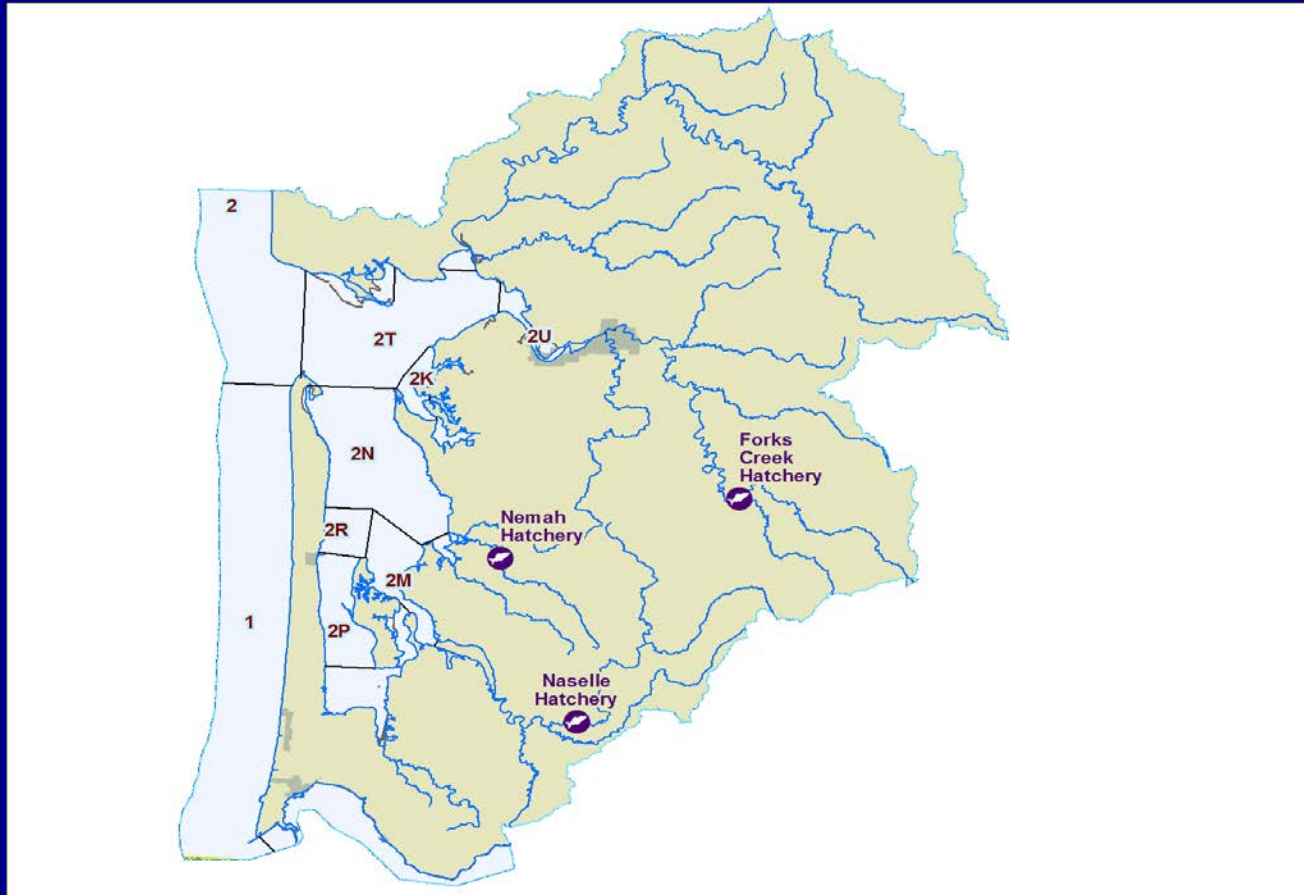


Willapa Bay Salmon Management Policy 2019 Season Review



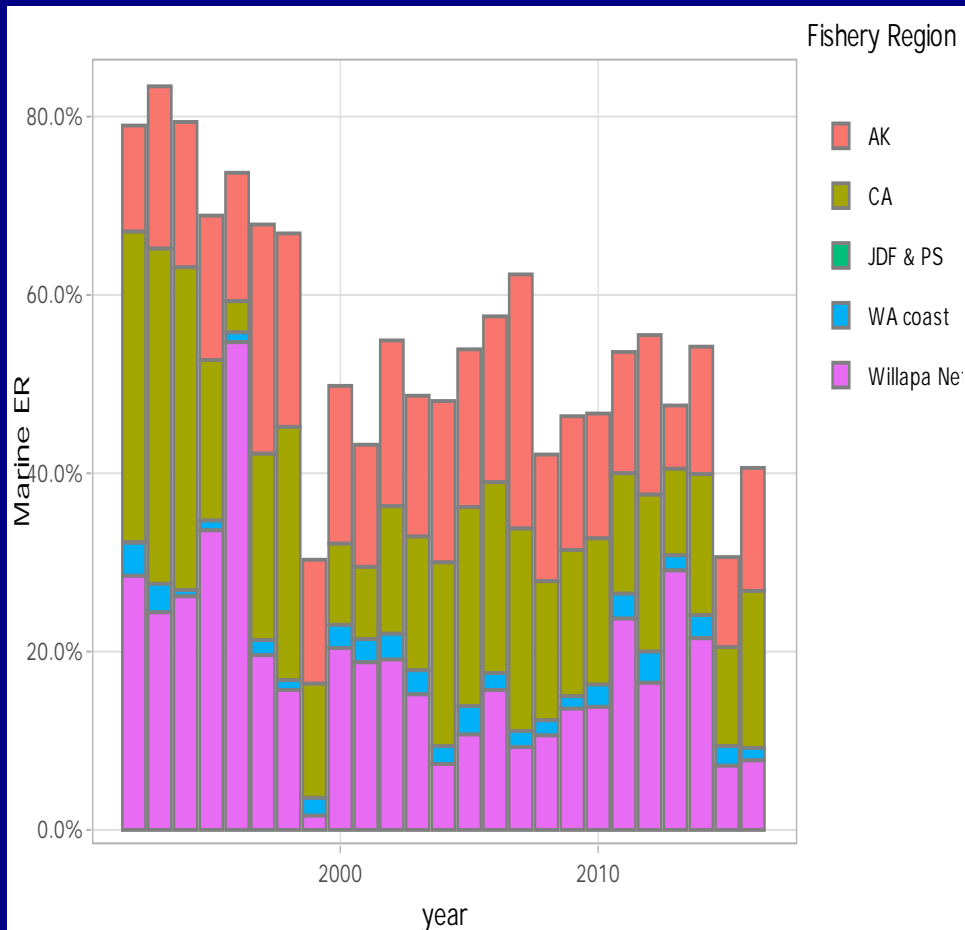
Chad Herring – Fish Program
Washington Fish and Wildlife Commission Meeting
February 7, 2020

Presentation Outline

- Review Performance of Policy C-3622 in Phase One, 2015-2018
 - Preliminary 2019 data – denoted by *
- Review Willapa Bay Hatchery Production
 - Background
 - 2019 egg takes
- Seek Guidance from Commission
 - 2020 management objectives
 - 2019 brood year fall Chinook hatchery releases

Policy C-3622 Performance

Chinook Exploitation Rates



- CWT analysis generated using FRAM
- Years 1992-2016
- Declining exploitation rate
- New PST annex in 2019
- Does not include recreational harvest data
 - No active monitoring programs

