

Ocean Salmon Industry Group Preseason Planning Meeting

for

Ocean Recreational and Commercial Troll Salmon Fisheries off Oregon

BRIEFING DOCUMENTS:

- 2018 Season Summary
- 2019 Management Process Schedule
- 2018 Escapement Estimates
- 2019 Stock Abundance Forecasts
- and other materials

All data in this packet should be considered preliminary and is subject to change

Oregon Department of Fish and Wildlife

www.dfw.state.or.us/mrp/salmon/



Shilo Inn
Newport, Oregon
February 28, 2019

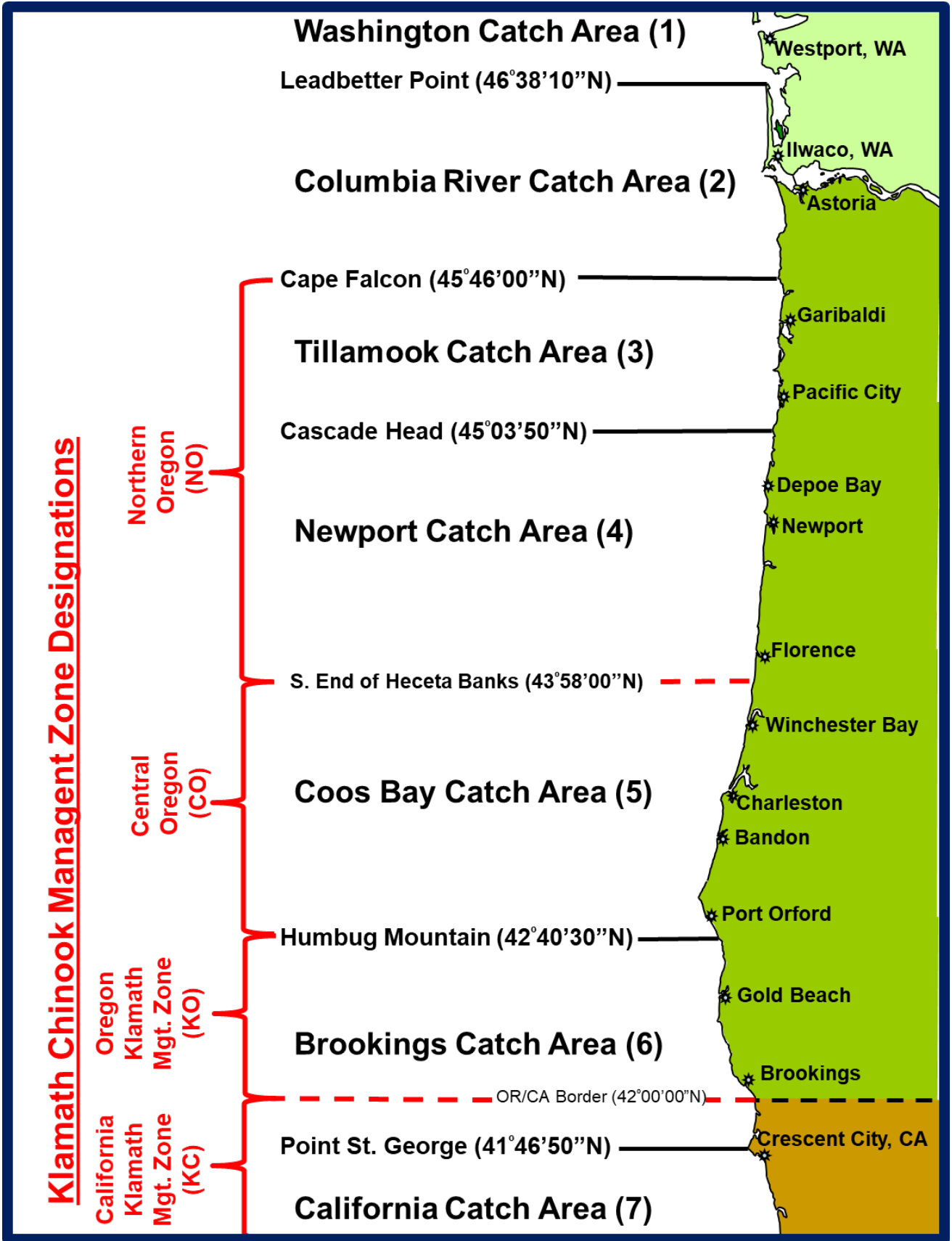
Ocean Salmon Effort and Landing Estimates for 2018 with Comparison to 2017, 2016, and 1979-1990 Average.

Recreational Ocean Salmon Fisheries

Catch Area	Effort (Angler Trips)				Chinook (Number of Fish)				Coho (Number of Fish)			
	2018	2017	2016	1979-90	2018	2017	2016	1979-90	2018	2017	2016	1979-90
Columbia River	7,699	8,568	4,332	25,789	689	1,908	1,040	4,255	7,128	6,570	2,654	33,755
Tillamook	11,259	8,631	10,981	31,278	706	845	1,221	1,584	2,809	3,679	1,796	21,805
Newport	23,561	10,282	8,193	67,866	1,208	762	655	2,930	11,264	7,590	2,422	62,362
Coos Bay	14,310	12,816	11,170	68,092	795	573	676	7,610	4,451	3,396	1,486	66,875
Brookings	7,699	2,012	4,188	57,676	1,593	506	503	15,544	18	-	52	17,019
Oregon Total	64,528	42,309	38,864	250,701	4,991	4,594	4,095	31,923	25,670	21,235	8,410	201,816

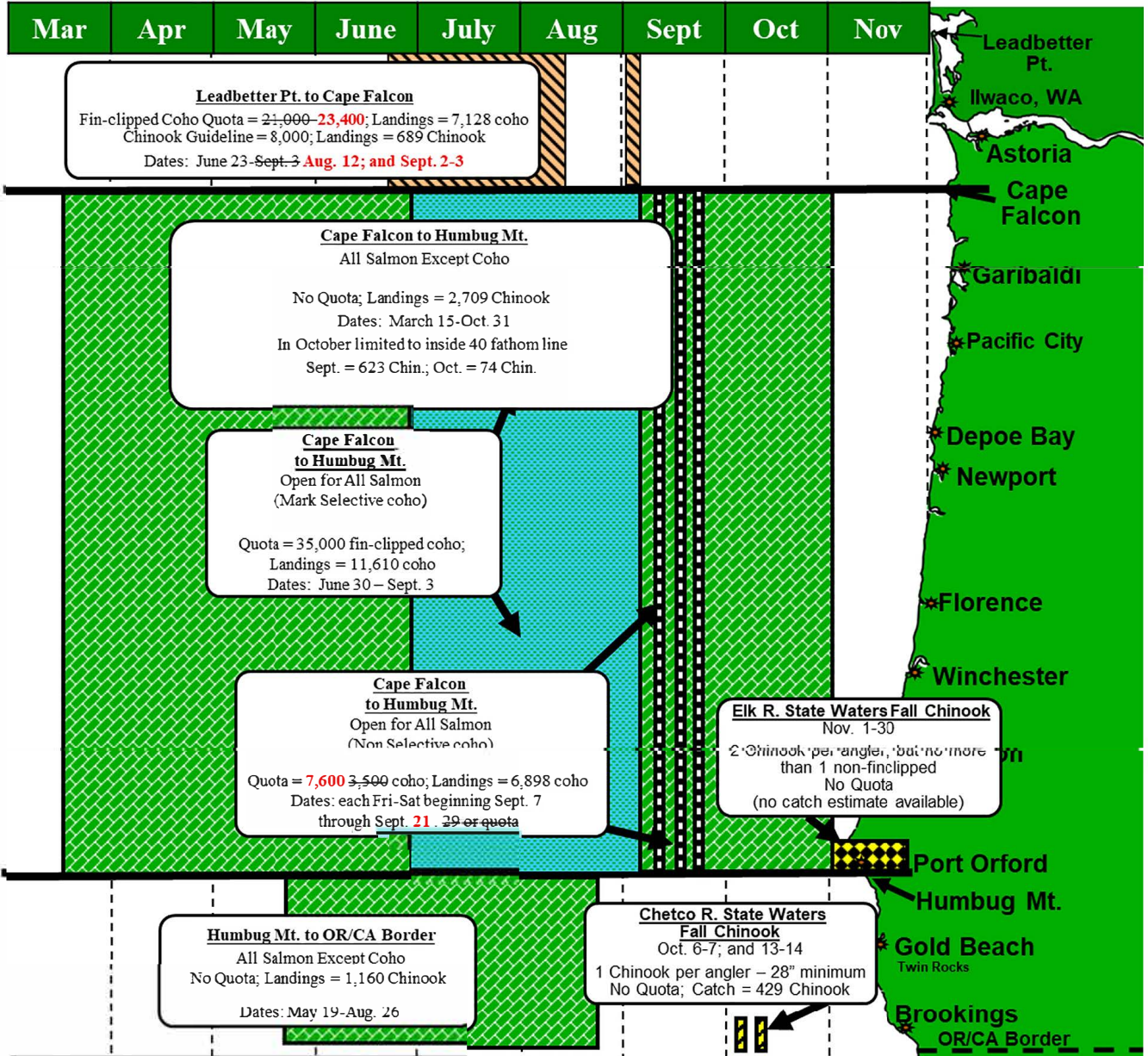
Commercial Ocean Troll Salmon Fisheries

Catch Area	Effort (Boat Days)				Chinook (Number of Fish)				Coho (Number of Fish)			
	2018	2017	2016	1979-90	2018	2017	2016	1979-90	2018	2017	2016	1979-90
Columbia River	98	342	225	948	333	2,627	2,058	4,754	92	470	-	20,643
Tillamook	179	182	237	5,438	465	717	1,067	14,570	-	-	-	83,654
Newport	1,043	1,264	2,756	7,798	14,450	17,438	31,281	53,568	-	-	-	112,064
Coos Bay	778	155	1,047	15,569	5,277	734	7,543	144,320	-	-	-	124,716
Brookings	475	109	127	3,582	3,899	329	398	45,449	-	-	-	18,804
Oregon Total	2,573	2,052	4,392	33,335	24,424	21,845	42,347	262,661	92	470	-	359,881



Oregon's Ocean Salmon Management Areas, Major Ports of Landing, and Klamath Management Zone Designations

Oregon Ocean Recreational Salmon 2018 Seasons

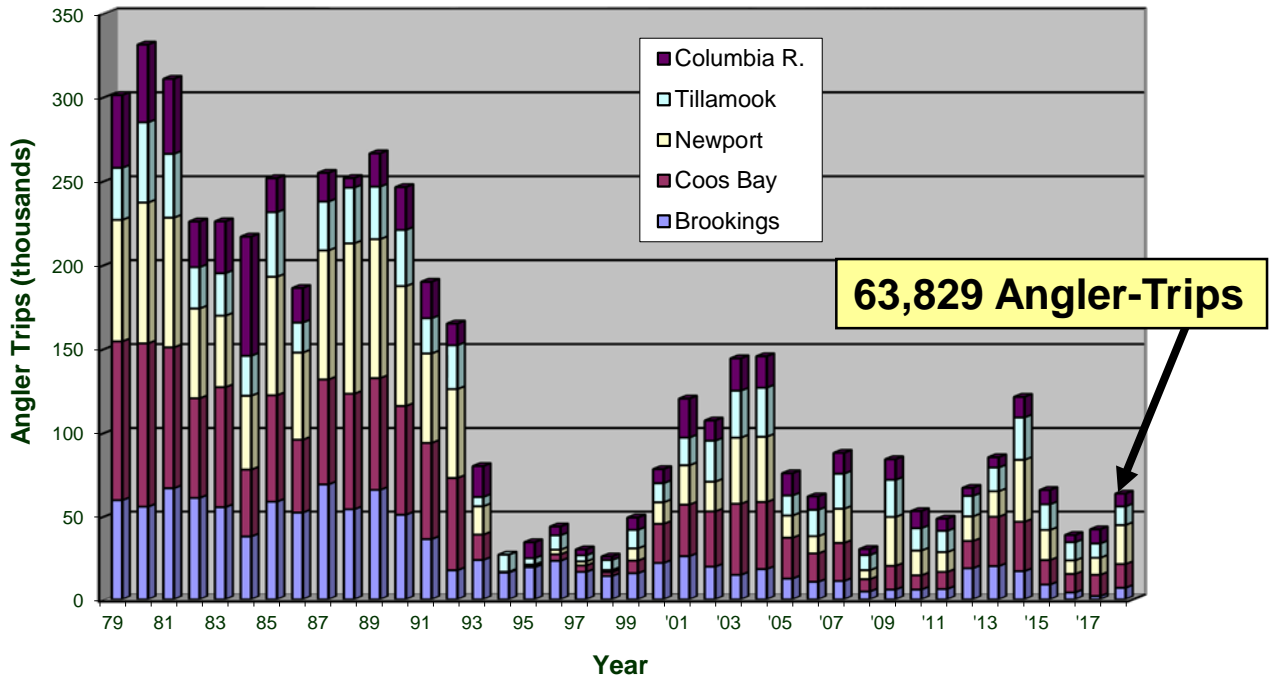


- All salmon, 2 per day only one of which may be a Chinook **through 8/12; then 2 per day on Sept. 2-3**. All coho must have a healed adipose fin clip. Columbia River Control Zone is closed to all salmon fishing.
- All salmon except coho, 2 per day.
- All salmon, 2 per day. All coho must have a healed adipose fin clip.
- All salmon, 2 per day. Open for all salmon, and no fin-clip restriction on retained coho.

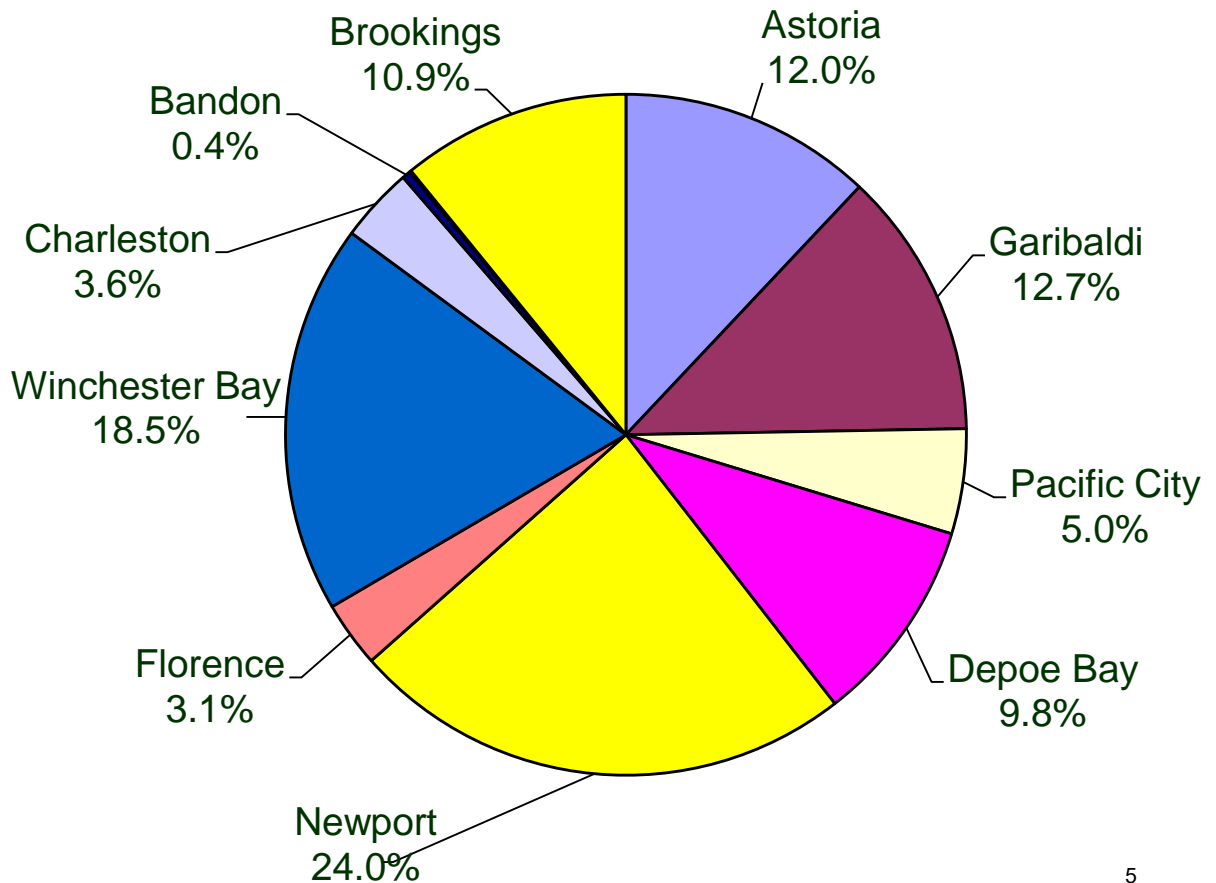
Other Regulations:

- 1) In the Stonewall Bank Yelloweye Rockfish Cons. Area, salmon fishing is limited to trolling on open "all depth halibut" days.
- 2) No more than 2 single point barbless hooks and one line when fishing for salmon or when a salmon is on board.
- 3) Minimum lengths: Chinook - 24", coho - 16", steelhead - 20"; no size restriction for pink, chum, or sockeye salmon.
- 4) Off Tillamook Bay within the 15 fathom depth contour from Twin Rocks to Pyramid Rock, all Chinook salmon must have a fin clip prior to August 1 of each year.

