

# Cowlitz River Summer-Run Steelhead Recycling Evaluation

Cowlitz Annual Program Review and Science Conference

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# Overview

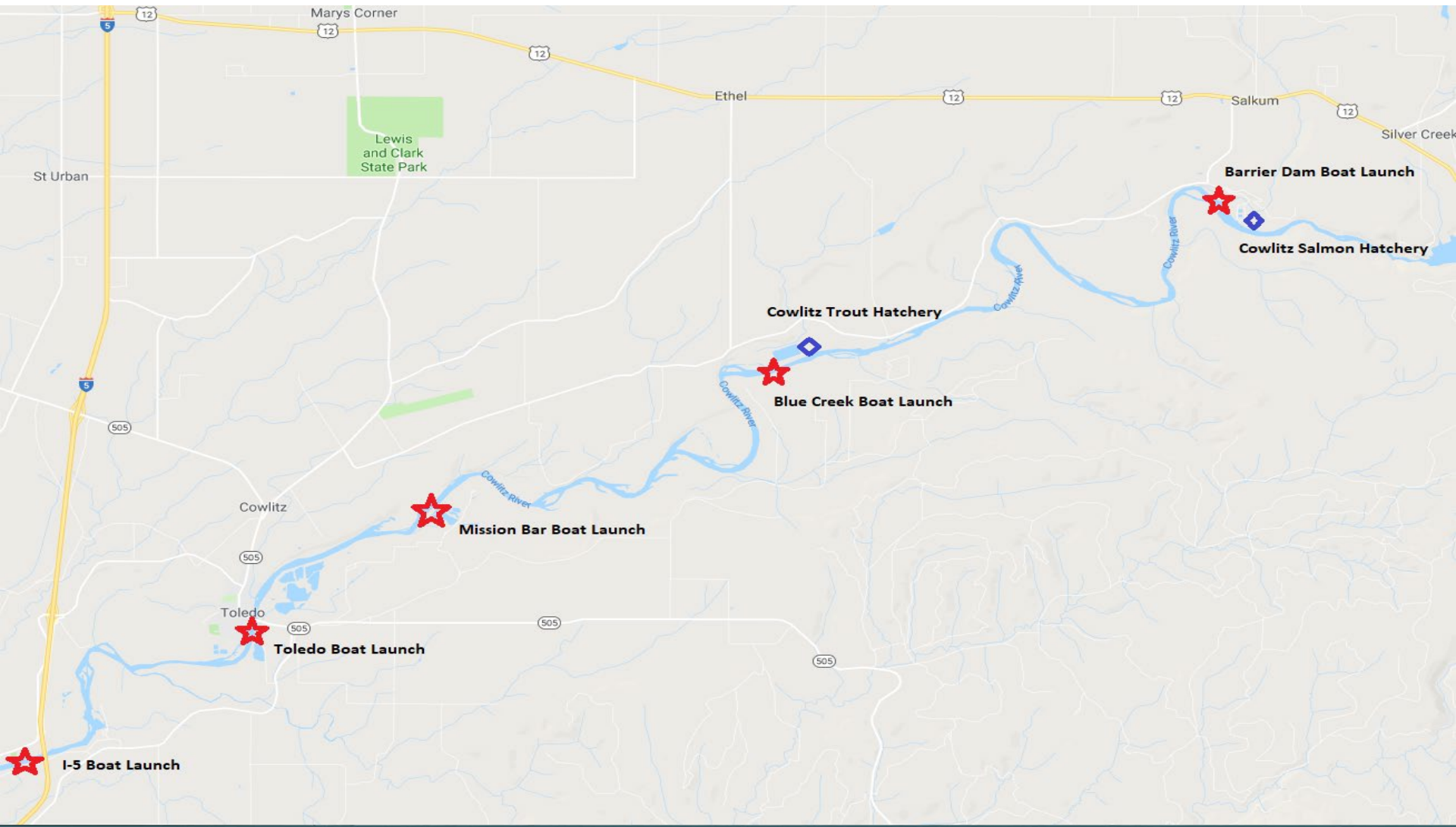
- What is Recycling?
- Program History
- Program Objective
- What Have We Learned?
- Results From Other Lower Columbia River Tributaries
- Questions