Policy C-3622 Performance

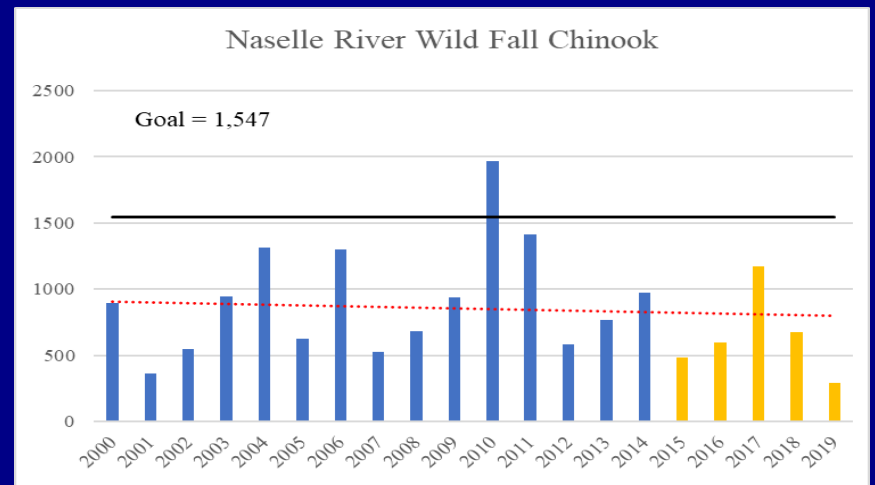
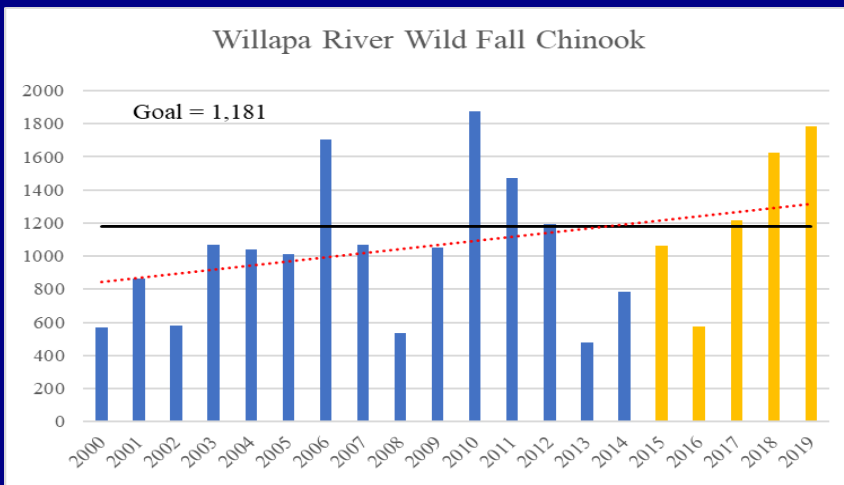
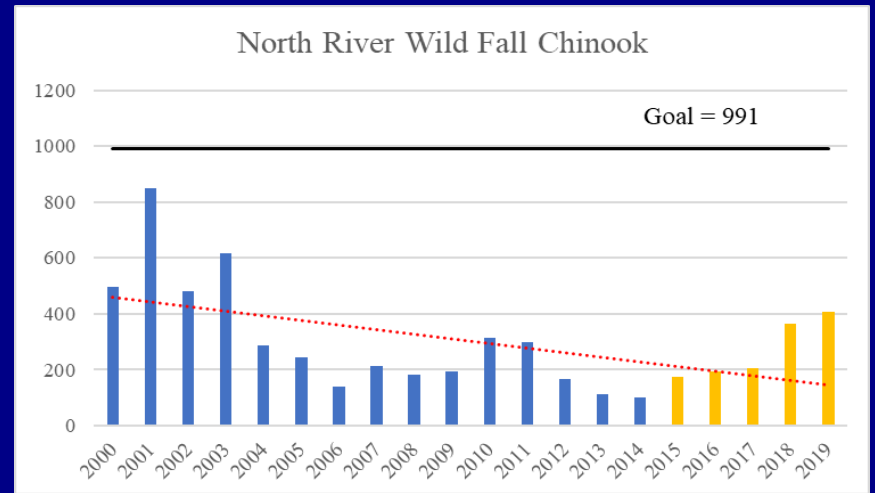
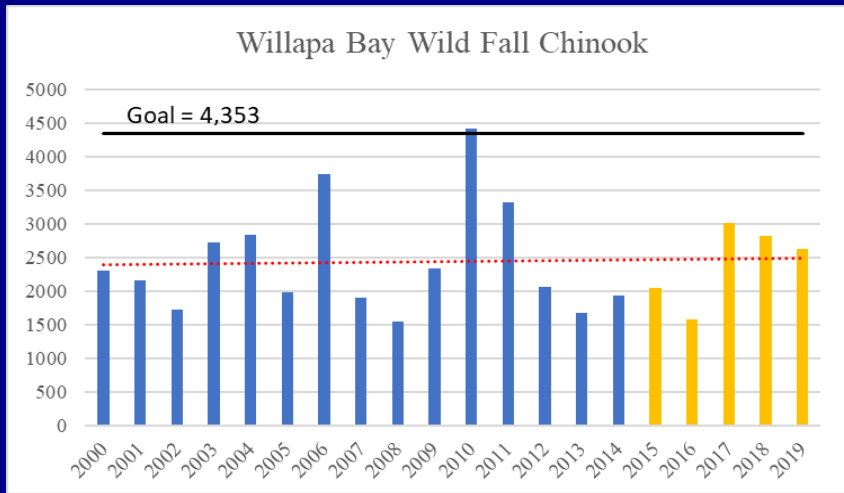
Willapa Bay Wild Chinook