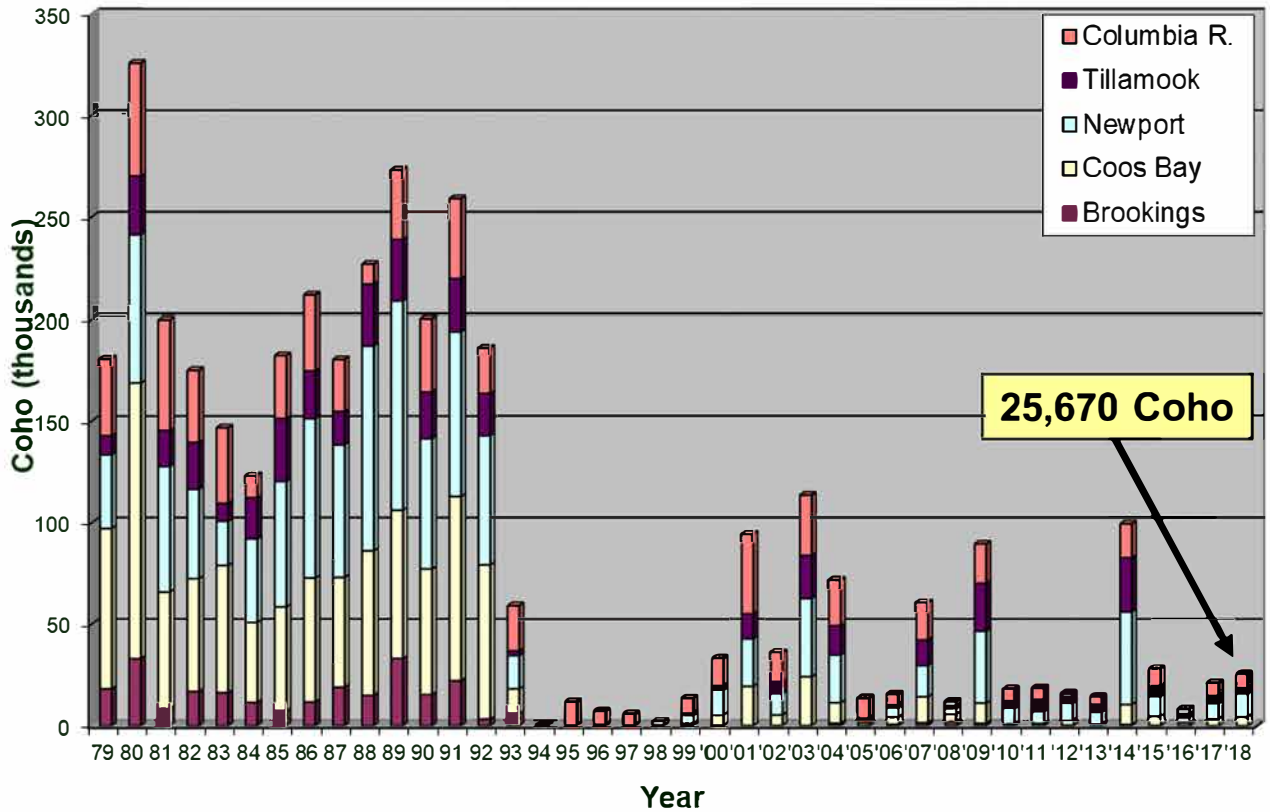
Ocean Sport Salmon Angling Effort by Area



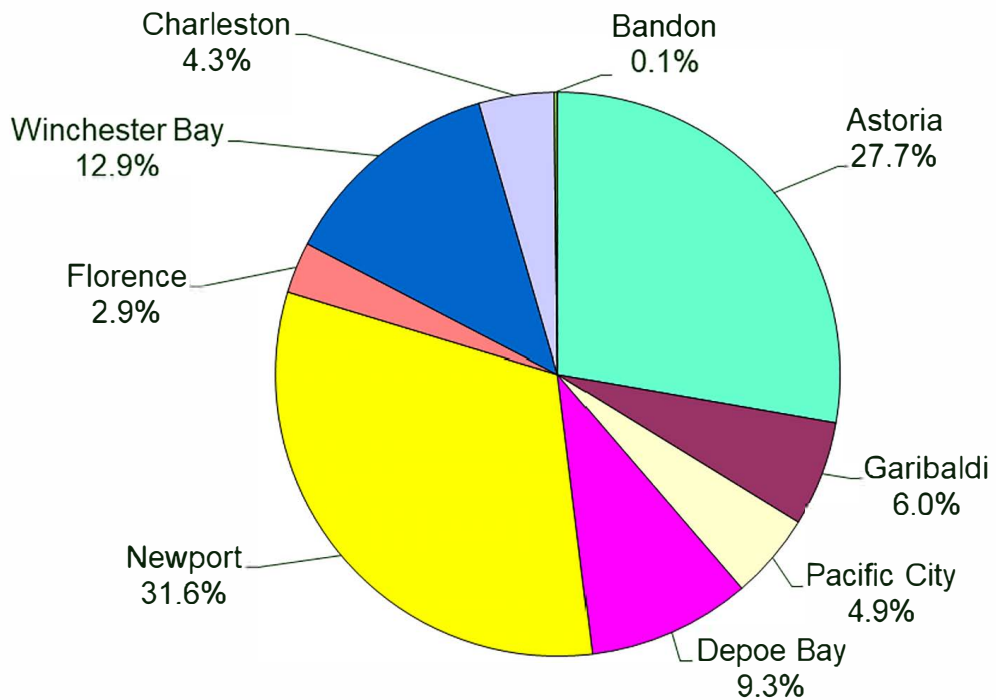
Ocean Sport Salmon Angling Effort by Port, 2018



