

# REVIEW OF 2020 OCEAN SALMON FISHERIES

Stock Assessment and Fishery Evaluation Document  
for the Pacific Coast Salmon Fishery Management Plan



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TABLE I-3. Summary of actual ocean recreational salmon fishing regulations for 2020. (Page 2 of 2)

Area and Season	Salmon Species	Actual Quota		Daily Limit and Special Restrictions <sup>b/</sup>
		Chinook	Coho <sup>a/</sup>	
OR/CA Border to Horse Mt. (California KMZ) June 6-Aug. 9	All except coho	None	-	Two salmon daily. Chinook min. size limit of 20 inches total length. Klamath Control Zone closed in August.
Horse Mt. to Pt. Arena (Fort Bragg) May 1-Nov. 8	All except coho	None	-	Two salmon daily. Chinook min. size limit of 20 inches total length.
Pt. Arena to Pigeon Pt. (San Francisco) May 1-Nov. 8	All except coho	None	-	Two salmon daily. Chinook min. size limit of 20 inches total length.
Pigeon Pt. to U.S./Mexico Border (Monterey) May 1-Oct. 4	All except coho	None	-	Two salmon daily.

a/ All coho fisheries and quotas are mark-selective for coho with a healed adipose fin clip unless otherwise noted. Total coho quota for the North of Falcon area is 26,500 marked fish.

b/ Unless otherwise noted, minimum size limits are 24 inches for Chinook and 16 inches for coho. Seasons open 7 days per week. For a complete description of gear restrictions, see the annual ocean salmon regulations or the annual Preseason Report III, Table 2.

c/ Total preseason recreational Chinook quota for the North of Falcon area is 26,360 fish. Numbers presented for recreational Chinook are sub area guidelines (not quotas).

d/ Preseason coho quotas were 2,760 for Neah Bay and 690 for LaPush. Preseason coho quota for South of Cape Falcon for the non-mark selective fishery was 3,000.

TABLE I-4. Council area commercial and recreational ocean salmon fishing effort and landings by state. Data are provisional, pending further review of data compilation methods. A double dash ("-") indicates no records are available. Fewer than 500 pounds may be shown as zero. (Page 3 of 4)

Year or Average	COMMERCIAL TROLL							RECREATIONAL					Salmon Per Angler Trip
	Effort (boat days fished)	Catch						Effort (salmon angler trips)	Catch (numbers of fish)				
		Numbers of Fish			Thousands of Pounds (Dressed Weight)				Chinook	Coho	Pink	Total	
		Chinook	Coho	Pink	Chinook	Coho	Pink						
<b>CALIFORNIA<sup>ef</sup></b>													
1966-70	--	486,300	319,700	7,400	4,925	2,352	37	189,800	120,800	33,200	0	154,000	0.8
1971-75	45,200	562,700	361,800	4,700	5,743	5,743	22	247,400	169,600	48,300	0	217,900	0.9
1976-80	95,003	618,637	210,303	500	5,867	1,184	3	163,469	95,422	31,158	0	126,580	0.8
1981-85	59,765	462,652	58,726	2,400	4,454	345	14	146,950	109,097	19,866	0	128,963	0.9
1986-90	58,511	794,703	46,780	300	8,097	262	2	240,667	166,395	40,388	0	206,783	0.9
1991-95	25,700	341,928	42,475	0	3,429	94	0	215,996	170,296	22,399	0	192,695	0.9
1996-00	18,299	368,001	-	0	4,037	-	0	194,586	157,742	452	0	158,194	0.8
2001-05	17,187	383,921	-	0	4,877	-	0	180,127	147,974	979	0	148,953	0.8
2006	8,259	69,728	-	0	1,043	-	0	126,506	96,292	1,626	0	97,918	0.8
2007	10,671	114,141	-	0	1,525	-	0	105,889	47,704	746	0	48,450	0.5
2008	-	-	-	-	-	-	-	391	6	-	0	6	0.0
2009	-	-	-	-	-	-	-	5,359	672	8	0	680	0.1
2010	1,975	15,088	-	0	228	-	0	48,667	14,809	175	0	14,984	0.3
2011	6,973	70,028	-	0	992	-	0	91,676	49,822	316	0	50,138	0.5
2012	14,522	215,585	-	0	2,530	-	0	148,007	123,926	101	0	124,027	0.8
2013	17,293	297,627	-	0	3,793	-	0	147,296	116,074	361	0	116,435	0.8
2014	14,394	168,283	-	0	2,253	-	0	120,307	74,840	479	0	75,319	0.6
2015	13,011	110,507	-	0	1,188	-	0	81,778	37,480	41	0	37,521	0.5
2016	7,198	55,185	-	0	615	-	0	70,099	38,012	70	0	38,082	0.5
2017	6,725	42,326	-	0	497	-	0	73,974	62,197	465	0	62,662	0.8
2018	7,577	78,416	-	0	930	-	0	96,625	87,314	195	0	87,509	0.9
2019 <sup>cf</sup>	15,774	271,697	-	0	2,603	-	0	103,711	88,464	696	0	89,160	0.9
2020 <sup>cf/f</sup>	12,268	177,334	-	0	1,923	-	0	59,431	39,772	52	0	39,824	0.7