Year	Runsize		Impact Rate		Spawning Escapement	
	Forecast	Actual	Predicted	Actual	Predicted	Actual
2015	3,835	4,329	19.2%	22.3%	3,100	2,043
2016	3,258	2,433	20.0%	21.5%	2,610	1,580
2017	4,131	3,736	19.3%	15.8%	3,333	3,008
2018	3,840	3,188	17.8%	8.2%	3,153	2,821
2019*	4,309	3,418	15.4%	14.7%	3,647	2,636
<i>Avg</i>	<i>3,875</i>	<i>3,421</i>	<i>18.3%</i>	<i>16.5%</i>	<i>3,169</i>	<i>2,418</i>

- Actual performance affected by in-season management actions
- Management objectives
 - Wild impact rate = 20%
 - Spawning Escapement = 4,353 wild spawners

Policy C-3622 Performance

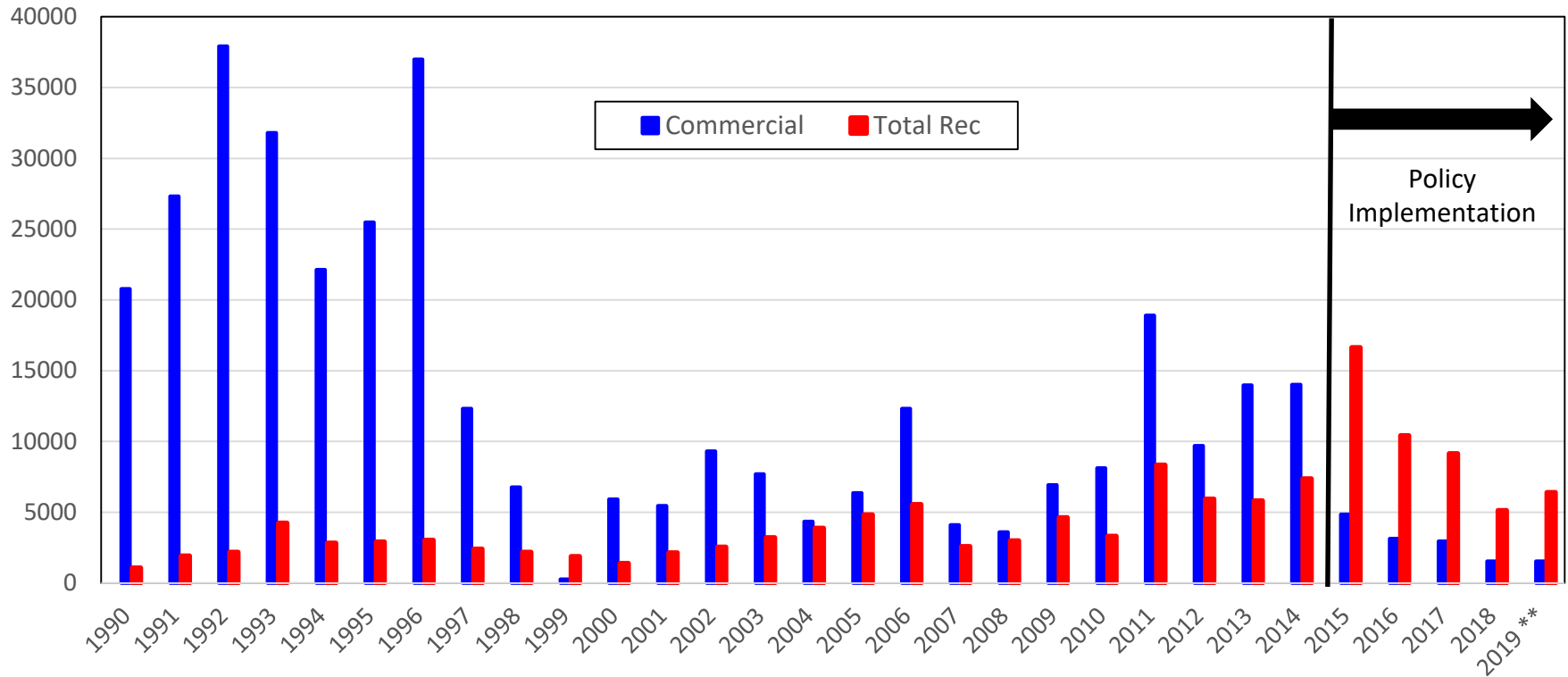
Wild Chinook Abundance Trends



Policy C-3622 Performance

Chinook

Willapa Bay Chinook Total Landed Harvest



** 2019 data - recreational freshwater harvest is estimated using recent 5 yr average harvest

Policy C-3622 Performance

Willapa Bay Chum

Year	Runsize		Impact Rate		Spawning Escapement	
	Forecast	Actual	Predicted	Actual	Predicted	Actual
2015	39,994	48,631	10.0%	6.8%	35,986	44,147
2016	47,555	86,679	9.9%	6.6%	42,855	78,725
2017	57,726	22,602	10.0%	2.8%	51,932	20,191
2018	39,932	44,182	9.0%	6.2%	36,352	38,582
2019*	52,205	44,171	9.9%	0.7%	47,012	40,907
<i>Avg</i>	<i>47,482</i>	<i>49,253</i>	<i>9.8%</i>	<i>4.6%</i>	<i>42,827</i>	<i>44,510</i>

- Actual performance affected by in-season management actions
- Management objectives
 - Impact rate = 10%
 - Spawning escapement = 35,400 spawners

