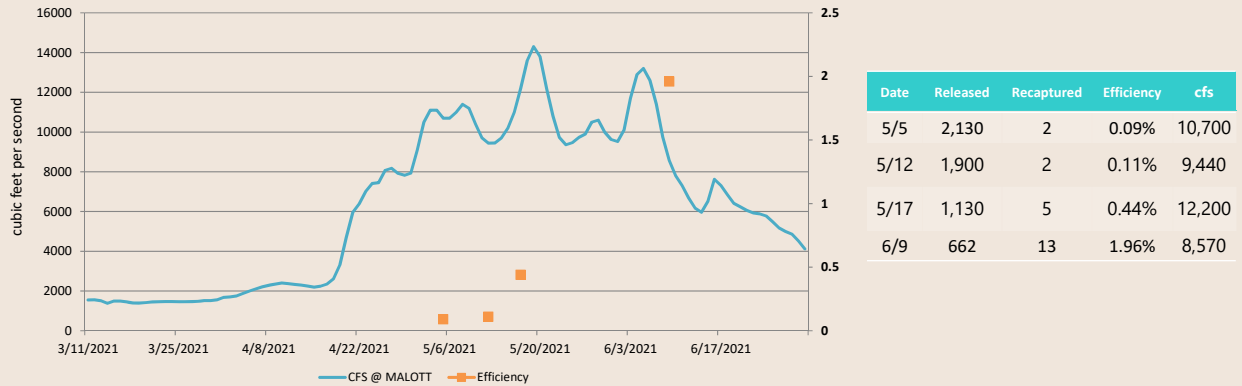
Flow vs. Total Catch

2021 was a great year for Total Catch!



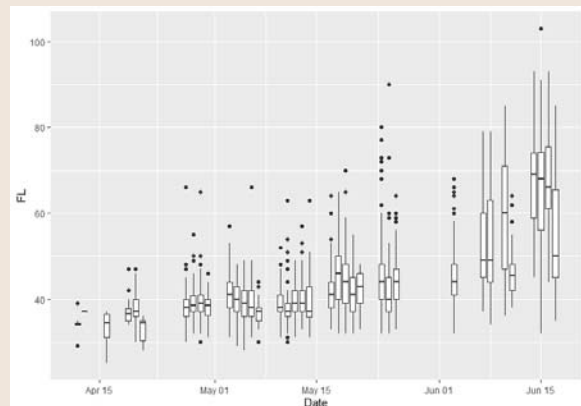
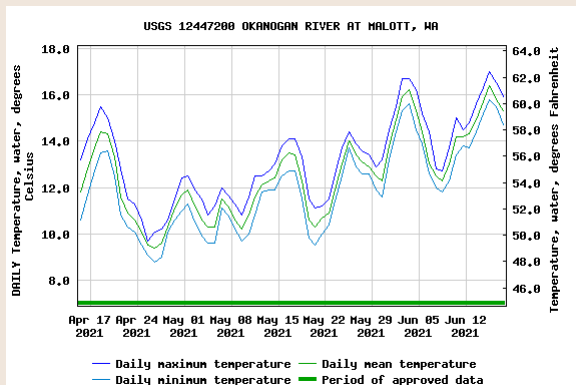
Efficiency Trials

Four efficiency trials were conducted with dyed natural origin Chinook; trap efficiency was low and variable. Juvenile abundance in 2021 could not be reliably estimated.



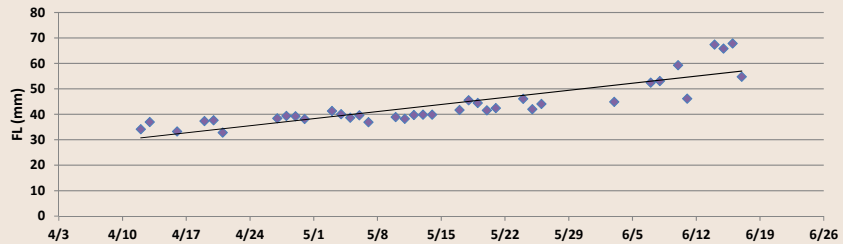
2021 was a Record Year!

1,692 fish swam away from the RST with a PIT tag.