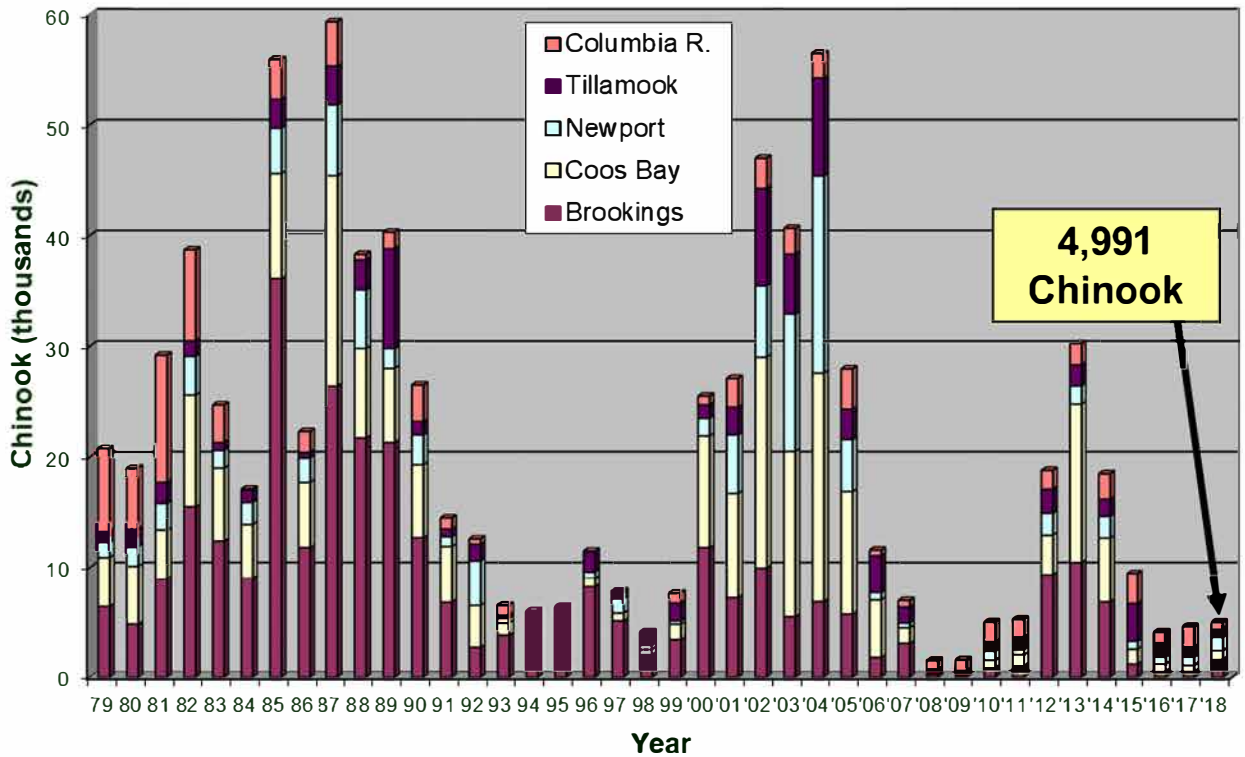
Ocean Sport Coho Landings by Area



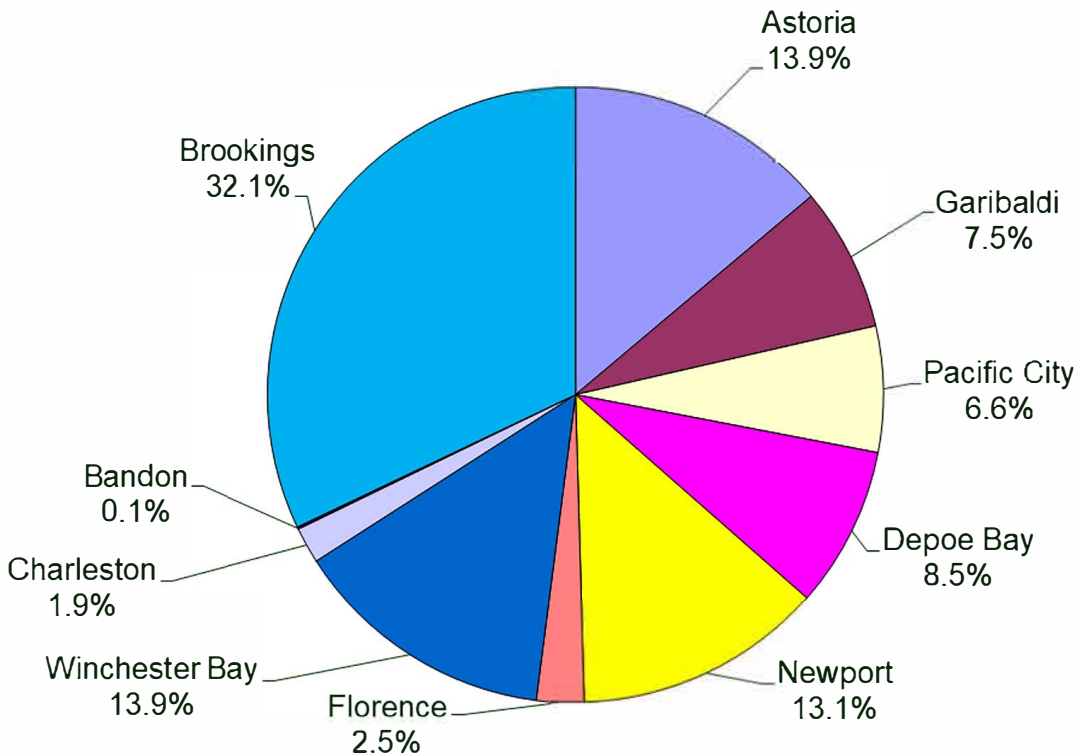
Sport Coho Landings by Port, 2018



Ocean Sport Chinook Landings by Area



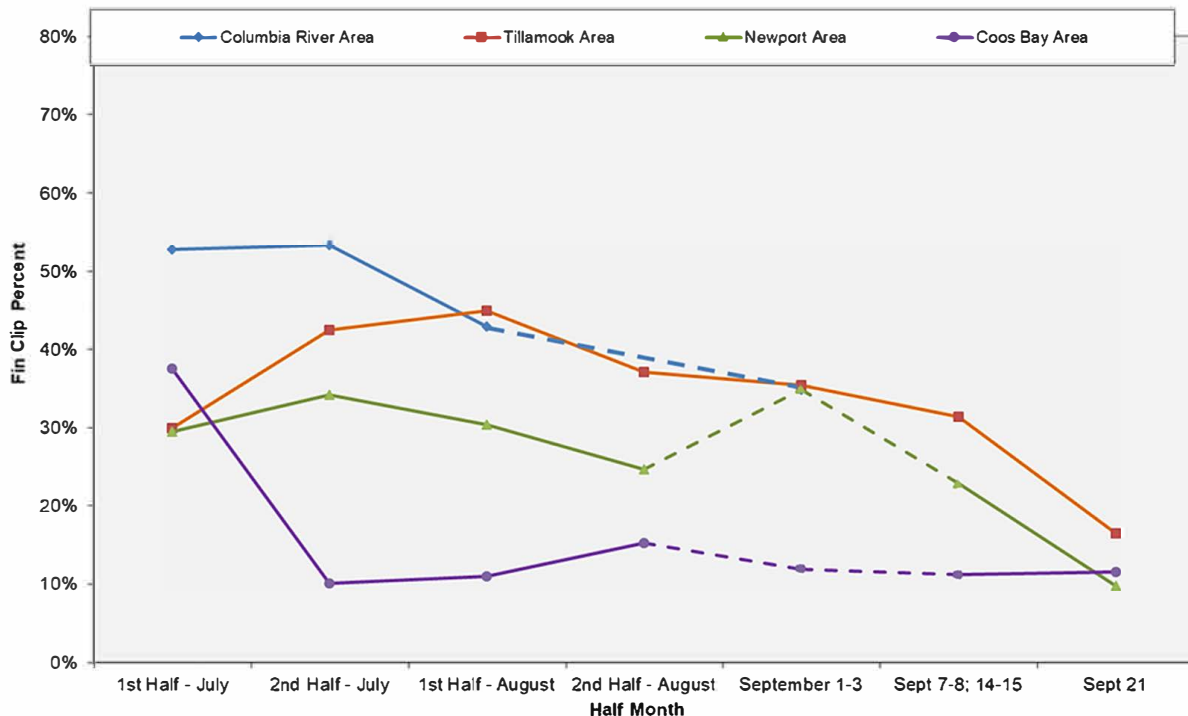
Sport Chinook Landings by Port, 2018



Oregon Recreational Ocean Coho Salmon Mark Rate

In Half Month Increments by Catch Area, 2018

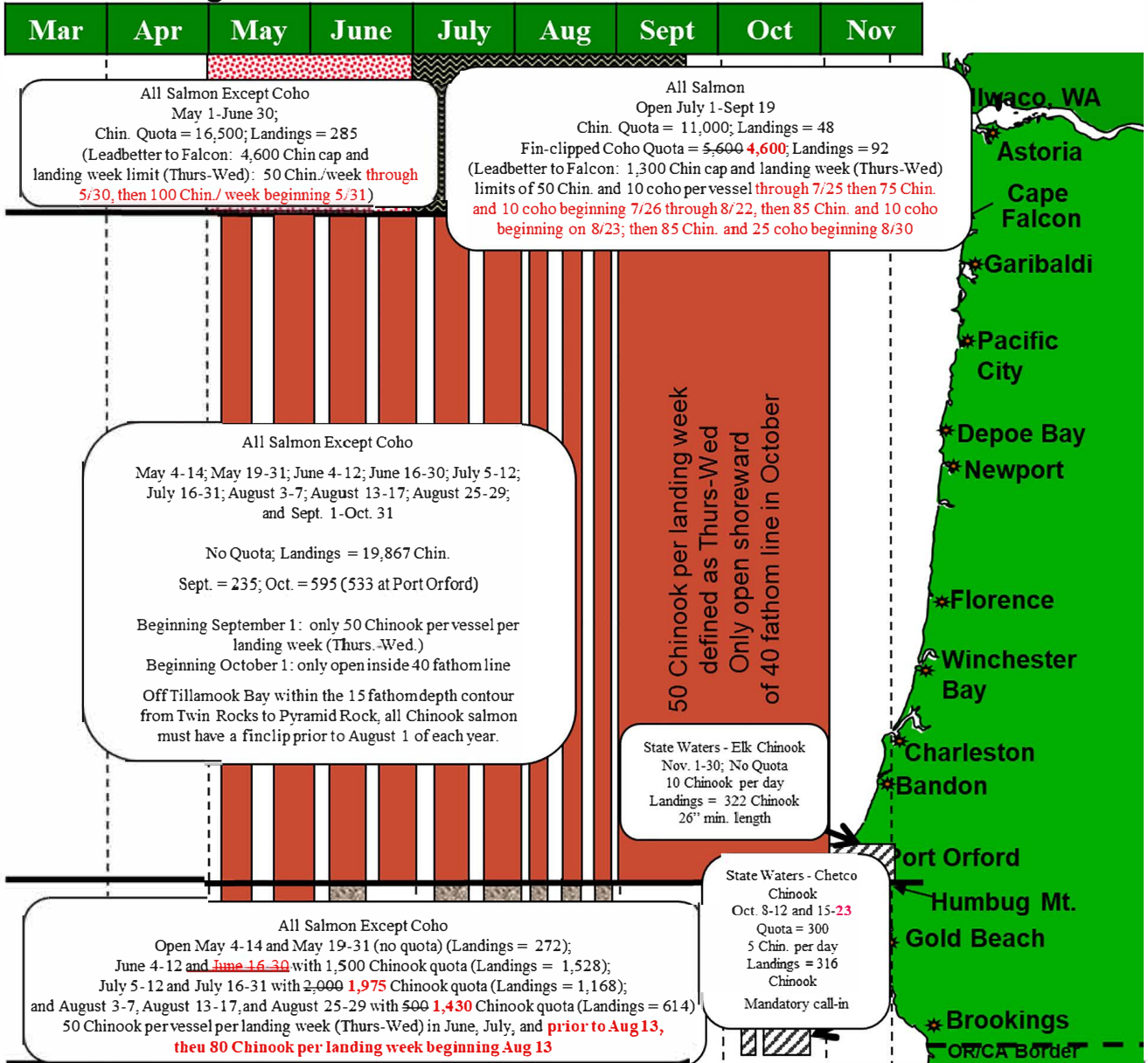
(Total reported released Coho used during selective periods to estimate non-marked Coho)



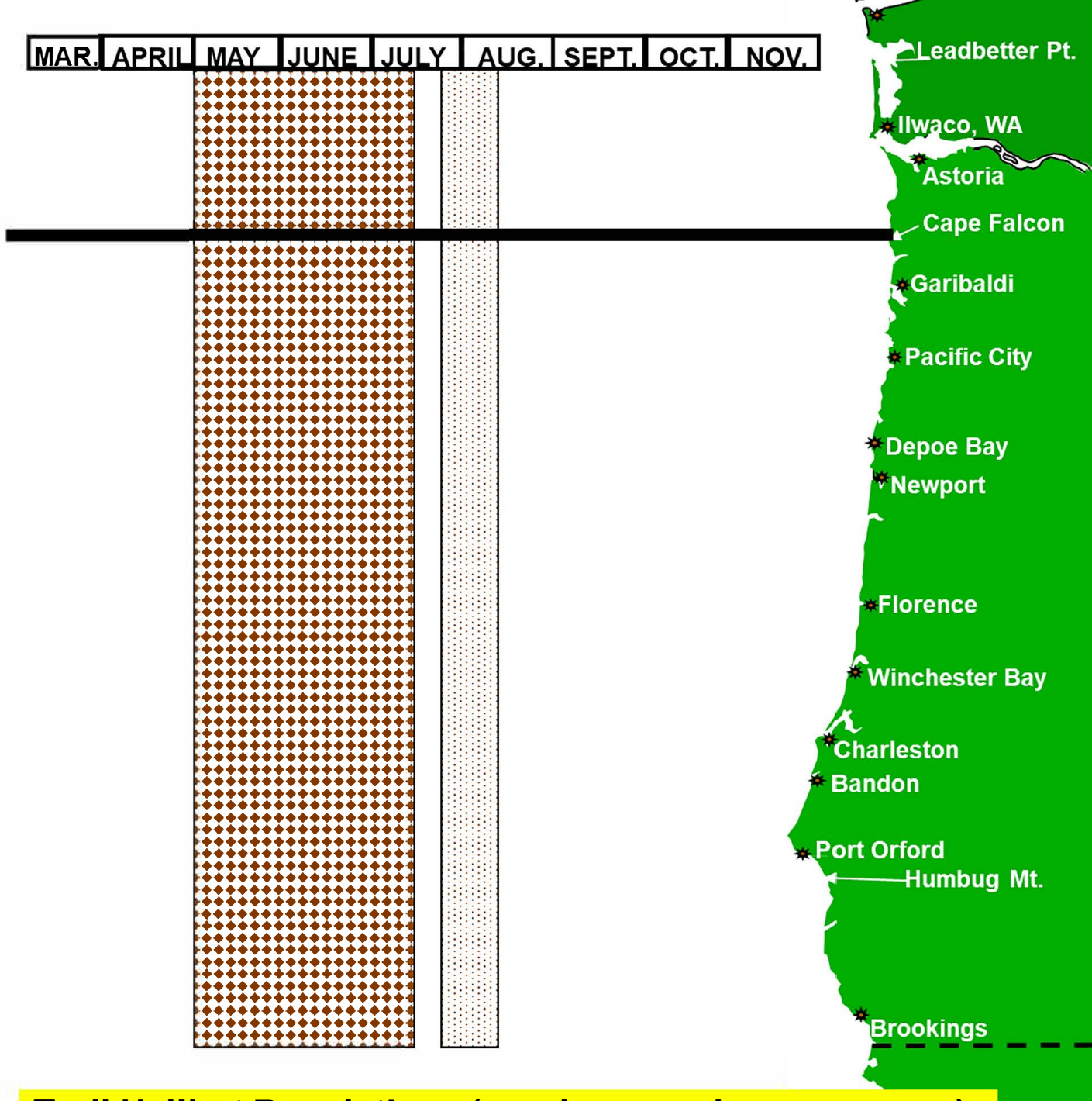
2018 Observed and Forecast Coho Ad-clip Rates (Forecast Rates 2018/2019):	Columbia River Ocean Catch Area	Tillamook Ocean Catch Area	Newport Ocean Catch Area	Coos Bay Ocean Catch Area	Brookings Ocean Catch Area
6/23-30 CR and 6/30 SOF	<u>76%*</u> (79%/81%)	<u>32%*</u> (70%/72%)	<u>9%*</u> (67%/68%)	<u>67%*</u> (59%/65%)	NA (59%/62%)
7/1-15	53% (79%/81%)	30% (66%/66%)	30% (63%/64%)	38% (55%/62%)	NA (55%/51%)
7/16-31	53% (79%/81%)	42% (66%/66%)	34% (63%/64%)	10% (55%/62%)	NA (55%/51%)
8/1-12 CR and 8/1-15 SOF	43% (73%/74%)	43% (61%/64%)	31% (60%/63%)	11% (46%/57%)	NA (46%/45%)
8/16-31 SOF	NA (73%/74%)	37% (61%/64%)	25% (60%/63%)	15% (46%/57%)	NA (46%/45%)
9/2-3 CR and 9/1-3 SOF	<u>35%*</u> (76%/77%)	35% (54%/65%)	<u>35%*</u> (49%/55%)	<u>12%*</u> (32%/48%)	NA (32%/17%)
9/7-8 and 9/14-15 SOF	NA	31% (54%/65%)	23% (49%/55%)	11% (32%/48%)	NA (32%/17%)
9/21 SOF	NA	17% (54%/65%)	10% (49%/55%)	12% (32%/48%)	NA (32%/17%)

* Underlined and italicized 2018 observations are of low sample sizes for the time and area (<50 observations). Estimates for these are not included in graphic.



Oregon Ocean Commercial Troll Salmon 2018 Seasons



- All salmon except coho. Vessels landing South of Leadbetter Pt., WA may only fish South of Leadbetter Pt. Vessels fishing North of Leadbetter Pt., must land their catch North of Leadbetter Pt. Landings restricted to within the open area and Garibaldi only. Must land all catch within 24 hours of any closure. Chinook 28" minimum length. All landings into Oregon must be reported within one hour of landing at (541)867-0300 ext. 271 or to nfalcon.trollreport@state.or.us
 - All salmon, all coho must have a healed adipose fin clip. Vessels landing South of Leadbetter Pt., WA may only fish South of Leadbetter Pt. Vessels fishing North of Leadbetter Pt., must land their catch North of Leadbetter Pt. Landings restricted to within the open area and Garibaldi only. Must land all catch within 24 hours of any closure. Chinook 28" and coho 16" minimum length. All landings into Oregon must be reported within one hour of landing at (541)867-0300 ext. 271 or to nfalcon.trollreport@state.or.us.
 - All salmon except coho. All fish must be landed into Oregon. No more than 4 spreads per wire. Chinook 28" minimum length.
 - All salmon except coho. All fish must be landed into Port Orford, Gold Beach, or Brookings within 24 hours of any closure in the fishery. No more than 4 spreads per wire. Chinook 28" minimum length. Mandatory call in within an hour of delivery or prior to transport away from port at (541)867-0300 ext. 252 or to KMZOR.trollreport@state.or.us Weekly landing and possession limit of 50 Chinook per vessel per landing week (Thurs-Wed) prior to Aug 13, then 80 Chinook per landing week beginning Aug 13. June quota=1,500; July quota=2,000 1,975; and Aug. quota=500 1,430
- Incidental Troll Pacific Halibut** (only allowed for vessels with an IPHC issued incidental troll salmon halibut harvest license): 1 halibut per 2 Chinook (1 halibut may be landed outside of the ratio) with no more than 25 total halibut per trip. Retained halibut must be no less than 32 inches in total length. **CLOSED: 23:59 on July 14. Reopen 7/26 on 1:3 ratio with no more than 10 halibut per trip. CLOSED: 23:59 8/8.**



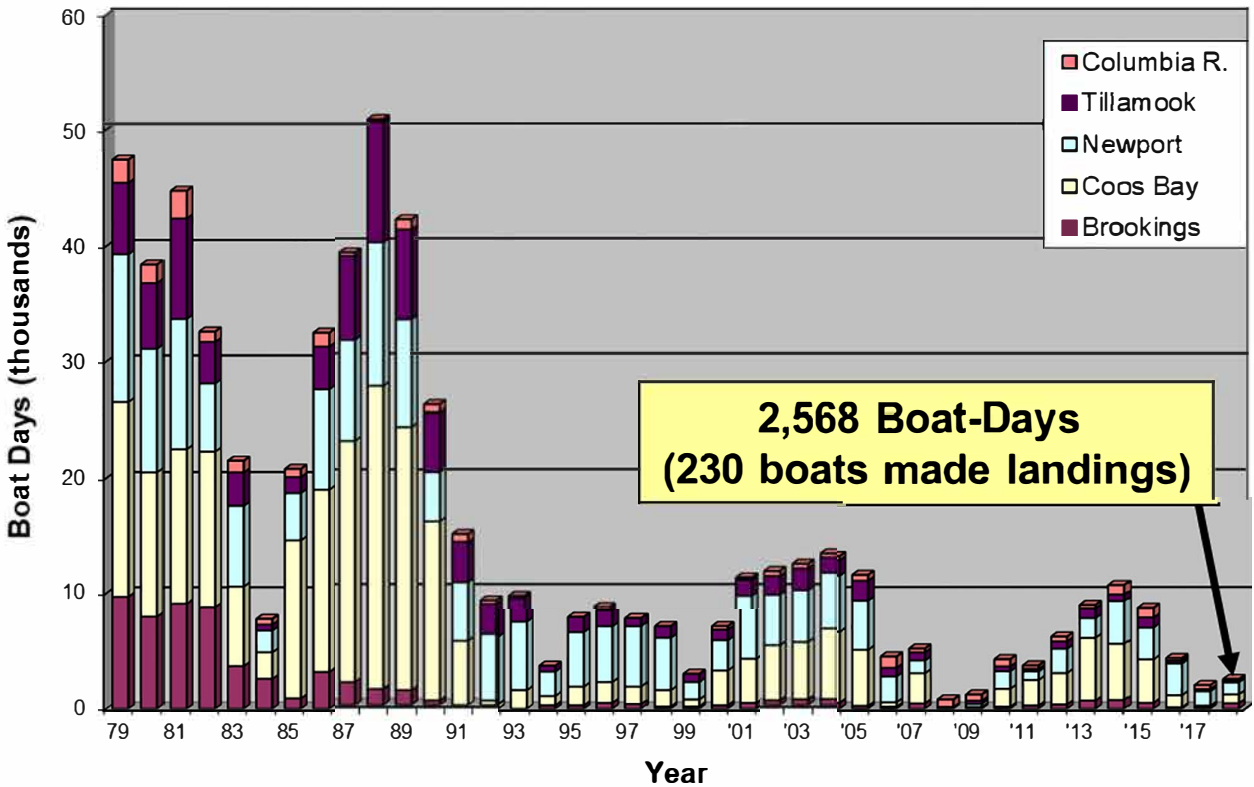
Troll Halibut Regulations (overlay on salmon seasons):

-  5/1-7/14: 1 Halibut per 2 Chinook + 1 Halibut & 25 Halibut/trip
-  7/26-8/8: 1 Halibut per 3 Chinook + 1 Halibut & 10 Halibut/trip

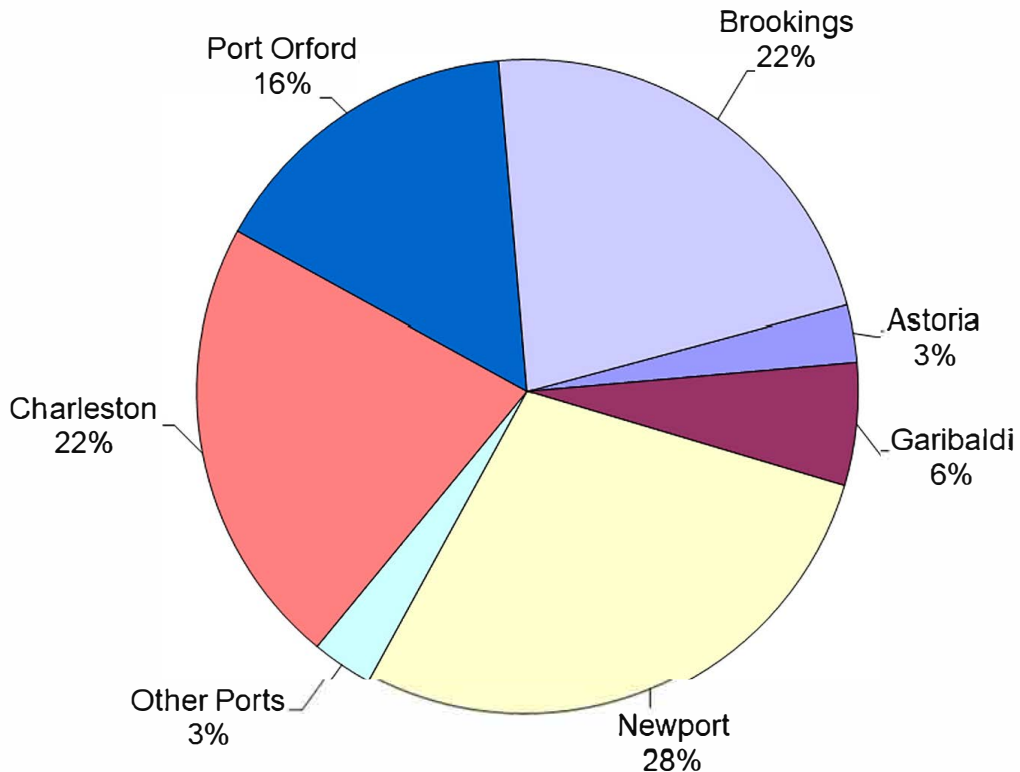
Quota: 40,477 lbs.