TABLE I-7. Estimated incidental mortality of Chinook and coho in 2020 ocean salmon fisheries. Observed incidental mortality was calculated by scaling preseason projections of incidental mortality by the ratio of observed to projected catch.

Area and Fishery	2020	2020	2020	Observed in 2020	
	Catch Projection	Mortality <sup>a/</sup> Projection	Bycatch Projection <sup>b/</sup>	Catch	Bycatch Mortality <sup>a/</sup>
<b>CHINOOK (thousands of fish)</b>					
<u>OCEAN FISHERIES:</u>					
NORTH OF CAPE FALCON					
Treaty Indian Ocean Troll	35.0	3.6	8.9	2.4	0.2
Non-Indian Commercial Troll	27.6	12.7	46.0	12.5	5.8
Recreational	26.4	3.2	14.8	7.7	0.9
CAPE FALCON TO HUMBUG MT. <sup>c/</sup>					
Commercial Troll	39.4	13.0	39.3	11.7	3.9
Recreational	6.1	0.8	3.2	5.4	0.7
HUMBUG MT. TO OR/CA BORDER <sup>c/</sup>					
Commercial Troll	1.3	0.4	1.3	0.8	0.3
Recreational	1.6	0.2	0.8	1.6	0.4 <sup>e/</sup>
OR/CA BORDER TO HORSE MT.					
Commercial Troll	-	-	-	-	-
Recreational <sup>d/</sup>	5.6	0.8	2.9	1.8	0.4 <sup>e/</sup>
HORSE MT. TO PT. ARENA					
Commercial Troll	7.8	2.6	7.8	1.8	1.0 <sup>e/</sup>
Recreational <sup>d/</sup>	8.1	1.1	4.3	1.9	0.2 <sup>e/</sup>
PT. ARENA TO PIGEON PT.					
Commercial Troll	96.9	32.0	96.8	145.3	42.3 <sup>e/</sup>
Recreational <sup>d/</sup>	41.2	5.6	19.7	34.8	3.4 <sup>e/</sup>
SOUTH OF PIGEON PT.					
Commercial Troll	39.3	13.0	39.2	30.2	7.0 <sup>e/</sup>
Recreational <sup>d/</sup>	7.5	1.0	3.6	1.3	0.2 <sup>e/</sup>
TOTAL OCEAN FISHERIES					
Commercial Troll	247.2	77.2	239.2	204.8	60.4
Recreational <sup>d/</sup>	96.5	12.7	49.3	54.4	6.2
<u>INSIDE FISHERIES:</u>					
Area 4B	-	-	-	-	-
Buoy 10	17.6	10.4	2.0	14.6	1.8 <sup>e/</sup>
<b>COHO (thousands of fish)</b>					
<u>OCEAN FISHERIES:</u>					
NORTH OF CAPE FALCON					
Treaty Indian Ocean Troll	16.5	1.5	3.4	14.4	1.3
Non-Indian Commercial Troll	2.0	2.8	10.2	0.8	0.5
Recreational	26.5	6.3	29.0	24.0	4.9
SOUTH OF CAPE FALCON					
Commercial Troll	-	2.4	9.1	-	0.7
Recreational	25.0	9.3	49.1	17.1	6.8
TOTAL OCEAN FISHERIES					
Commercial Troll	18.5	6.7	22.7	15.2	2.5
Recreational	51.5	15.6	78.2	41.1	11.7
<u>INSIDE FISHERIES:</u>					
Area 4B	-	-	-	-	-
Buoy 10	16.3	3.9	17.6	7.1	1.7 <sup>e/</sup>