Policy C-3622 Performance

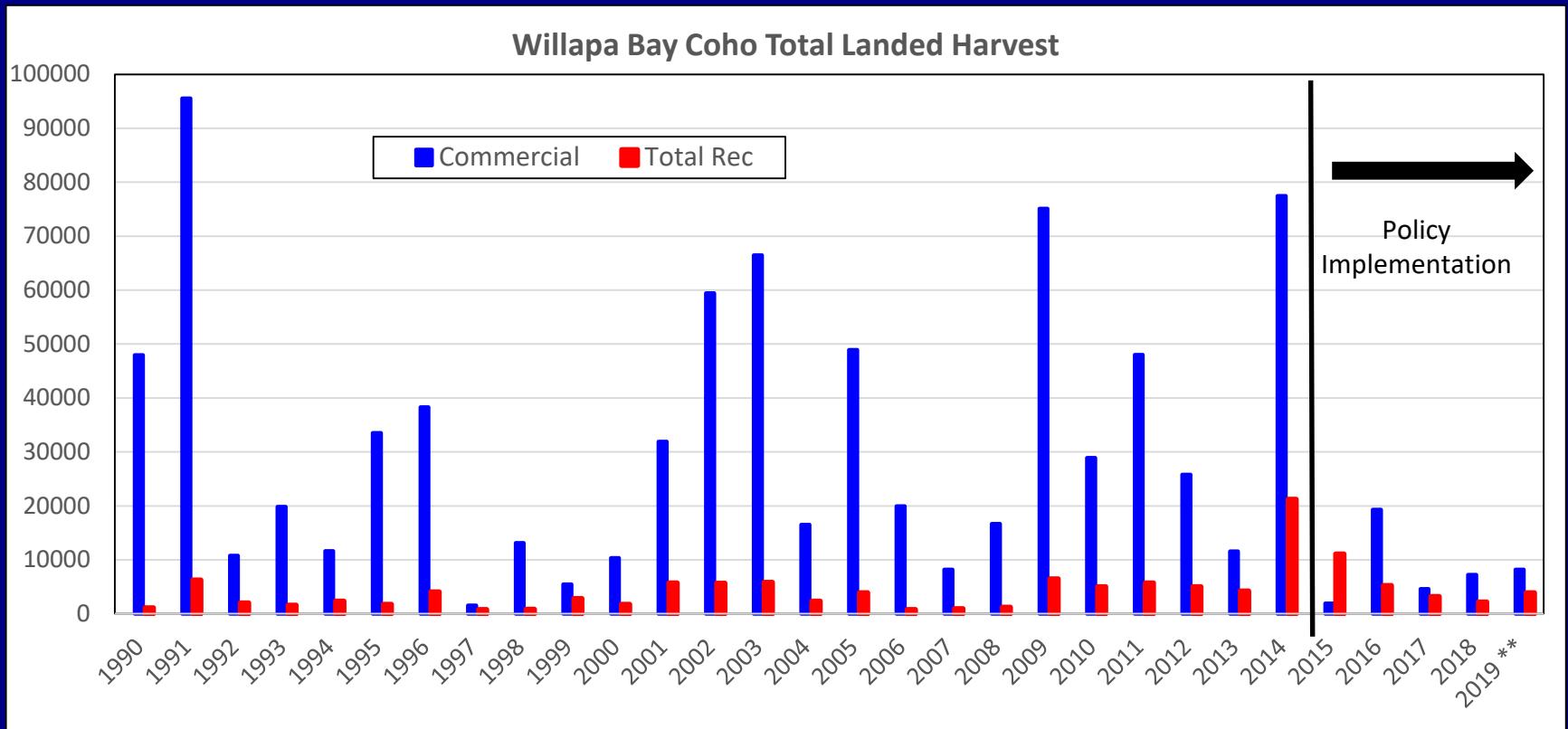
Willapa Bay Wild Coho

Year	Runsize		Impact Rate		Spawning Escapement	
	Forecast	Actual	Predicted	Actual	Predicted	Actual
2015	38,505	14,480	30.4%	25.5%	26,795	10,366
2016	37,069	32,920	29.8%	23.2%	26,012	24,950
2017	34,425	13,601	39.8%	33.2%	20,719	8,750
2018	18,994	16,209	19.8%	28.4%	15,243	11,408
2019*	56,366	-	27.6%	-%	40,819	~13,000
<i>Avg</i>	<i>37,072</i>	<i>19,303</i>	<i>29.5%</i>	<i>27.6%</i>	<i>25,918</i>	<i>13,860</i>

- Actual performance affected by in-season management actions
- 2019 run reconstruction unavailable at this time
- Management objectives
 - Spawning escapement = 13,600 wild spawners

Policy C-3622 Performance