# What is Recycling?

- Mark-Recapture

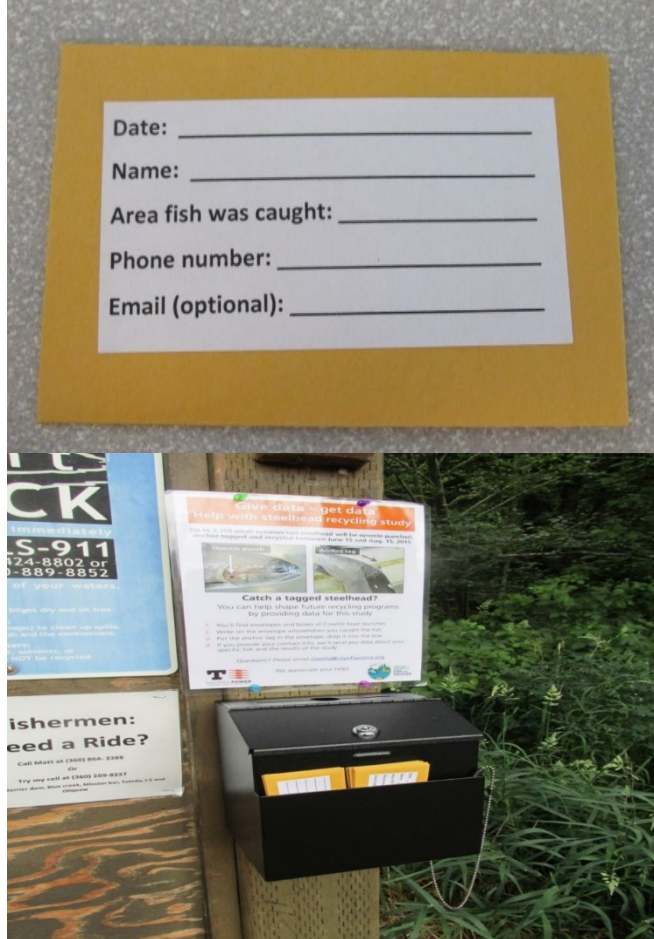


# What is Recycling?





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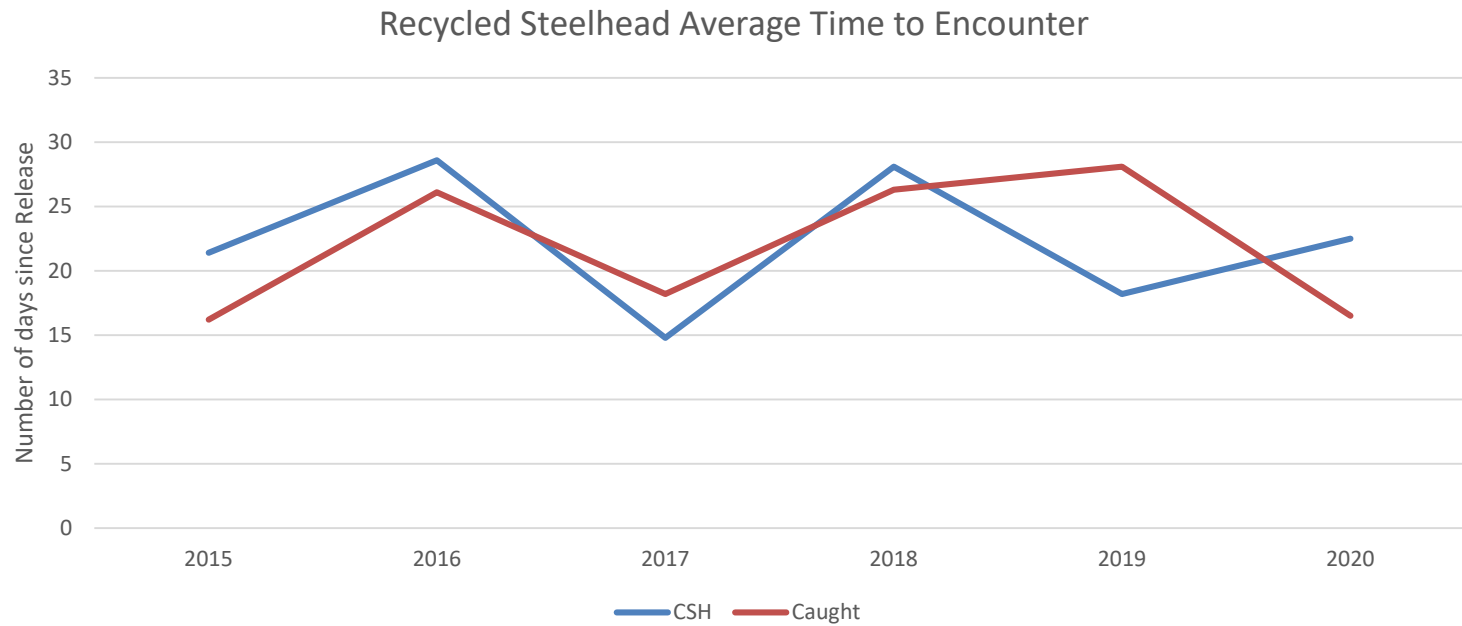
# Program History