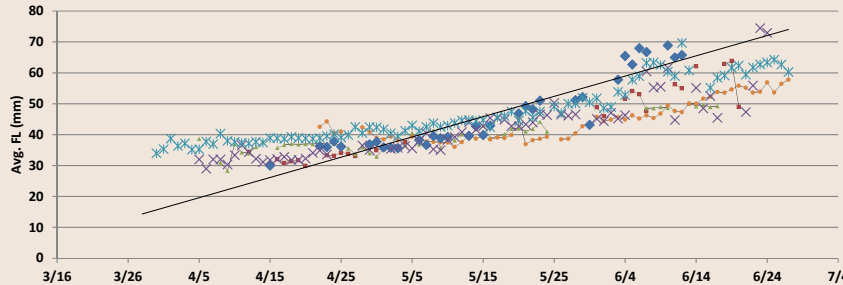


[USGS Current Conditions for USGS 12447200 OKANOGAN RIVER AT MALOTT, WA](#)

Growth Rate



◆ 2021
— Linear (2021)



◆ 2019
■ 2018
▲ 2017
× 2016
* 2015
+ 2014
— Linear (2019)

Year	Growth Rate (mm FL/day)
2014	.26
2015	.35
2016	.37
2017	.23
2018	.43
2019	.66
2020	N/A
2021	.40