Catch: 39,663 lbs. (WA-36,307 lbs.; OR-3,053 lbs.; and CA-303 lbs.)

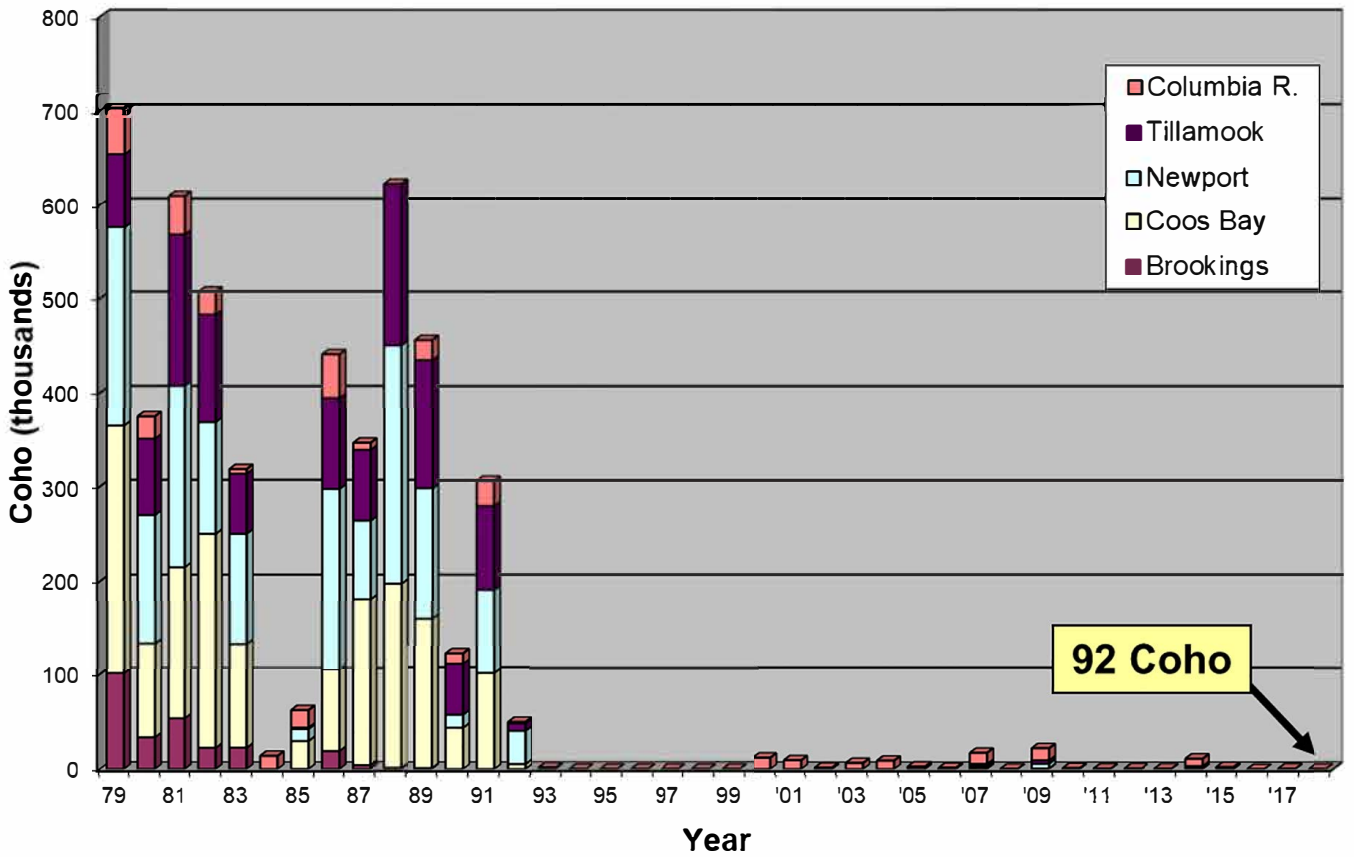
Troll Salmon Fishing Effort by Area



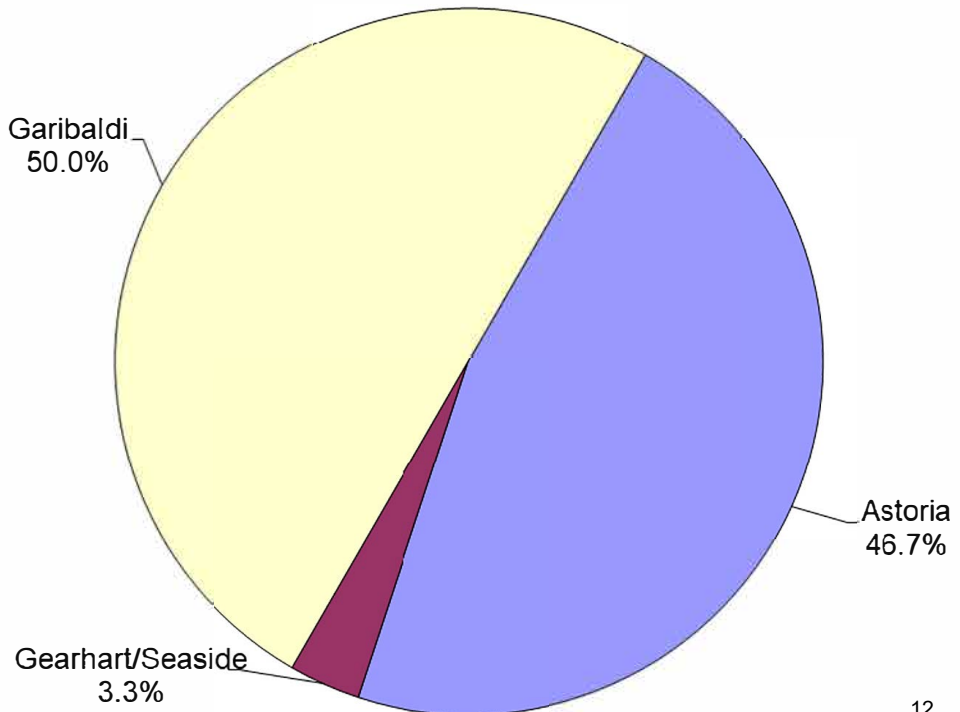
Troll Salmon Effort (Deliveries) by Port, 2018