a/ The bycatch mortality reported in this table consists of drop-off mortality (includes predation on hooked fish) plus hook-and-release mortality of Chinook and coho salmon in Council-area fisheries. Drop-off mortality for both Chinook and coho is assumed to be equal to 5% of total encounters. The hook-and-release mortality (HRM) rates used for both Chinook and coho are: Commercial: 26%, recreational north of Pt. Arena: 14%, recreational, south of Pt. Arena: 15% (based on the proportion of fish caught using mooching versus trolling gear, and the HRM rates of 42.2% and 14% for these gear types, respectively).

b/ Bycatch calculated as drop-off mortality plus fish released.

c/ Includes Oregon territorial water, late season Chinook fisheries.

d/ Recreational estimates for California do not include May and June due to restrictions on sampling caused by the COVID-19 pandemic.

e/ Based on reported released Chinook or coho. Reported releases in California fisheries are used as a surrogate in Oregon fisheries.

TABLE II-1. Sacramento River natural area and hatchery adult fall Chinook escapement in numbers of fish.

Year or Average	Upper River <sup>a/</sup>			Lower River			Total		Grand Total
	Hatchery	Natural <sup>b/</sup>	Subtotal	Hatchery	Natural <sup>b/</sup>	Subtotal	Hatchery	Natural <sup>b/</sup>	
1981-85	11,557	57,913	69,470	16,917	81,880	98,797	28,475	139,793	168,268
1986-90	11,507	87,396	98,903	11,521	73,633	85,154	23,028	161,029	184,057
1991-95	11,948	60,151	72,099	16,951	70,691	87,642	28,899	130,842	159,741
1996-00	29,965	153,777	183,742	21,137	137,071	158,207	51,102	290,848	341,949
2001-05	72,122	197,215 <sup>c/</sup>	269,337	30,520	214,652	245,172	102,643	411,867	514,510
2006	56,819	89,933	146,752	21,722	106,556	128,278	78,541	196,489	275,030
2007	11,543	36,079	47,622	9,759	33,993	43,752	21,302	70,072	91,374
2008	10,181	36,274	46,455	7,867	11,042	18,909	18,048	47,316	65,364
2009	5,433	12,277	17,710	10,492	12,671	23,163	15,925	24,948	40,873
2010	8,666	25,688	34,354	24,484	65,438	89,922	33,150	91,126	124,276
2011	19,312	20,466	39,778	22,176	57,388	79,564	41,488	77,854	119,342
2012	77,318	67,190	144,508	41,878	99,043	140,921	119,196	166,233	285,429
2013	67,758	90,119	157,877	33,453	215,516	248,969	101,211	305,635	406,846
2014	17,937	80,407	98,344	25,872	88,260	114,132	43,809	168,667	212,476
2015	13,861	40,696	54,557	25,103	33,808	58,911	38,964	74,504	113,468
2016	8,306	10,563	18,869	25,096	45,734	70,830	33,402	56,297	89,699
2017	1,316	1,526	2,842	25,162	16,325	41,487	26,478	17,851	44,329
2018	8,207	18,317	26,524	25,570	53,372	78,942	33,777	71,689	105,466
2019	13,065	53,706	66,771	29,073	67,923	96,996	42,138	121,629	163,767
2020 <sup>d/</sup>	12,341	36,566	48,907	25,502	63,498	89,000	37,843	100,064	137,907
Goal <sup>e/</sup>									122,000

a/ Above the Feather River; 1971-1985 estimates include Tehama-Colusa Spawning Channel.

b/ Fish spawning in natural areas are the result of hatchery and natural production; estimates generally based on carcass surveys.

c/ Estimation methodology for 2002 was changed due to an extremely high Battle Creek escapement.

d/ Preliminary.

e/ Sacramento River fall Chinook  $S_{MSY}$ .