Coho



** 2019 data - recreational freshwater harvest is estimated using recent 5 yr average harvest

Willapa Bay Hatchery Production

Background



- MA 2-1 occurs in north bay
- Probability of recovery tool
 - CWT analysis
 - Developed in 2015
 - Commercial fishery recoveries
 - 2010 to 2017
 - Updated every year
- Willapa River Chinook important to north bay harvest

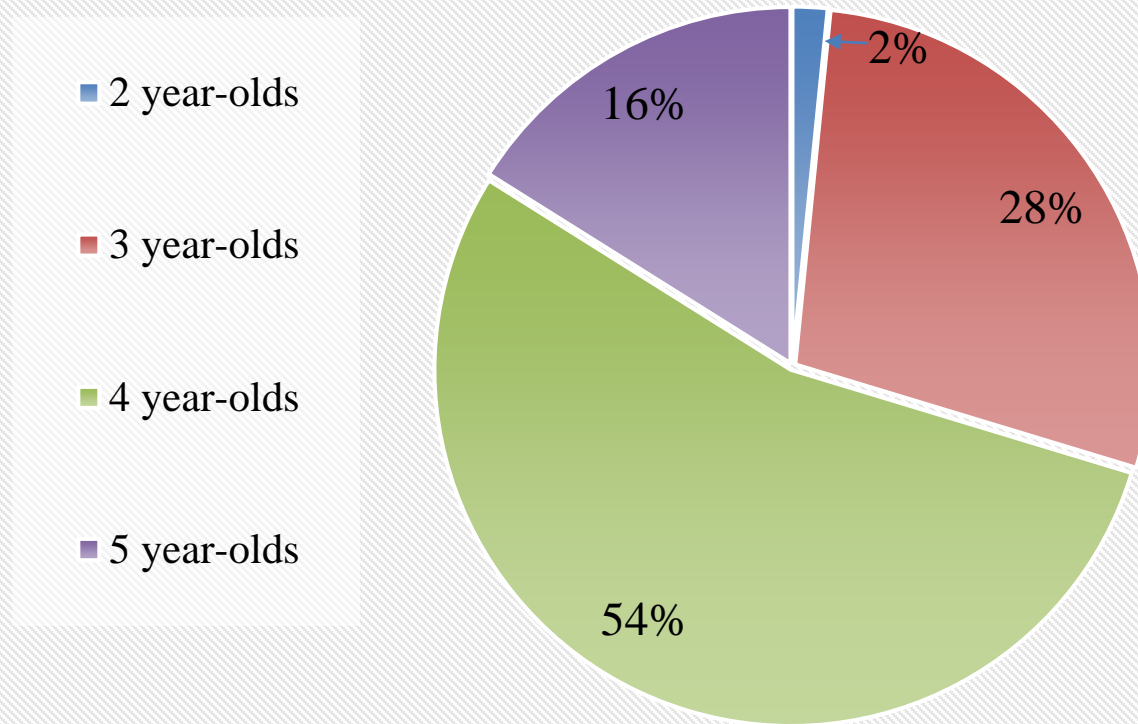
Commercial Catch Areas	Probability of recovery/release standardized by runsize		
	HOR		
	FORKS CREEK	NEMAH	NASELLE
WILLAPA BAY AREA 2M	0.021	0.020	0.960
WILLAPA BAY AREA 2N	0.155	0.015	0.830
WILLAPA BAY AREA 2R	0.055	0.017	0.928
WILLAPA BAY AREA 2T	0.601	0.002	0.398
WILLAPA BAY AREA 2U	0.793	0.001	0.206