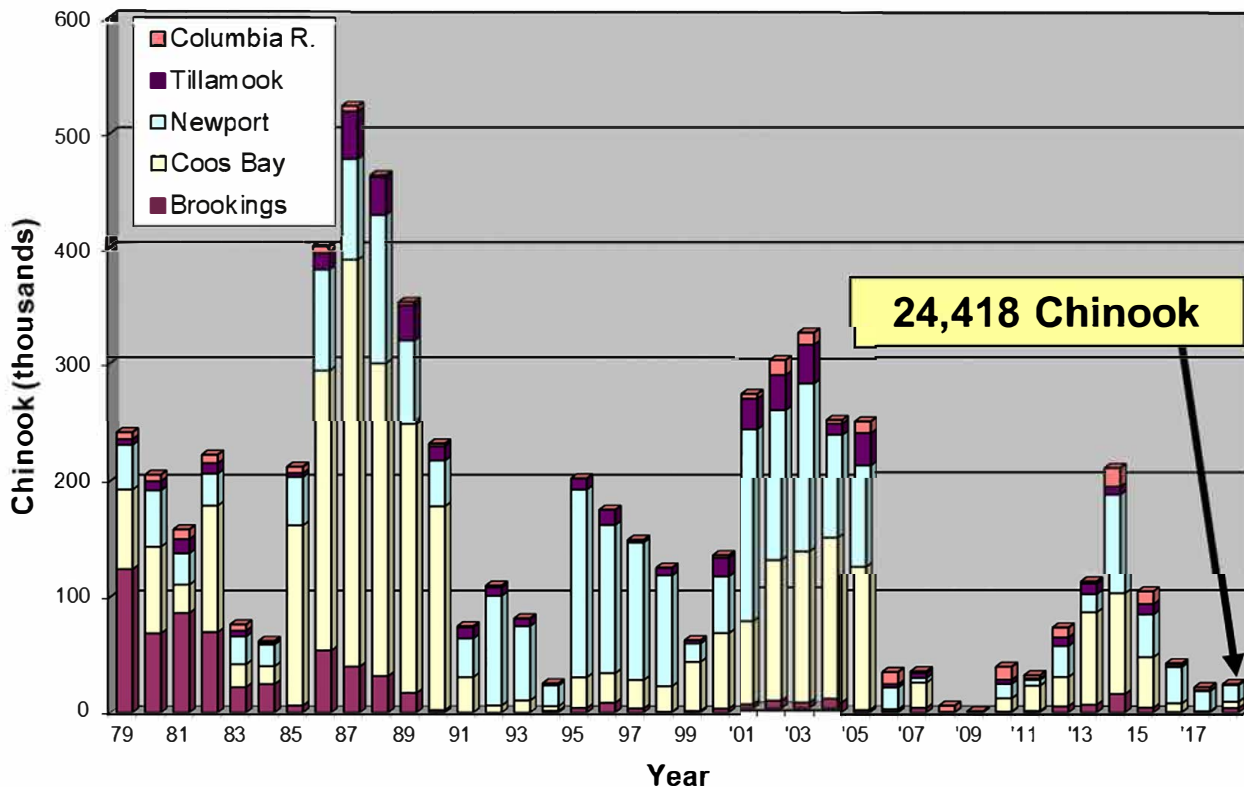
Troll Coho Landings by Area



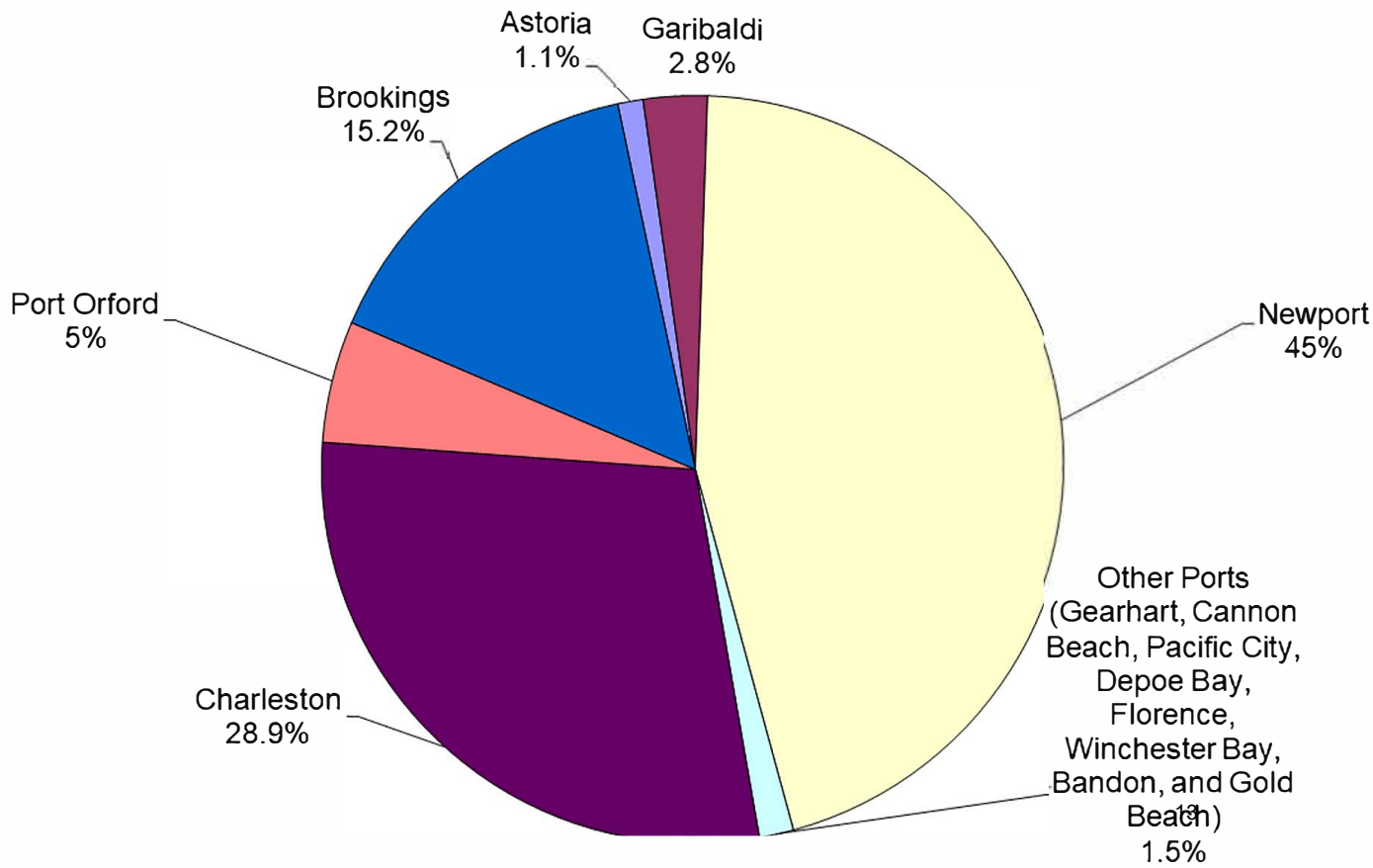
Troll Coho Landings by Port, 2018



Troll Chinook Landings by Area



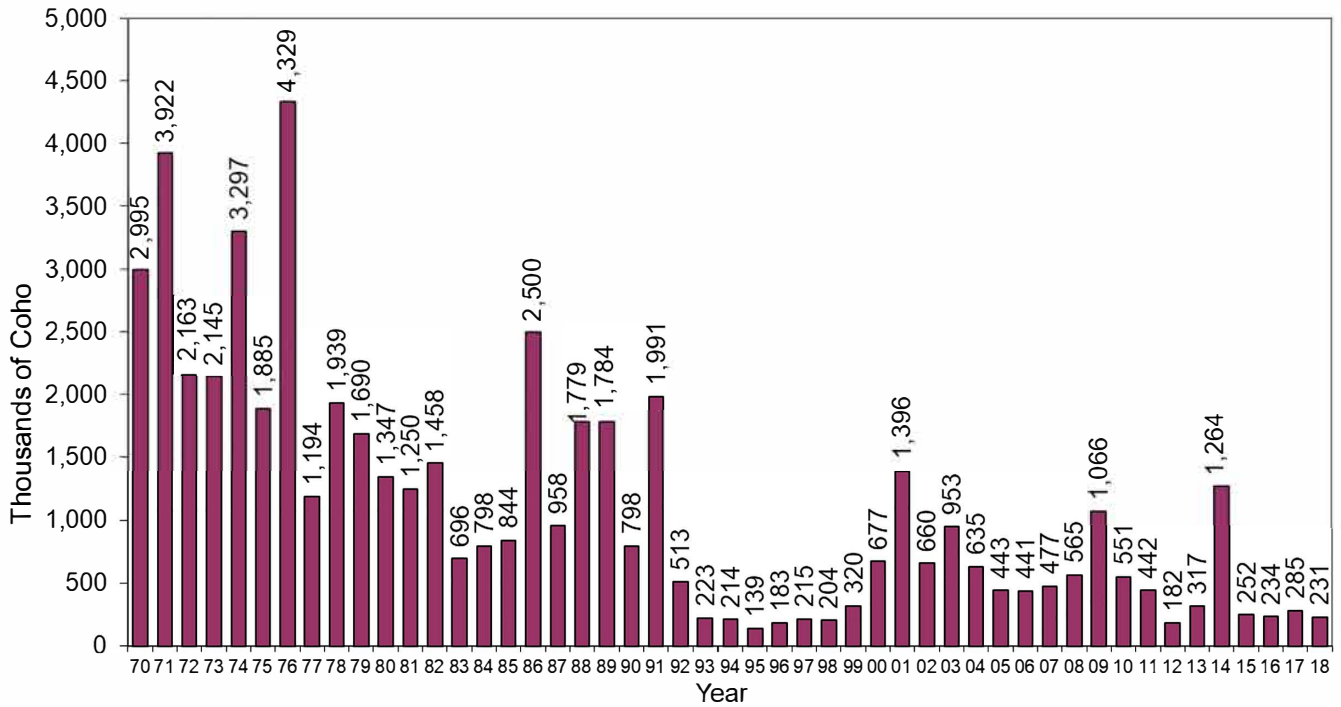
Troll Chinook Landings by Port, 2018



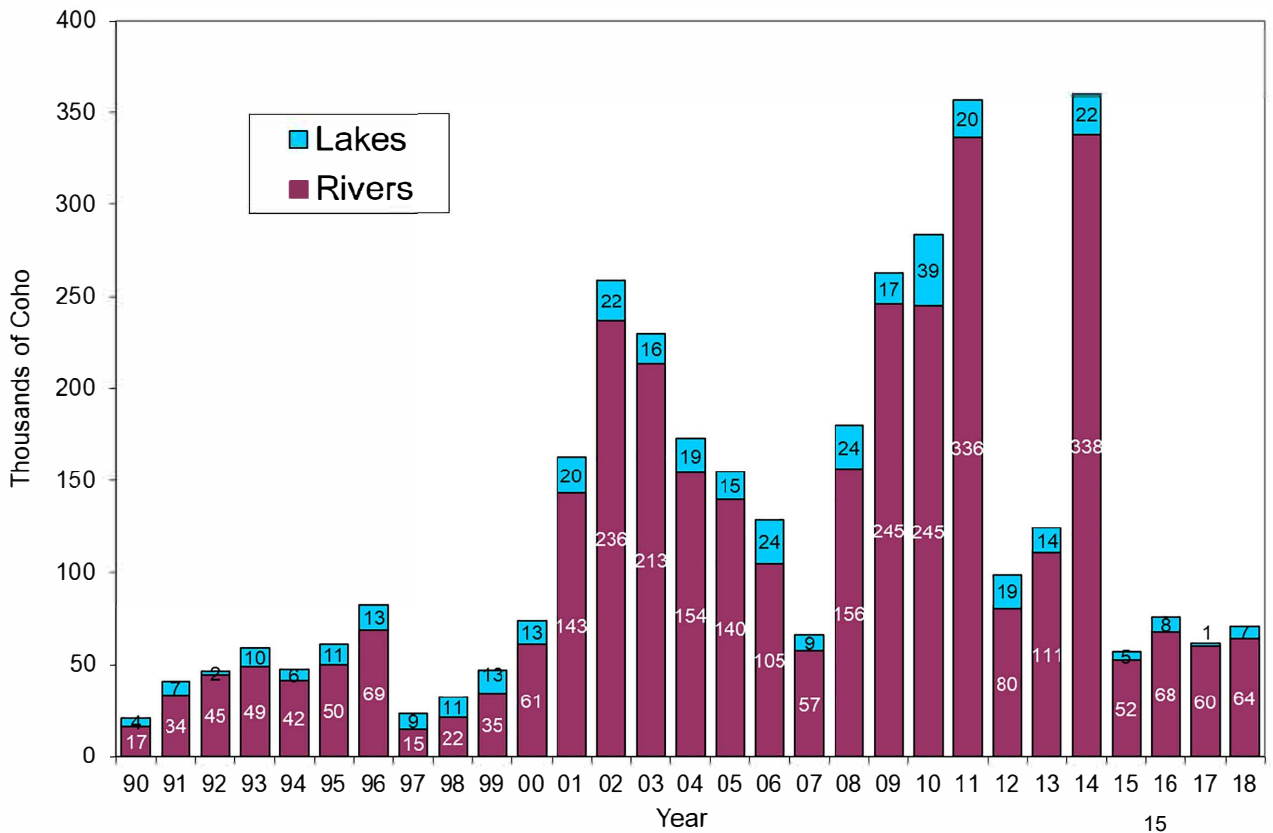
2019 Ocean Fishery Process Schedule

February 27	WDFW Public Meeting * 2019 Forecasts * 2019 Salmon season discussions	Olympia, WA
February 27	CDFW Public Meeting * 2019 Forecasts * 2019 Salmon season discussions	Santa Rosa, CA
February 28	Ocean Salmon Industry Group Meeting * 2019 Forecasts * 2019 Salmon season discussions	Newport, OR
March 7-12	Pacific Fishery Management Council * Adopt 2019 ocean salmon alternatives for public review	Vancouver, WA Hilton
March 15	Oregon Fish and Wildlife Commission * Ocean Salmon (informational)	Salem, OR
March 19	North of Falcon I (Public Meeting) * Ocean/Puget S./Col. R. area salmon season negotiations	Olympia, WA
March 25	PFMC Public Options Hearing * Public input on 2019 season alternatives	Coos Bay, OR Red Lion
March 25	PFMC Public Options Hearing * Public input on 2019 season alternatives	Westport, WA
March 26	PFMC Public Options Hearing * Public input on 2019 season alternatives	Ukiah, CA
April 2	North of Falcon (Public Meeting) * Ocean and Columbia River	Ridgefield, WA
April 10-15	Pacific Fishery Management Council * Adopt 2019 ocean salmon fishery regulations	Rohnert Park, CA DoubleTree
April 19	Oregon Fish and Wildlife Commission * Adopt state waters ocean salmon fishery regulations	St. Helens, OR

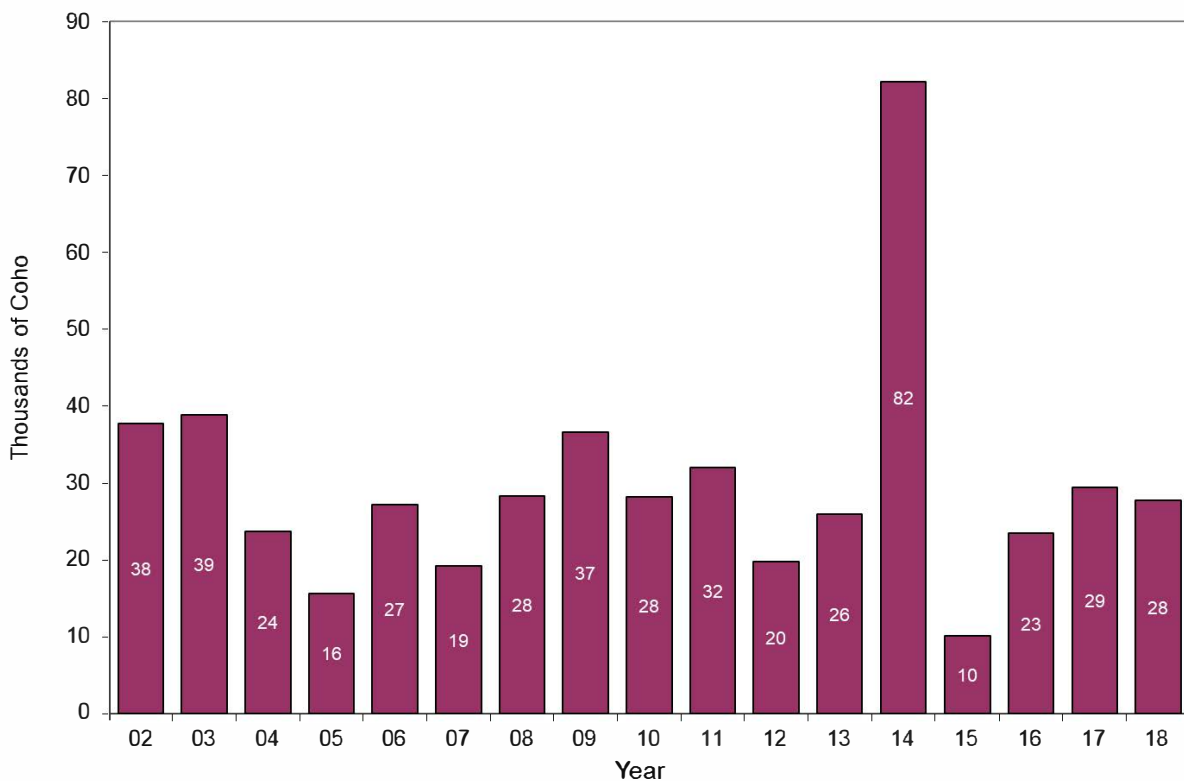
Oregon Production Index Area Hatchery Coho Abundance Estimates, 1970-2018