Juvenile Beach Seining

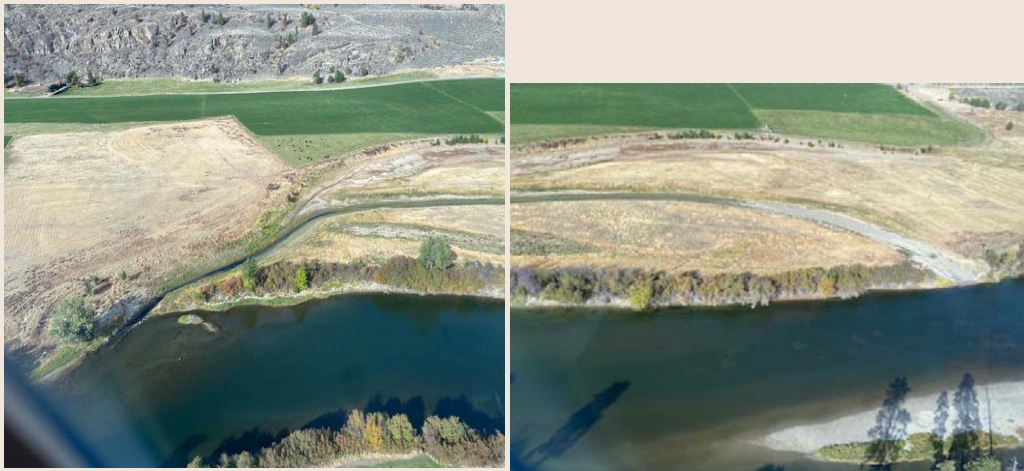


Pharr Road

Total Days Fished = 1
Total Catch = 119



Pharr Road Juvenile Habitat



Juvenile Rearing Side Channel Fall 2020

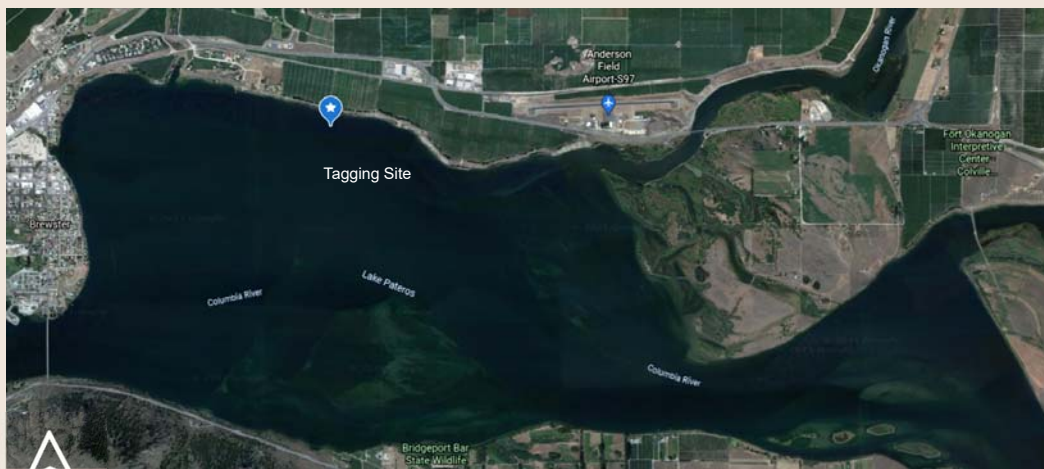
Pharr Rd. to Gebbers Landing



Total Tagged & Released = 13
No recaptures in 2021



Gebbers Landing



Juvenile Beach Seine PIT Tag Effort @ Gebbers Landing

Total Days Fished = 10

Number of sets = 79

Average sets/day = 7.90

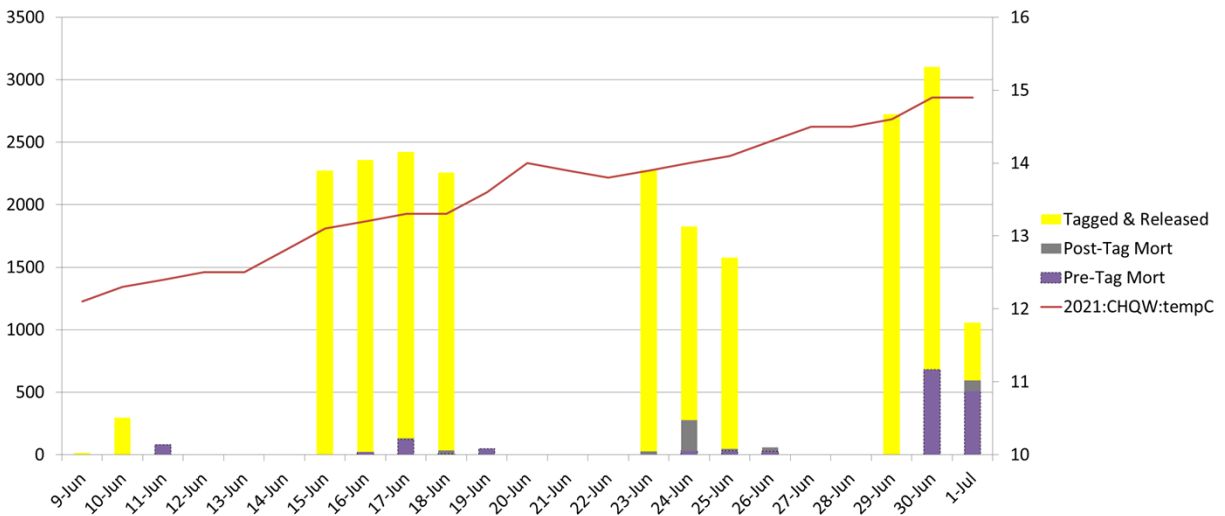
Total Catch = 29,043

Catch Per Unit Effort (sets) = 367.63

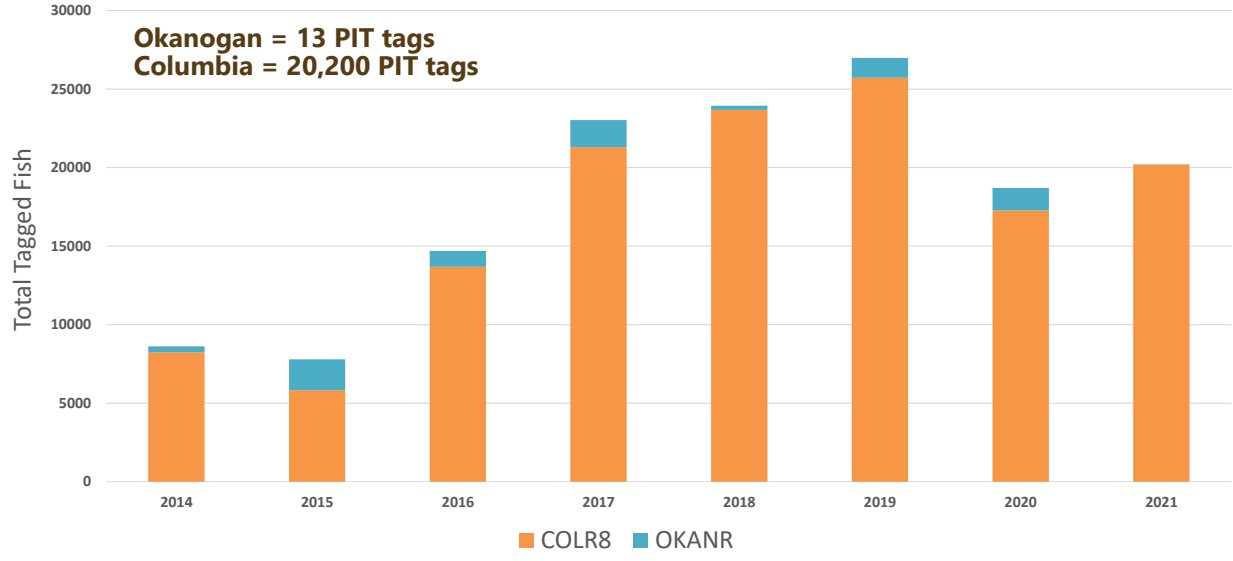
Hatchery Origin Recaptures = 379

Of the Chinook handled:

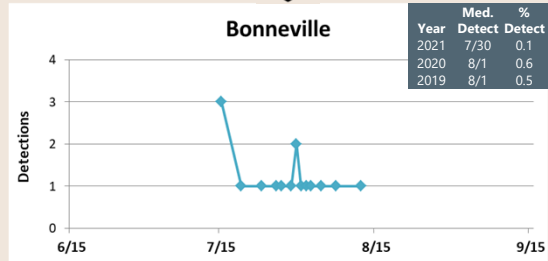