Probability of recovery/release standardized by runsize		
NOR		
FORKS CREEK	NEMAH	NASELLE
0.082	0.004	0.914
0.436	0.002	0.562
0.198	0.003	0.799
0.862	0.000	0.138
0.941	0.000	0.059

Willapa Bay Hatchery Production

Background

Willapa Bay Chinook Age Composition 2015 - 2018



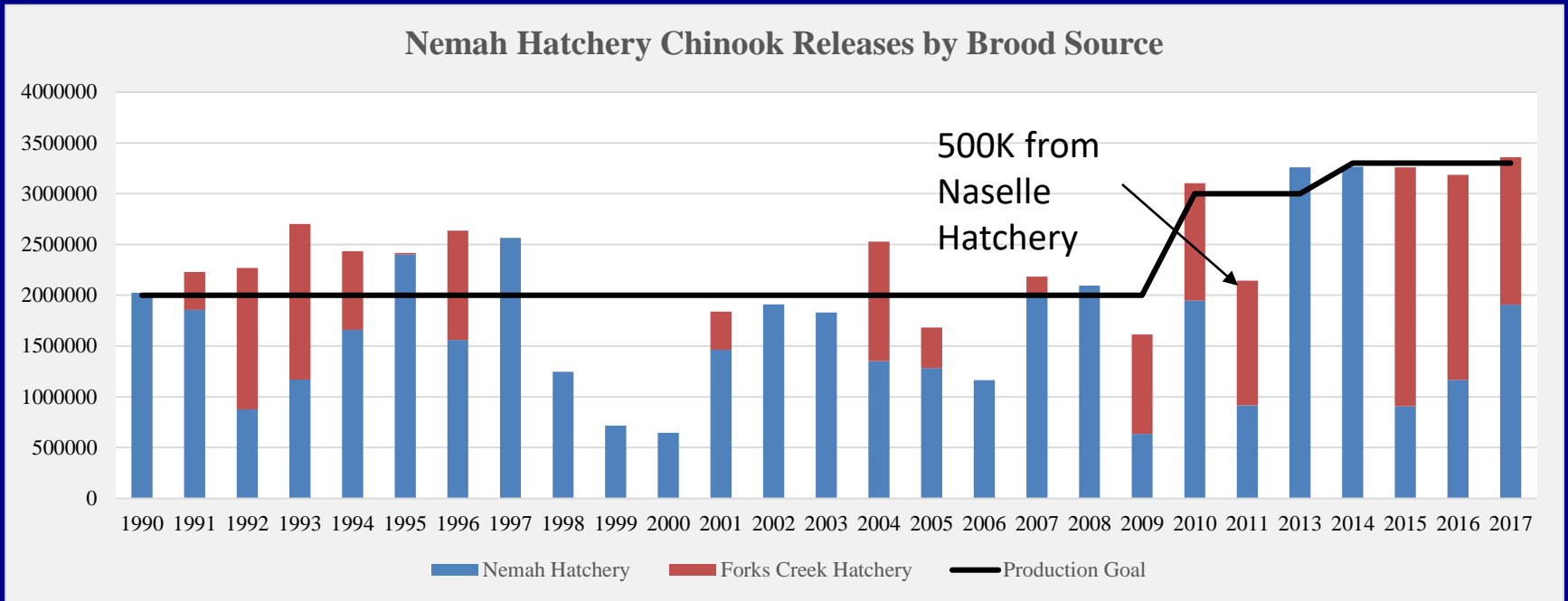
Willapa Bay Hatchery Production

Background

Facility and Brood Year	Smolts Released	Return Year						
		2016	2017	2018	2019	2020	2021	2022
Forks Creek								
2014	3,221,073	2 yo	3 yo	4 yo	5 yo			
2015	379,192		2 yo	3 yo	4 yo	5yo		
2016	368,537			2 yo	3 yo	4 yo	5 yo	
2017	365,864				2 yo	3 yo	4 yo	5 yo
Naselle								
2014	749,265	2 yo	3 yo	4 yo	5 yo			
2015	788,229		2 yo	3 yo	4 yo	5yo		
2016	2,499,279			2 yo	3 yo	4 yo	5 yo	
2017	2,531,859				2 yo	3 yo	4 yo	5 yo
Nemah								
2014	3,264,062	2 yo	3 yo	4 yo	5 yo			
2015	3,259,623		2 yo	3 yo	4 yo	5yo		
2016	3,185,438			2 yo	3 yo	4 yo	5 yo	
2017	3,358,383				2 yo	3 yo	4 yo	5 yo

Willapa Bay Hatchery Production

Background



Facility	Forks Creek	Nemah	Naselle
Brood Years	2003-2011	2003-2006	2003-2006, 2009-2011
Smolt-Adult Survival Rate (SAR)	0.43%	0.28%	0.43%

Willapa Bay Hatchery Production

2019 BY Egg Takes

Species	Eggtakes	Forks Creek Hatchery	Nemah Hatchery	Naselle Hatchery	Total
Chinook	On-hand	2.59M	1.22M	2.11M	5.92M
	Goal	0.4M	3.3M	5.0M	8.7M
Coho	On-hand	1.7M	-	2.1M	3.8M
	Goal	0.6M	-	1.7M	2.3M
Chum	On-hand	0.6M	1.4M	0.7M	2.7M
	Goal	0.5M	1.5M	0.5M	2.5M

- Goals for on-station releases