- Cowlitz Trout and Salmon Hatcheries constructed in 1968/1969
- Skamania stock summer-run steelhead introduced in the early 1970's
- Recycling has occurred intermittently for the past 50 years

# Purpose/Objective

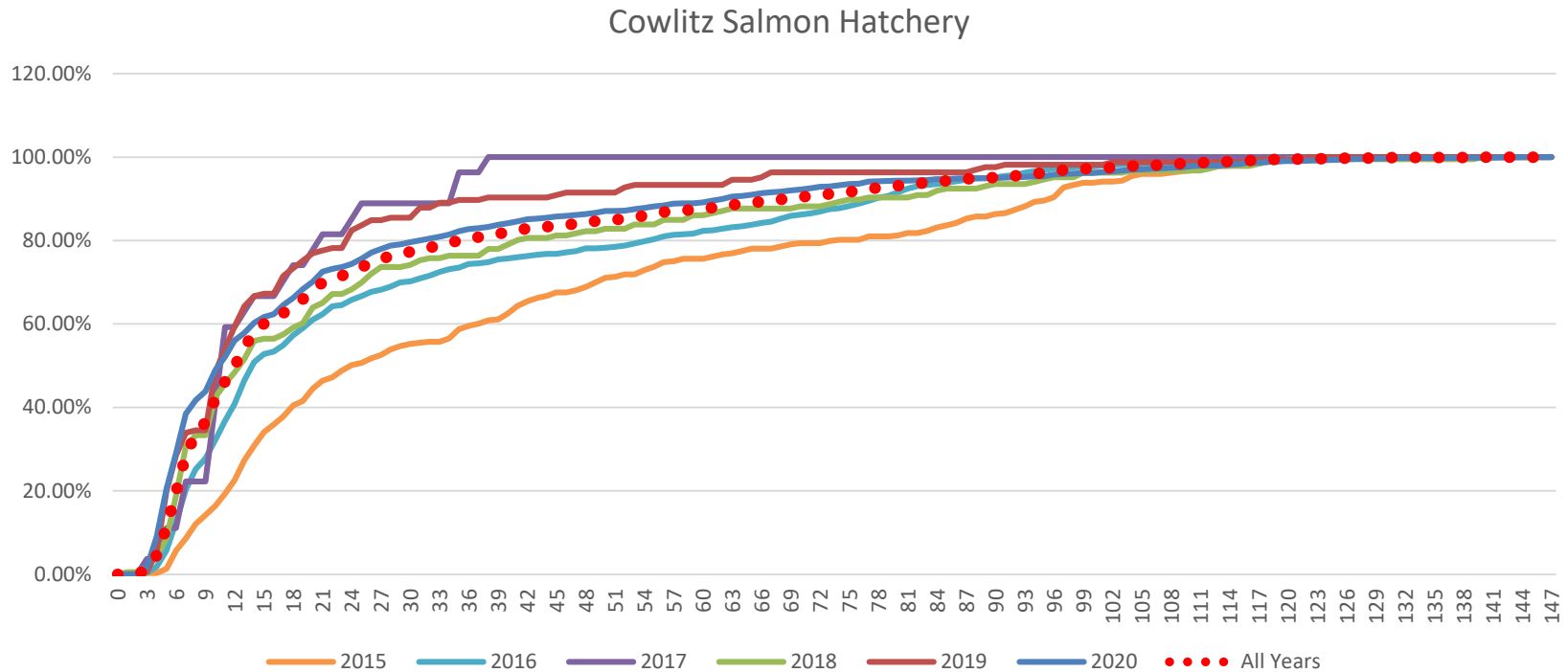
- Non-indigenous stock to the Cowlitz Basin
- Provide additional angling opportunities
- Reduce stray rates
- Minimize introgression
- Increase harvest