OCN Coho Spawner Escapement Rivers and Lakes, 1990-2018

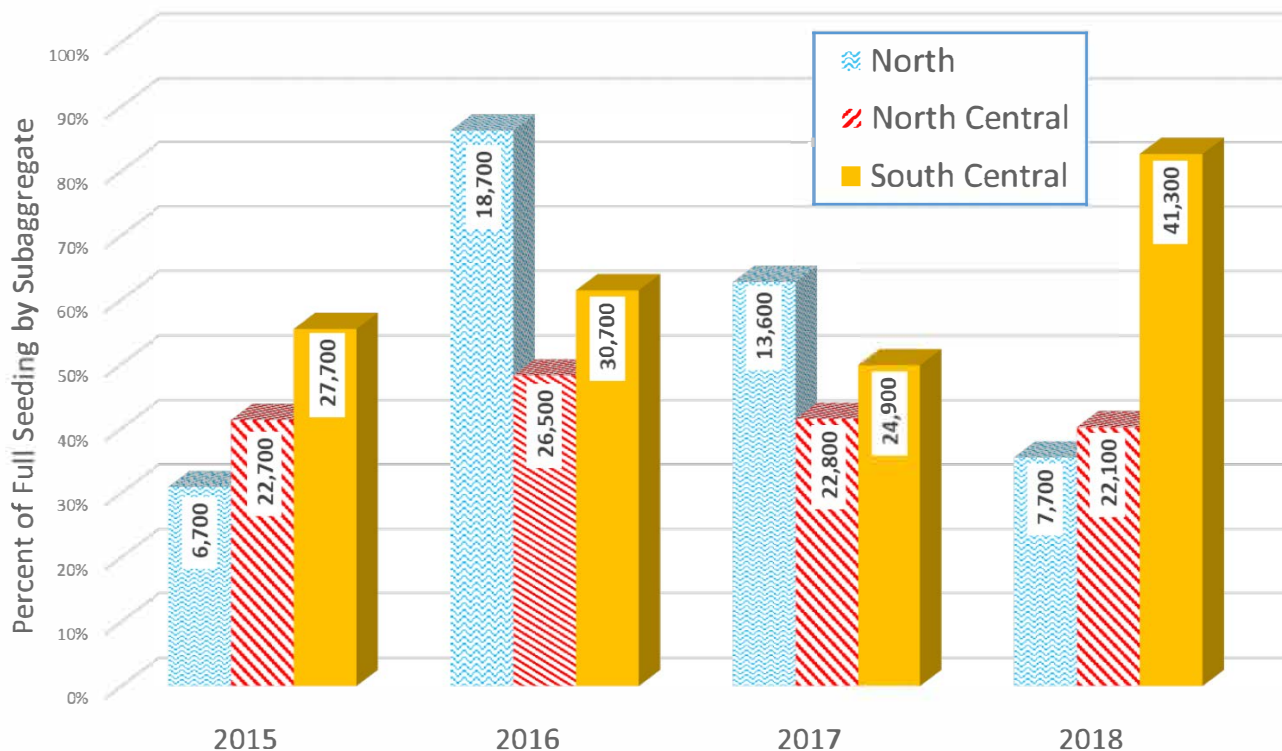


LCN Coho Escapement, 2002-2018

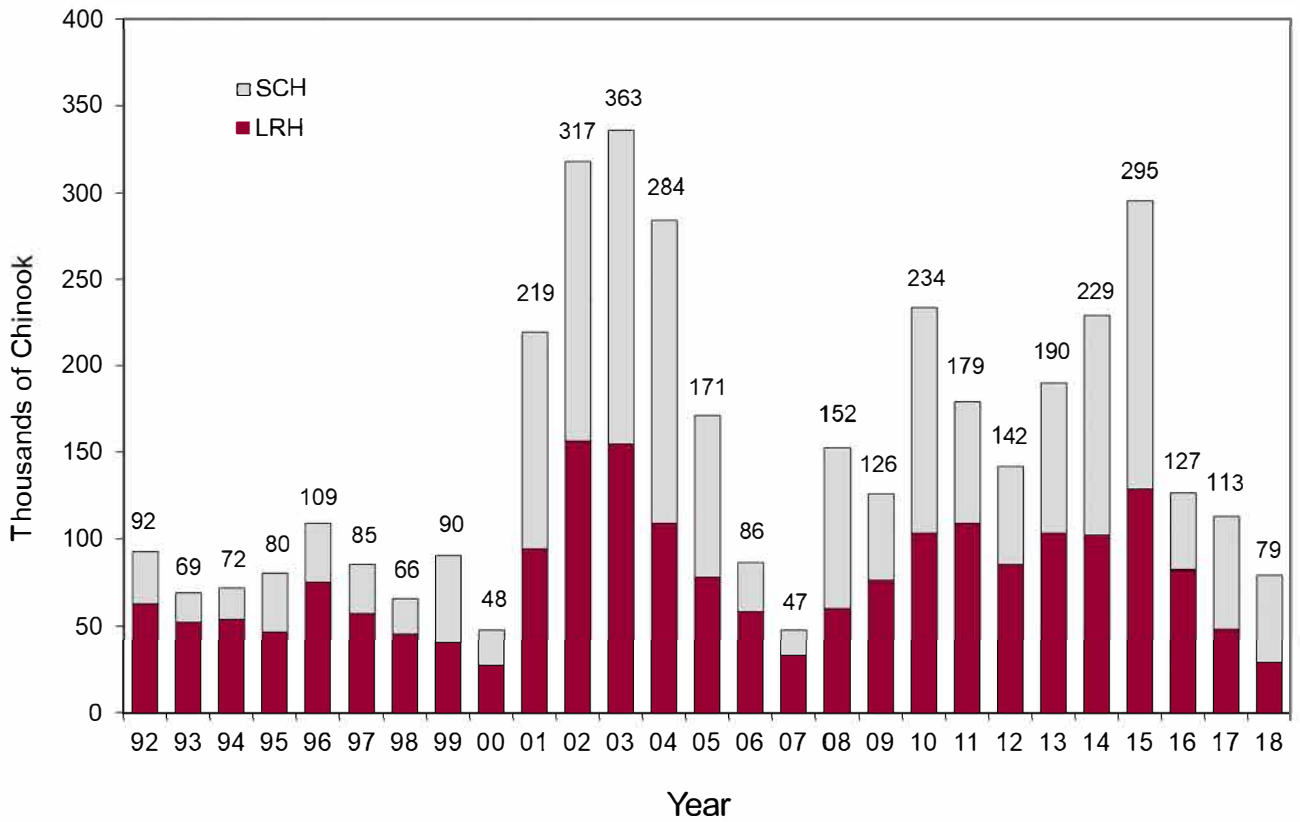


OCN Spawner Escapement by Sub-Aggregate

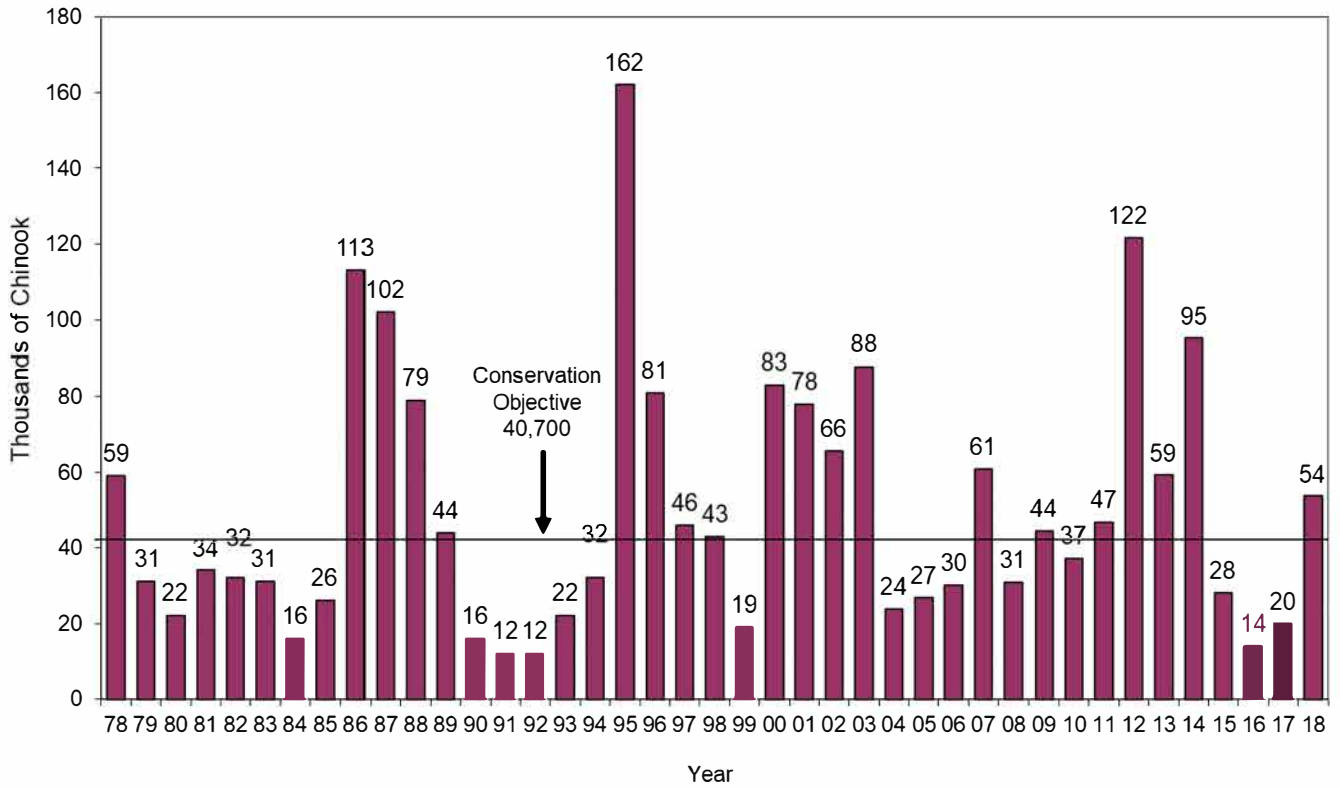
(percent of full-seeding, with spawner numbers included within bars)



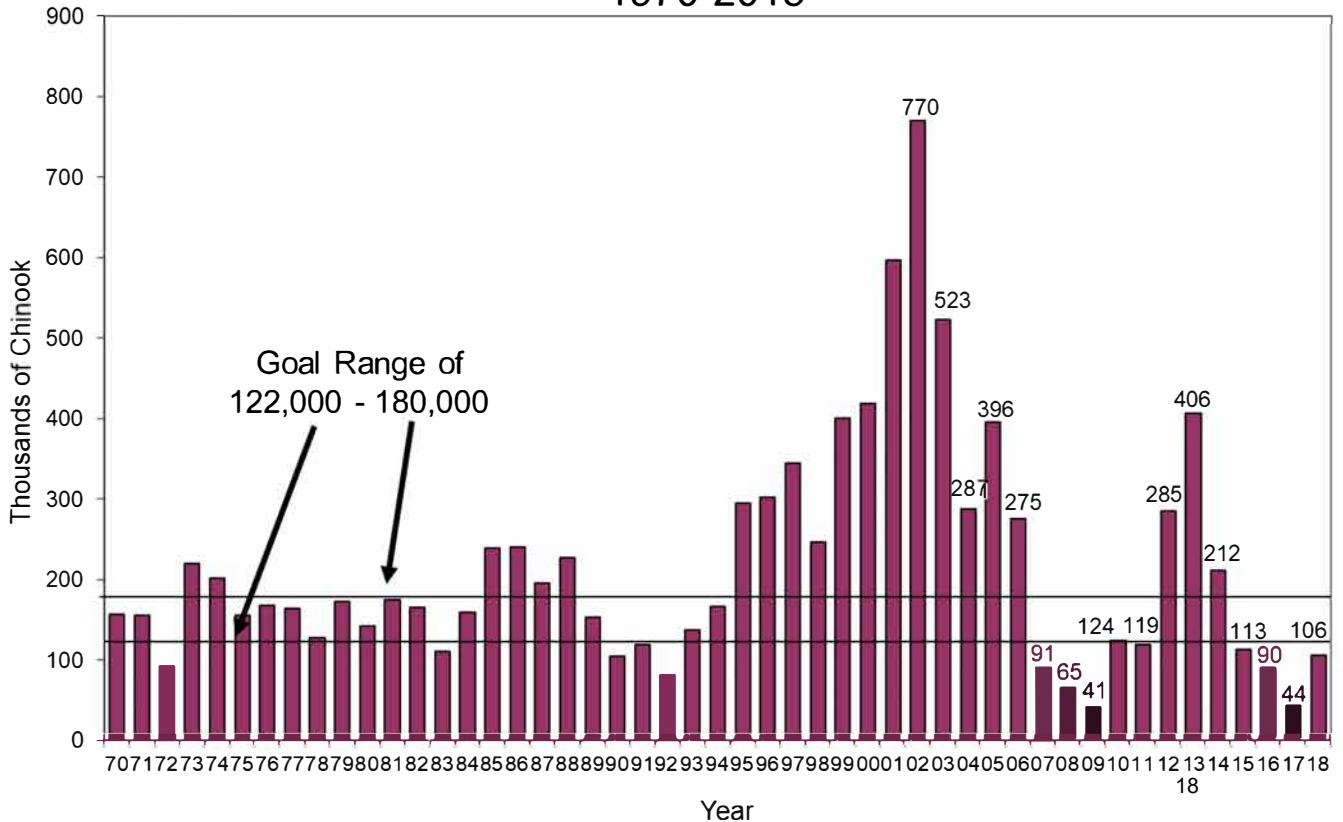
Columbia River Tule Chinook Ocean Escapement, 1992-2018



Klamath River Natural Fall Chinook Adult Spawner Escapement, 1978-2018



Sacramento River Adult Fall Chinook Escapement, 1970-2018



2018 Ocean Abundance Estimates for Select Salmon Stocks Preseason vs. Postseason

Coho	Preseason Expectations	Postseason	Post - Pre
Oregon Production Index (OPI)			
Hatchery	294,100	149,400	-144,700
Oregon Coast Natural	54,900	81,300	26,400
Lower Columbia Natural	21,900	29,700	7,800

Chinook

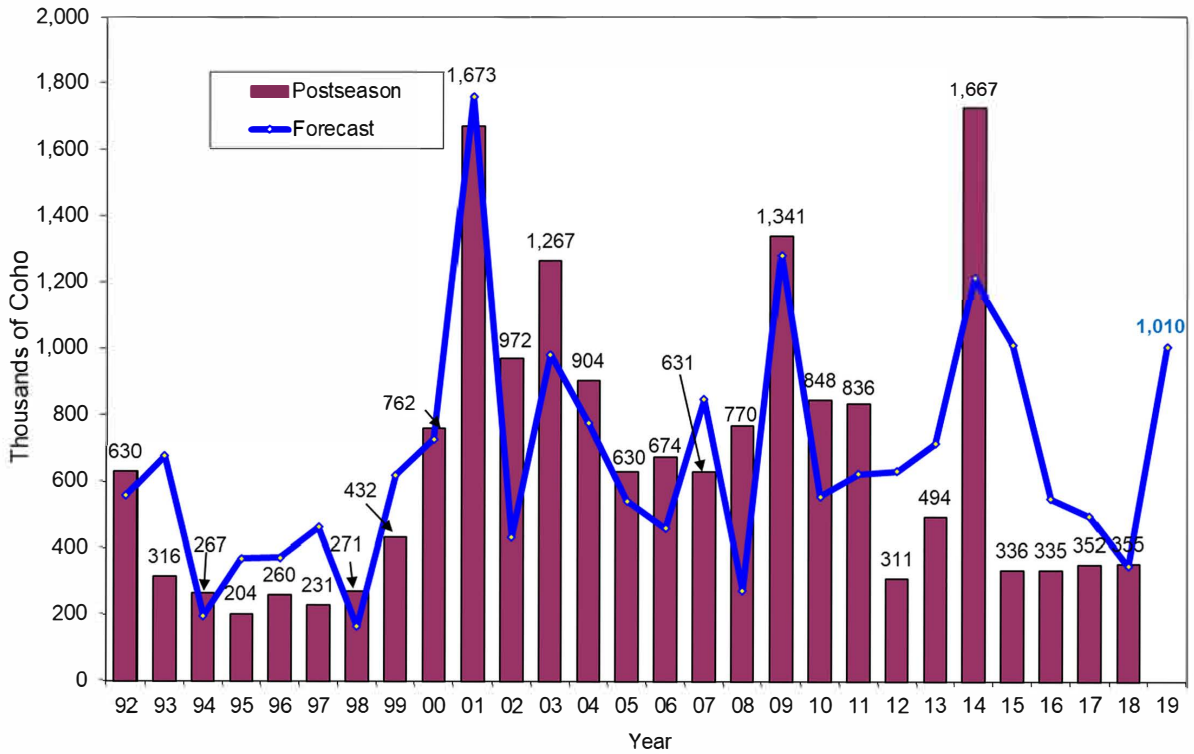
Sacramento Index (Fall Chinook)	230,700	104,000	-126,700
Klamath	age 3 - 330,000 age 4 - 28,400	397,600 11,000	67,600 -17,400
Rogue Fall	Index - 462,800	NA	
Oregon Coast North Migrating	Poor Returns	Lower survey results and returns.	

Columbia River Chinook 1/

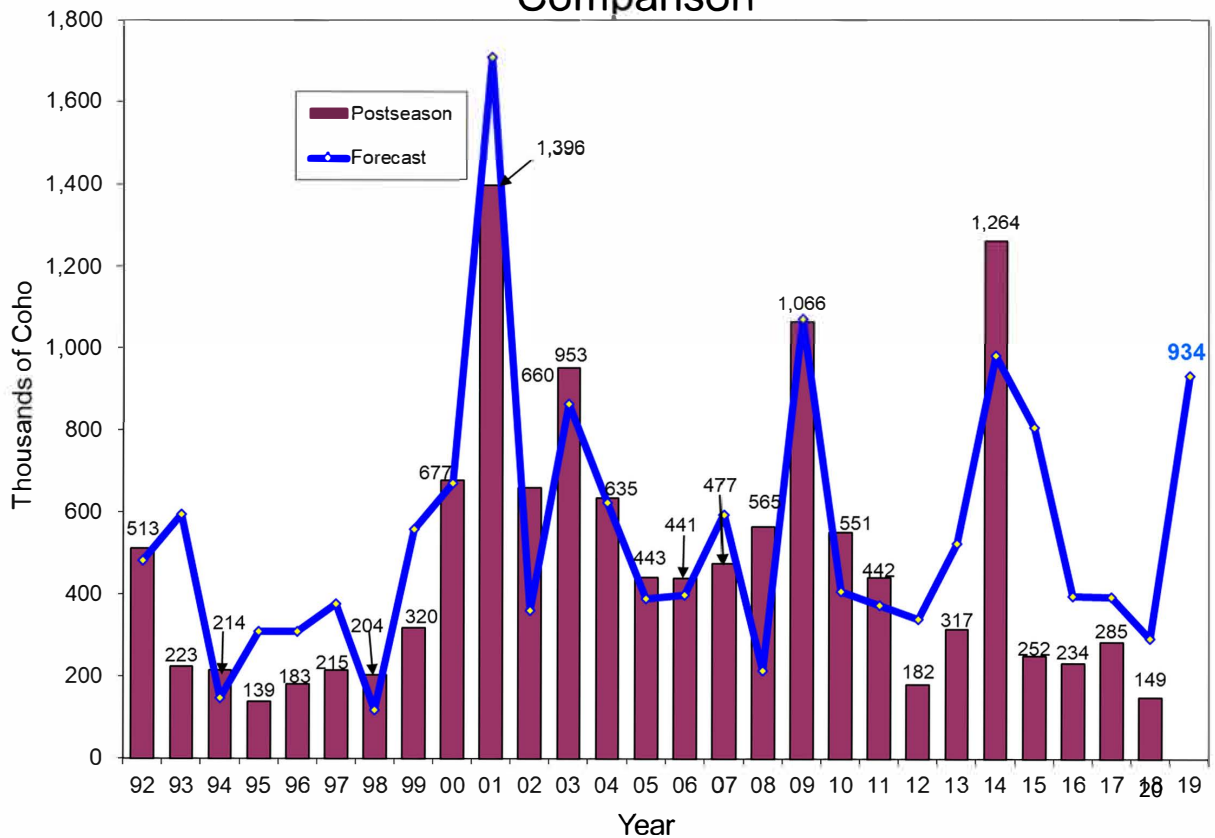
Tules	112,500	79,300	-33,200
Fall Brights	245,500	203,300	-42,200
Lower River Wild	7,600	8,300	700
Upriver Spring	166,700	115,100	-51,600
Willamette Spring	53,800	37,400	-16,400

1/ Preseason expectations to the mouth of the Columbia River.