 - Includes increased production for SRKW/Enhance fisheries
 - 2.55M Chinook, 300K coho, and 1M chum
- Co-op production
 - 1.4M Coho; 200K chum

2020 Fishery Planning

2020 Considerations

- Predicted continuation of poor marine and freshwater environmental conditions
- Chinook
 - Hatchery production shift, North to South
 - Difficulty achieving hatchery broodstock
- Coho
 - 2015 through 2018, only 2016 made escapement
 - 2019 is still too early to report
- Chum
 - 2017 only year since policy not meeting escapement goals

2020 Fishery Planning

2020 Guidance Options

Species	Management Objectives	Policy C-3622	2019 FWC Guidance
Chinook	Harvest control rule	14% impact rate cap on UM Chinook	20% impact rate cap on UM Chinook
	Recreational Fisheries	Prioritize and enhance Chinook harvest	Staff flexibility in determining bag limits
	Commercial Fisheries	No fishery before Sept. 7 in south and Sept. 16 in north	No restrictions on time and area
Coho	Harvest control rule	Meet aggregate escapement goals	Meet aggregate escapement goals
Chum	Harvest control rule	Meet aggregate escapement goals	10% impact rate
	Commercial Fisheries	No restrictions	No commercial fisheries between Oct 15-31
	Recreational Fisheries	Allow retention	Allow retention

2020 Fishery Planning

Staff Recommendations

- 2020 management objectives
 - Continuation of 2019 FWC guidance
- 2019 brood year fall Chinook releases
 - Release Chinook in their current abundances
 - No backfilling



Questions?

Photo by Barbara McClellan of the Palix River