# What Have We Learned?

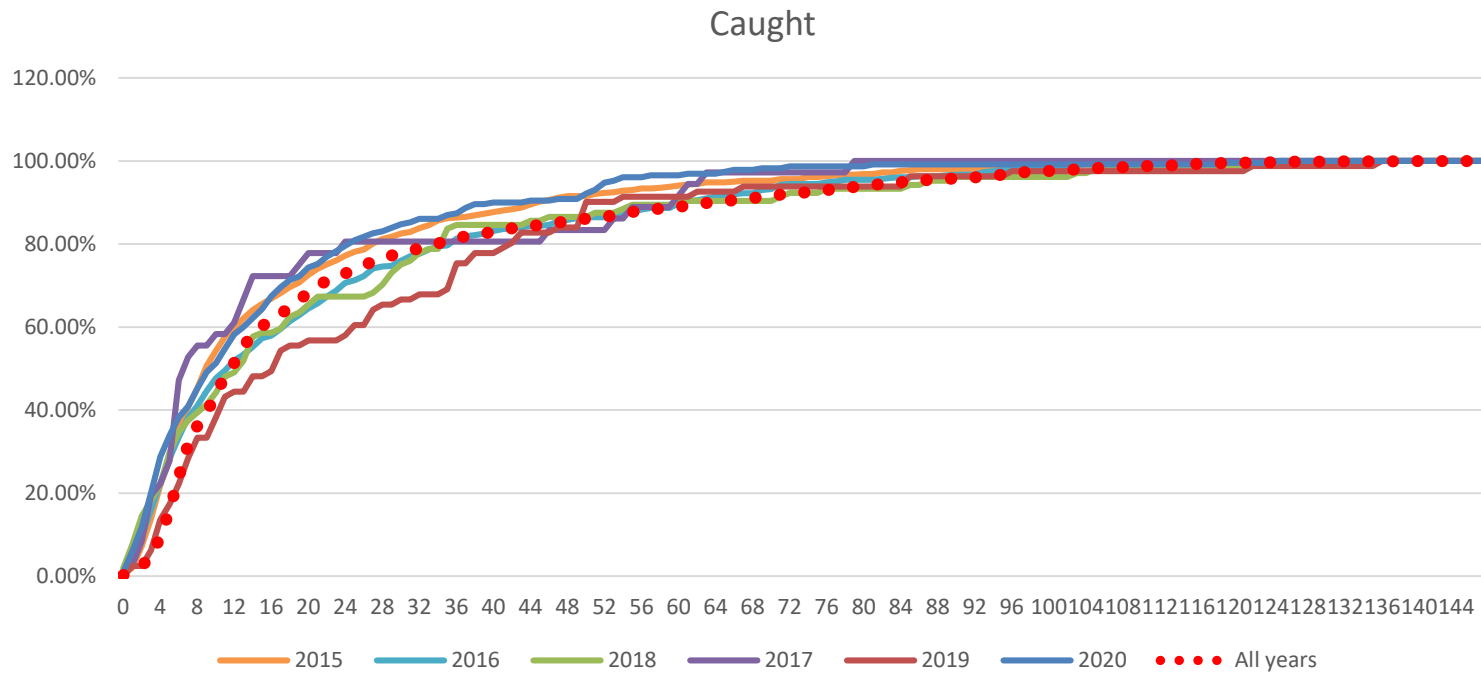




# What Have We Learned?



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- Low stray rates observed
- Kock et al. (2016) reported 2.3%
- 2015-2020 .06% (N=8) out of 10,874 released
- Recovered in the Kalama, Lewis and Toutle rivers

# What Have We Learned?

Year	Total Run Size	# Of fish recycled	% Returned to Facility	% Caught	% Unknown Fate
1998	1,865	632	55	15	30
2012	10,609	549	50	18	32
2013	3,880	502	50	20	30
2014	12,255	1,598	41	N/A	59
2015	8,895	3,298	32	19	49
2016	9,597	3,300	41	17	42
2017	1,503	141	21	26	53
2018	2,312	571	33	20	47
2019	2,159	539	31	17	52
2020	4,679	3,025	45	12	43
Total <sup>1</sup>	57,571	12,570	40	17	43

# Results From Other Lower Columbia River Tributaries

River System	Time Frame	Release Distance (KM)	# Of fish recycled	Return to Facility		Caught		Unknown Fate	
				n	%	n	%	n	%
Clackamas	2007	15	39	4	10.3%	5	12.8%	30	76.9%
MF Willamette	2012 - 2014	22.6	140	N/A	N/A	32	22.9%	108	77.1%
Siletz	2003 - 2007	12	4737	824	17.4%	107	2.3%	3806	80.3%
Siuslaw	1994 - 1996	16.1, 43.5, 49.1	1667	530	31.8%	163	9.8%	974	58.4%
SF Santiam	2012 - 2014	22.6, 6.5, 1.2, 0.1	283	97	34.3%	32	11.3%	154	54.4%
Wallowa	2003-2013	1.6, 6.4	1317	593	45.0%	57	4.3%	667	50.6%
Cowlitz	2012 – 2018	32.2	9006	3506	<b>38.9%</b>	1635	<b>18.2%</b>	3865	<b>42.9%</b>
Total of Non Cowlitz Programs			8183	2048	<b>25.0%</b>	396	<b>4.8%</b>	5739	<b>70.1%</b>



# Takeaways

- Consistent data observed over years (catch, facility, unknown)
- Low stray rates
- Comparability to other river systems

# Questions?