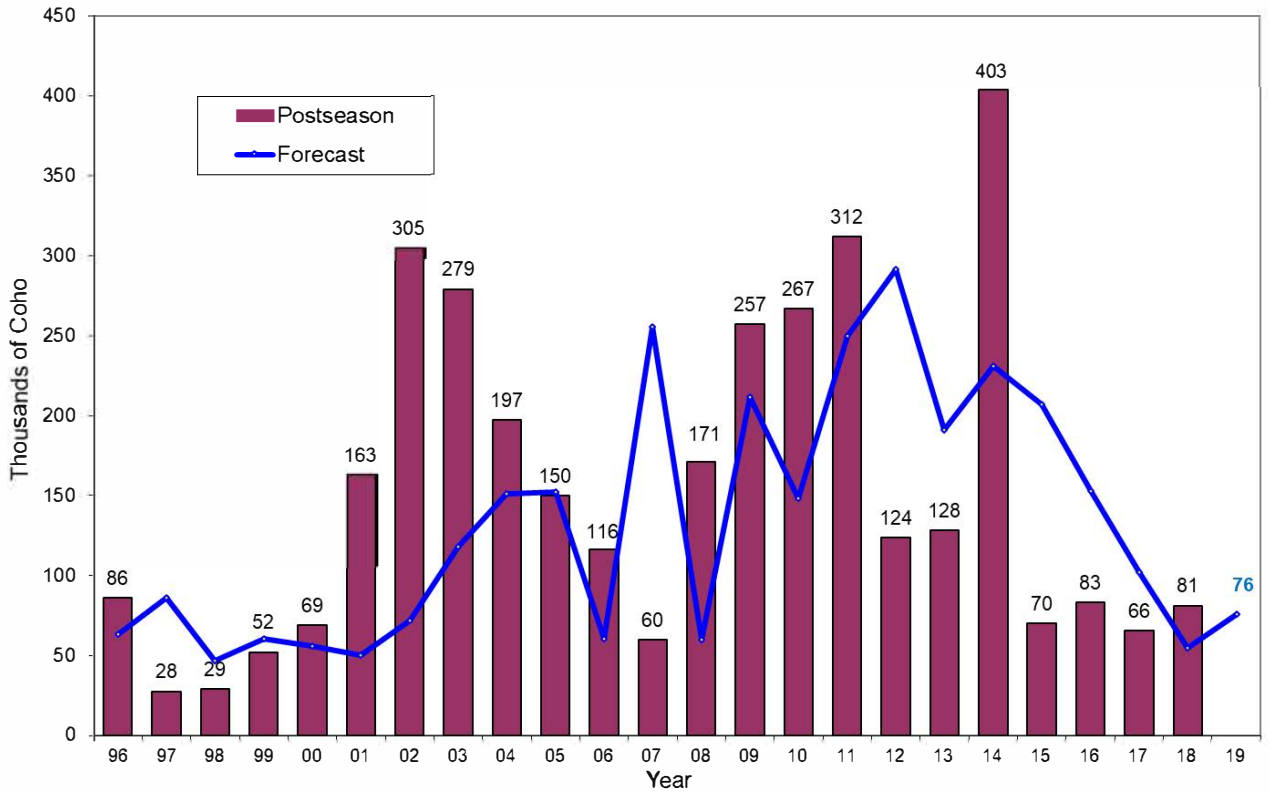
Total OPI Coho Forecast for 2019 with Preseason Forecast and Postseason Estimate Comparison



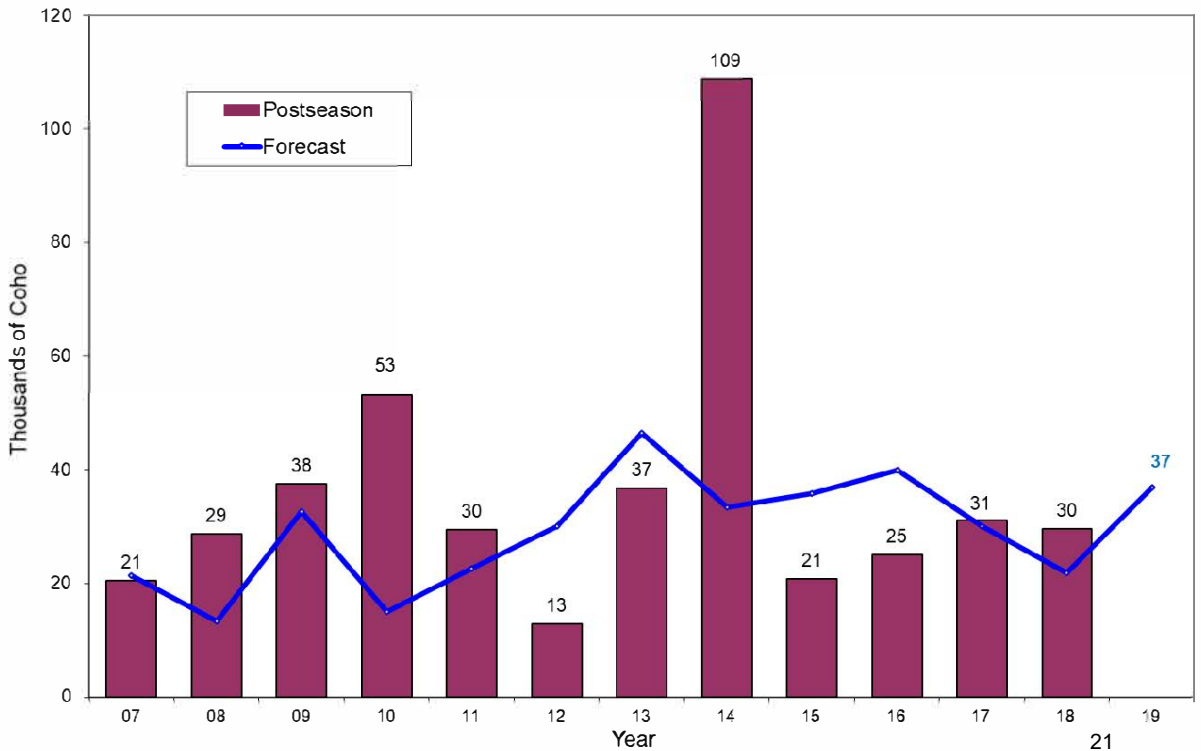
OPI Hatchery Coho Forecast for 2019 with Preseason Forecast and Postseason Estimate Comparison



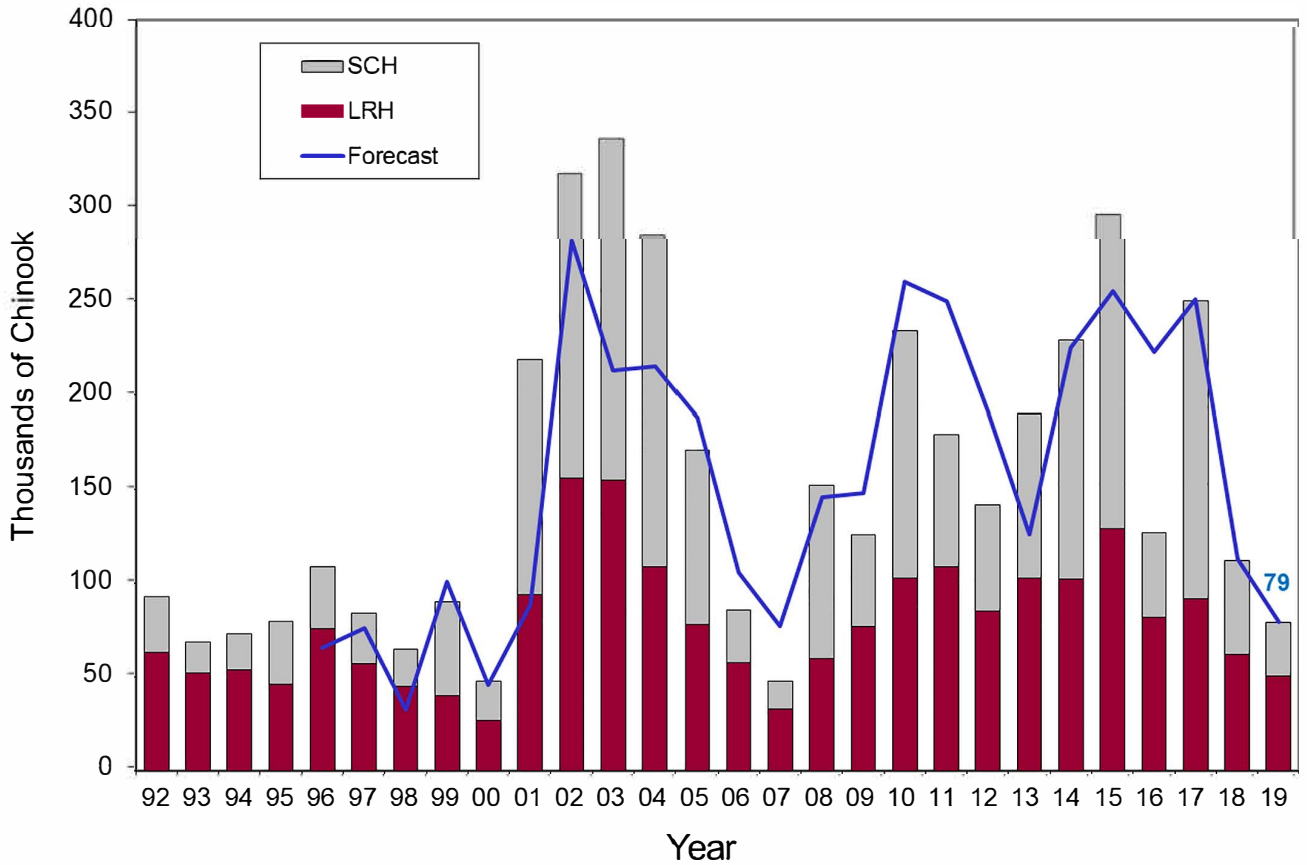
OCN Coho Forecast for 2019 with Preseason Forecast and Postseason Estimate Comparison



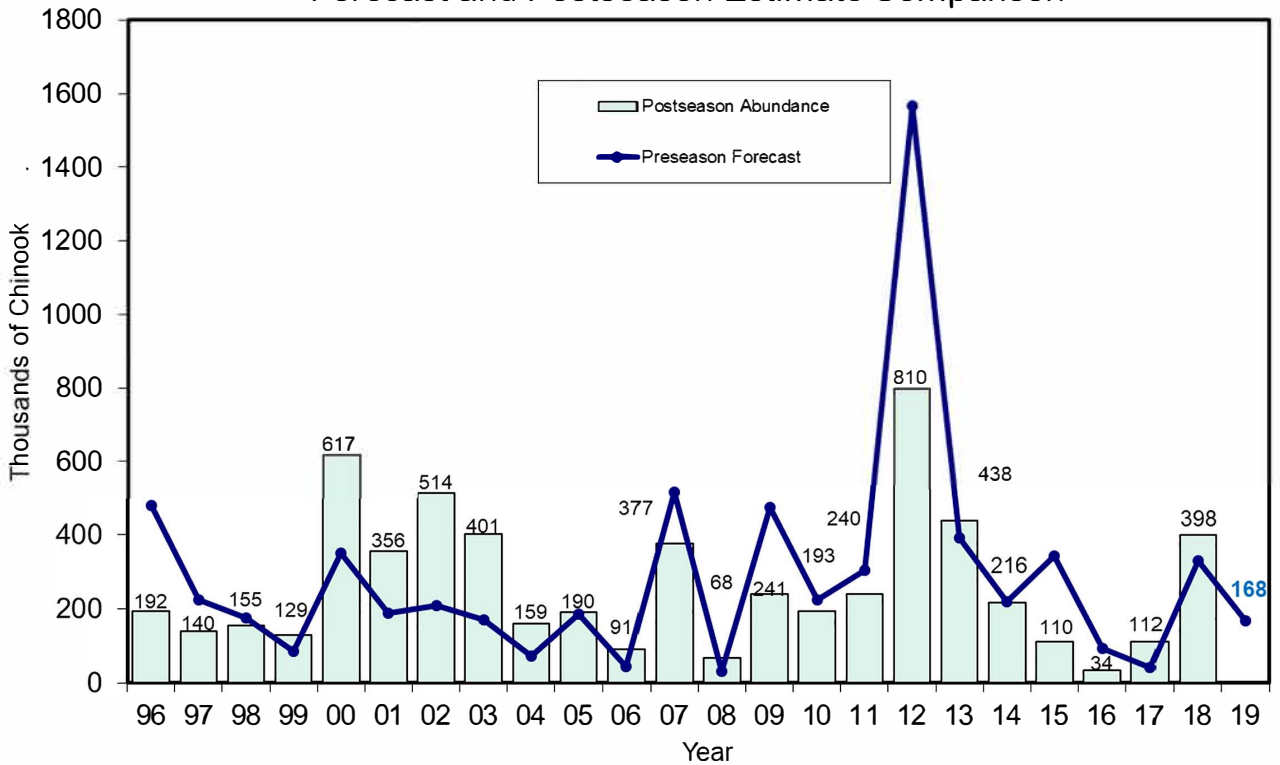
LCN Coho Forecast for 2019 with Preseason Forecast and Postseason Estimate Comparison



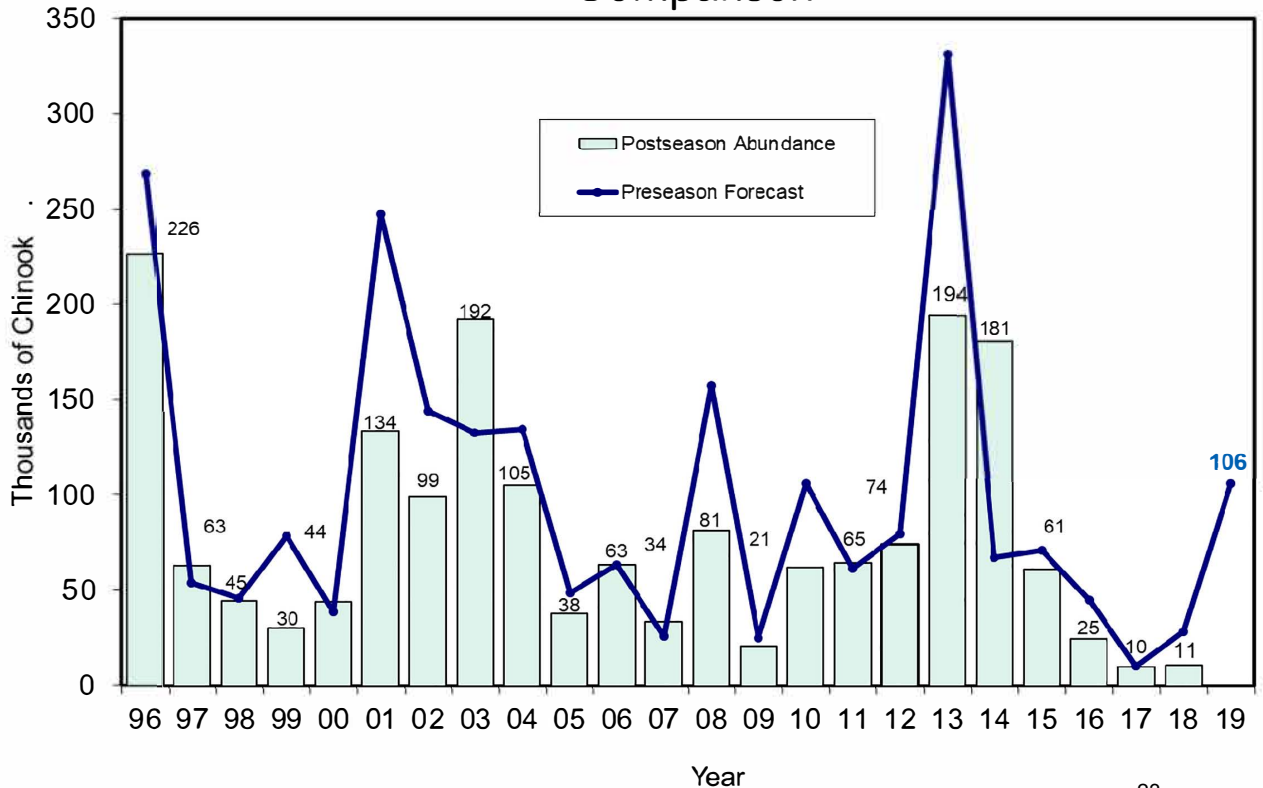
Columbia R. Tule Chinook Ocean Escapement Forecast for 2019 with Postseason Estimate and Preseason Forecast Comparison



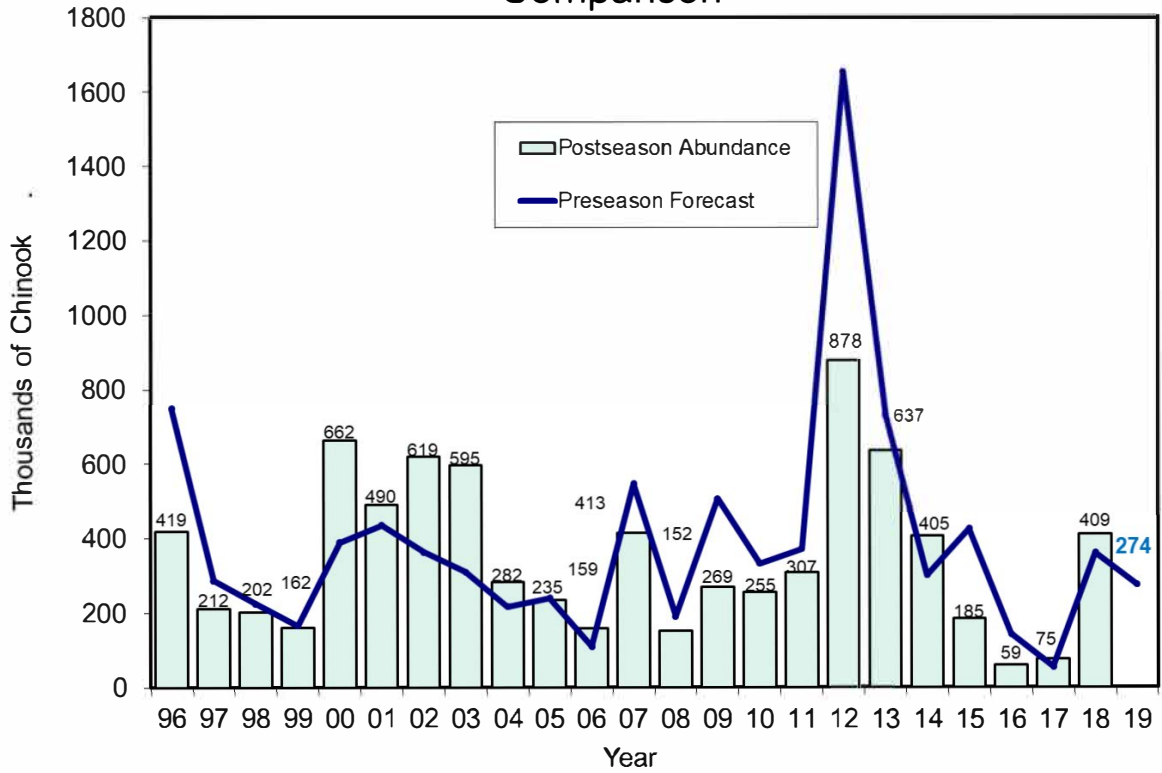
Klamath R. Fall Chinook Age-3 Forecast for 2019 with Preseason Forecast and Postseason Estimate Comparison