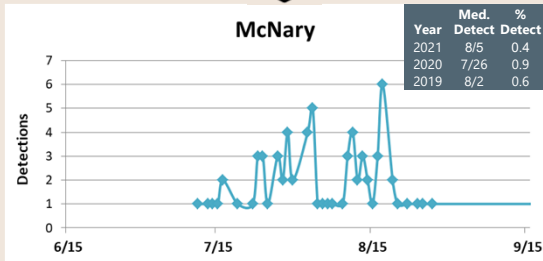
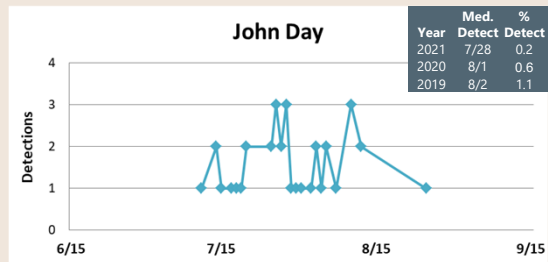
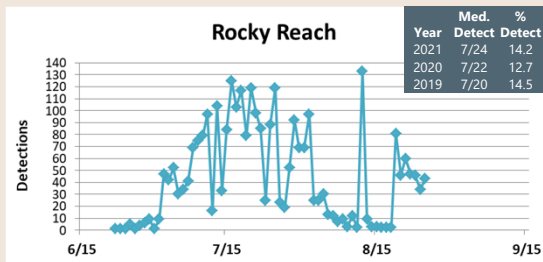
16.7% died pre/post tag, 13.2% were released untagged, 70.1% swam away with a PIT tag



20,213 TOTAL PIT TAGS DEPLOYED IN 2021

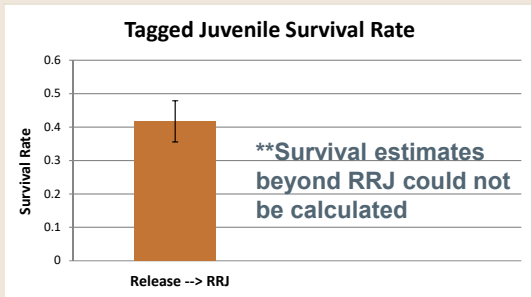


Distribution of Detections



Juvenile Outmigration Survival Estimates

Release Year	RRJ	MCN	JDA	BONN
2020 (18,700)	2,839	173	128	113
2021 (20,200)	2,869	72	35	16



Cormack/Jolly-Seber Estimates (Cormack 1964, Jolly 1965, Seber 1965)

HIGH FIVES TO OUR TECHNICIANS!

>>> Amber Cate <<<

>> Jesse Marchand <<

>> John Pakootas <<

>>> Tatum Gunn <<<

>> Vertis Campbell <<