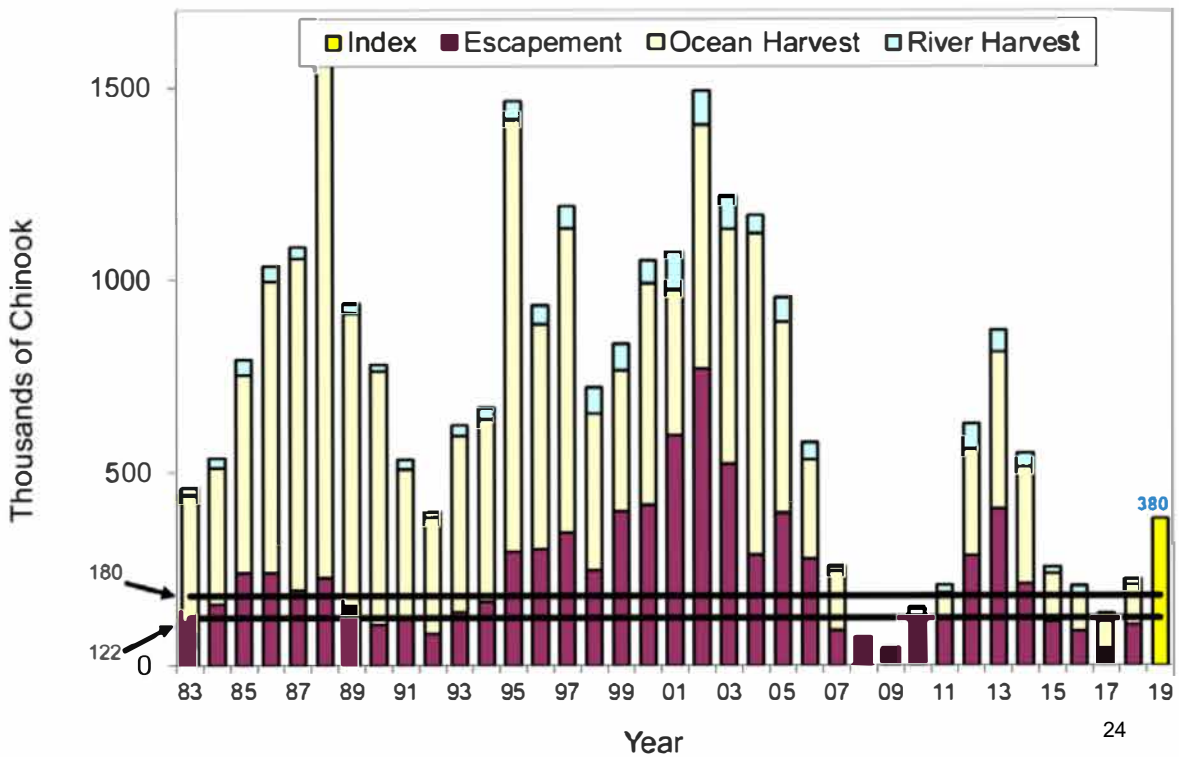
Klamath R. Fall Chinook Age-4 Forecast for 2019 with Preseason Forecast and Postseason Estimate Comparison



Klamath R. Fall Chinook Adult Forecast for 2019 with Preseason Forecast and Postseason Estimate Comparison



Sacramento R. Fall Chinook Escapements and Harvest, 1983-2018; and 2019 Index



Preliminary 2019 Ocean Abundance Forecasts for Select Salmon Stocks

Coho	Preseason Expectations	Comments
Oregon Production Index (OPI)		
Hatchery	933,500	639,400 more than 2018 Forecast
Oregon Coast Natural	76,100	21,2000 more than 2018 Forecast
Lower Columbia Natural	36,900	15,000 more than 2018 Forecast

Chinook

Sacramento Index (Fall Chinook)	379,600	150,200 more than 2018 Forecast
Klamath	age 3 - 167,500 age 4 - 106,100	162,500 less than 2018 Forecast 77,700 more than 2018 Forecast
Rogue Fall	Index - 383,500	79,300 less than 2018 Forecast
Oregon Coast North Migrating	Below recent year average	Decreasing spawner counts

Columbia River Chinook ^{1/}

Tules	100,500	12,000 less than 2018 Forecast
Fall Brights	254,100	8,600 more than 2018 Forecast
Lower River Wild	13,700	6,100 more than 2018 Forecast
Upriver Spring	99,300	67,400 less than 2018 Forecast
Willamette Spring	40,200	13,600 less than 2018 Forecast

^{1/} Preseason expectations to the mouth of the Columbia River.

Oregon Coastal Natural Coho Spawning Escapement Estimates, 2004-2018

Component and Basin	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2004-2018 Avg.
NORTHERN																
Necanicum	2,198	1,218	750	431	1,055	3,827	4,445	2,120	902	798	5,727	847	936	529	393	1,745
Nehalem	18,736	10,451	11,614	14,033	17,205	21,753	32,215	15,322	2,963	4,539	30,577	3,079	7,549	5,486	3,989	13,301
Tillamook	2,532	1,995	8,774	2,295	4,828	16,251	14,890	19,250	1,686	4,402	20,090	1,345	7,102	2,927	1,976	7,356
Nestucca	4,695	686	1,876	394	1,844	4,252	1,947	7,857	1,751	946	6,369	1,029	2,412	4,495	1,075	2,775
Ind. Tribs	661	2,116	1,121	376	639	2,052	1,473	1,341	218	271	4,607	440	699	206	264	1,099
TOTAL	28,822	16,466	24,135	17,529	25,571	48,135	54,970	45,890	7,520	10,956	67,370	6,740	18,698	13,643	7,697	26,276
NORTH CENTRAL																
Salmon	1,642	79	513	59	652	753	1,382	3,636	297	1,165	3,680	332	1,054	450	105	1,053
Siletz	8,179	14,567	5,205	2,197	20,634	24,070	6,283	33,094	4,495	7,660	19,496	2,216	3,015	5,202	4,040	10,690
Yaquina	5,539	3,441	4,247	3,158	10,913	11,182	8,589	19,074	6,268	3,553	25,582	2,400	3,730	2,491	4,672	7,656
Beaver Ck.	4,569	2,264	1,950	611	1,218	3,575	2,072	2,389	1,878	2,015	6,564	332	1,709	1,553	494	2,213
Alsea	5,233	13,907	1,972	2,146	13,320	14,638	9,688	28,337	8,470	9,283	25,786	6,185	7,375	4,377	5,112	10,389
Siuslaw	8,729	16,907	5,869	3,552	17,491	30,607	25,983	28,082	11,946	14,118	38,896	10,352	9,141	7,129	6,688	15,699
Ind. Tribs.	8,179	242	1,468	547	3,910	1,610	2,548	4,487	492	1,929	1,890	856	464	1,646	972	2,083
TOTAL	42,070	51,407	21,224	12,270	68,138	86,435	56,545	119,099	33,846	39,723	121,894	22,673	26,488	22,848	22,083	49,783
SOUTH CENTRAL																
Umpqua	29,920	42,532	18,092	11,783	37,868	57,984	70,019	94,655	20,969	27,016	66,272	14,860	7,494	15,492	21,987	35,796
Coos	23,337	17,048	11,266	1,329	14,881	26,979	27,658	10,999	9,414	6,884	38,880	3,030	4,624	2,689	7,074	13,739
Coquille	22,138	11,806	28,577	13,968	8,791	22,286	23,564	55,667	5,911	23,637	41,660	3,357	9,494	4,641	5,201	18,713
Floras Ck.	7,446	506	1,104	340	786	3,203	11,329	9,217	2,502	1,936	1,022	1,585	942	693	278	2,859
Sixes R.	403	105	294	97	43	176	92	334	34	567	410	168	120	69	95	200
Coastal Lakes	18,642	14,725	24,127	8,955	23,608	17,349	38,744	20,281	18,922	13,659	22,010	4,729	8,044	1,302	6,704	16,120
Ind. Tribs.	-	-	-	-	0	188	484	101	48	33	106	0	0	0	10	88
TOTAL	101,886	86,722	83,460	36,472	85,977	128,165	171,890	191,254	57,800	73,732	170,360	27,729	30,718	24,886	41,349	87,493
SOUTH																
Rogue	24,509	9,957	3,911	5,136	414	2,566	3,671	4,545	5,474	11,210	2,409	4,072	6,302	4,529	8,266	6,465
COASTWIDE	197,287	164,552	132,730	71,407	180,100	265,301	287,076	360,788	104,640	135,621	362,033	61,214	82,206	65,906	79,395	170,017

Lower Columbia ESU

Annual estimates of wild adult coho spawner abundance in Oregon basins within the Lower Columbia ESU, 2004-2018

06-Feb-19

		Wild Coho Spawner Abundance by Return Year															Preliminary	Prev. 10yr
Population	Estimate Type	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Average	
Lower Columbia Coho ESU (OR Only)																		
Youngs Bay	Spawning Ground Survey ^a	128	77	63	2	63	0	48	145	120	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-	
	Klaskanine Hatchery Weir Passage	21	2	11	19	19	26	20	16	9	10	57	7	16	29	9	21	
	Total	149	79	74	21	82	26	68	161	129	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	93	
Big Creek	Spawning Ground Survey ^a	0	39	n.a.s.	0	131	305	10	15	221	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-	
	Big Cr Hatchery Weir Passage	112	180	225	212	229	487	269	145	188	223	606	88	198	263	49	270	
	Total	112	219	225	212	360	792	279	160	409	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	400	
Clatskanine	Spawning Ground Survey	398	494	421	927	995	1,195	1,686	1,546	619	611	3,246	240	464	566	32	1,117	
	Total	398	494	421	927	995	1,195	1,686	1,546	619	611	3,246	240	464	566	32	1,117	
Scappoose	Spawning Ground Survey ^a	719	336	689	354	290	673	1,824	268	161	889	1,477	465	1,183	315	139	755	
	Bonnie Falls Trap Count	36	12	30	21	4	105	136	29	49	90	110	22	17	72	20	63	
	Total	755	348	719	375	294	778	1,960	297	210	979	1,587	487	1,200	387	159	818	
Clackamas	Spawning Ground Survey ^a	959	79	959	239	859	2,521	419	437	264	822	2,440	309	290	520	171	888	
	N Fk Clackamas Dam Count	1,774	1,222	2,505	3,199	835	5,461	1,338	1,780	1,315	2,388	8,232	1,475	1,338	7,078	2,882	3,124	
	Total	2,733	1,301	3,464	3,438	1,694	7,982	1,757	2,217	1,579	3,210	10,672	1,784	1,628	7,598	3,053	4,012	
Sandy	Spawning Ground Survey ^a	4	0	n.a.s.	687	1,277	1,493	667	3,300	1,129	507	5,403	380	712	2,025	440	1,689	
	Sandy Hatchery Weir Passage ^b	184	139	101	(80)	(57)	(169)	234	194	36	160	539	63	227	359	81	227	
	Marmot Dam Count	1,025	717	822	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	-	
	Total	1,213	856	923	687	1,277	1,493	901	3,494	1,165	667	5,942	443	939	2,384	527	1,871	
Above Marmot (Survey Est.)	192	381	1,518	Reported above. From 2007 on use SGS estimate since Marmot Dam Removal.														
Lower Gorge Tribs.	Spawning Ground Survey ^c	n.a.s.	263	226	126	223	468	920	216	96	151	362	30	395	n.s.	25	318	
	Total	n.a.s.	263	226	126	223	468	920	216	96	151	362	30	395	n.a.	25	318	
Hood River	Spawning Ground Survey ^{ac}	n.a.s.	1,235	341	120	19	0	223	232	169	561	42	4	57	n.s.	107	145	
	Powerdale Dam Count	126	27	32	50	50	65	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a.	n.a.	58	
	Total	126	1,262	373	170	69	65	223	232	169	561	42	4	57	n.a.	107	158	
Lower Columbia Coho ESU (Oregon Portion Only)		5,486	4,822	6,425	5,956	4,994	12,799	7,794	8,323	4,376	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	7,657	
ESU Total (minus Youngs Bay & Big Creek totals)		5,225	4,524	6,126	5,723	4,552	11,981	7,447	8,002	3,838	6,179	21,851	2,988	4,683	10,935	3,897	8,246	
Spawner/Spawner Ratio			1.20	1.21	1.09	1.04	1.99	1.31	1.67	0.34	0.83	2.73	0.78	0.76	0.50	1.30	1.19	

Ancillary Coho Counts (outside ESU)

Not Applicable	Willamette Falls Count (total adult c Spawner/Spawner Ratio)	2,849	1,322	6,188	6,596	4,048	25,298	20,103	3,393	6,573	18,627	18,061	2,650	2,559	3,041	2,557	10,435
			0.57	0.78	2.32	3.06	4.09	3.05	0.84	0.26	0.93	5.32	0.40	0.14	0.17	0.96	1.83

a = Spawning ground estimate does not include area above listed counting stations.

b = Number of unmarked adult coho passed above otherwise impassable, listed counting station. Note: The 2007-2009 Sandy Hatchery count is the number released above the old Marmot Dam site. The dam was removed in Oct 2007.

c = Hatchery:Wild ratios based on scale data not carcass fin marks for this population. thus the count is included in the spawning ground survey estimate area and not added in. Starting in 2010 unmarked fish were released above the Sandy Hatchery weir. This area is not sampled, so these fish are added into the total abundance.

n.a.s. = Not adequate surveys. Certain years may have populations omitted if an estimate could not be calculated due to weather events and resulting lack of surveys that meet estimate protocol requirements.

OCN Work Group Matrix for Oregon coastal wild coho salmon showing maximum allowable fishery mortality rates (2019 in bold – preliminary expectation).

Parental Escapement		Marine Survival Index			
		Extremely Low	Low	Medium	High
High	> 0.75 full seeding	≤ 8.0%	≤ 15.0%	≤ 30.0%	≤ 45.0%
Medium	0.75 to 0.50 full seeding	≤ 8.0%	≤ 15.0%	≤ 20.0%	≤ 38.0%
Low	0.50 to 0.20 full seeding	≤ 8.0%	≤15.0%	≤ 15.0%	≤ 25.0%
Very Low	0.20 to 0.10 of full seeding	≤ 8.0%	≤ 11.0%	≤ 11.0%	≤ 11.0%
Critical	< 0.10 of full seeding	0 – 8.0%	0 – 8.0%	0 – 8.0%	0 – 8.0%

Matrix for Lower Columbia wild coho salmon showing maximum allowable fishery mortality rates (2019 in bold - preliminary expectation).

Parental Escapement (percent of full seeding)	Marine Survival Index				
	Very Low	Low	Medium	High	Very High
	≤0.06%	≤0.08%	≤0.17%	≤0.40%	>0.40%
Normal	≤10%	≤15%	≤18%	≤23%	≤30%

Lower Columbia River Tule Chinook Harvest Exploitation Rate Limitations (2019 in bold – preseason expectation)

LCR Abundance Forecast	Total Exploitation Rate Limit (all fisheries)
<30,000	0.30
30-40,000	0.35
40-85,000	0.38
>85,000	0.41