TABLE II-2. Klamath River adult inriver fall Chinook run size, spawning escapement, recreational catch, Indian gillnet harvest, and non-landed fishing mortalities in numbers of fish and percent of the total inriver run size.

Year or Average	Spawning Escapement				Inriver Recreational Catch		Indian Net Catch		Non-landed Fishing Mortality		Inriver Run Size
	Hatchery	Natural	Total	Percent	Numbers	Percent	Numbers	Percent	Numbers	Percent	Numbers
1981-85	11,746	27,667	39,413	63%	5,096	8%	17,128	27%	1,593	2%	63,230
1986-90	25,106	70,785	95,891	63%	15,145	10%	36,669	25%	3,498	2%	151,203
1991-95	18,084	47,932	66,016	74%	3,094	5%	10,574	19%	983	2%	80,666
1996-00	35,970	54,229	90,199	72%	6,817	6%	24,565	20%	2,275	2%	123,856
2001-05 <sup>a/</sup>	38,952	56,346	95,298	70%	7,659	5%	25,414	19%	2,366	2%	136,848
2006	19,522	30,163	49,685	81%	62	0%	10,283	17%	1,344	2%	61,374
2007	35,050	60,670	95,720	72%	6,312	5%	27,573	21%	2,526	2%	132,131
2008	13,552	30,850	44,402	63%	1,919	3%	22,259	32%	1,974	3%	70,554
2009	19,614	44,409	64,023	64%	5,651	6%	28,387	28%	2,583	3%	100,644
2010	18,052	37,225	55,277	61%	3,035	3%	29,887	33%	2,661	3%	90,860
2011	22,337	46,763	69,100	68%	4,147	4%	26,353	26%	2,377	2%	101,977
2012	55,939	121,543	177,482	60%	13,876	5%	95,386	32%	8,578	3%	295,322
2013	17,148	59,156	76,304	46%	19,800	12%	63,036	38%	5,885	4%	165,025
2014	31,276	95,104	126,380	79%	5,386	3%	25,967	16%	2,392	1%	160,396 <sup>b/</sup>
2015	11,085	28,112	39,197	50%	7,842	10%	28,048	36%	2,611	3%	77,821 <sup>b/</sup>
2016	3,578	13,937	17,515	71%	1,310	5%	5,160	21%	486	2%	24,582 <sup>b/</sup>
2017	11,213	19,904	31,117	94%	71	0%	1,880	6%	164	0%	33,232
2018	18,567	52,352	70,919	78%	4,110	5%	14,769	16%	1,262	1%	91,060
2019	5,178	20,022	25,200	68%	5,376	14%	5,989	16%	511	1%	37,084 <sup>b/</sup>
2020 <sup>c/</sup>	8,331	26,190	34,521	76%	5,117	11%	5,212	11%	557	1%	45,407
Goal	≥40,700 <sup>d/e/</sup>										

a/ Inriver run size includes a USFWS estimate of 30,550 fish (19% of the run) that died prior to spawning in September 2002.

b/ Total inriver run includes fish collected from the Klamath and Trinity rivers by the Yurok and Hoopa Valley tribes, respectively, to test for the presence of the parasite *Ichthyophthirius multifiliis* during the following years: 2014 - 272 adults; 2015 - 123 adults; 2016 - 111 adults, 2019 - 8 adults.

c/ Preliminary.

d/ In December 2011, Amendment 16 to the Salmon Fishery Management Plan was approved, which replaced the 35,000 spawning escapement floor with an SMSY management objective of 40,700 natural area adult spawners. The 35,000 spawner floor was in effect from 1989-2007 and in 2011. In 2008-2010, fisheries were managed for a natural area spawning escapement of 40,700 adults under requirements of a rebuilding plan.

e/ Annual escapement goals may be more or less than SMSY in some years due to meeting SACL requirements and de minimis fishing provisions.

TABLE II-3. Oregon coastal spring and fall Chinook hatchery return and harvest in estuary and freshwater fisheries.

Year or Average	Return to Facilities			Estuary and Freshwater Harvest <sup>b/</sup>	
	Public Hatchery <sup>a/</sup>		Private	Spring	Fall
	Spring	Fall	All		
<b>THOUSANDS OF CHINOOK</b>					
1976-80	4.9	2.0	1.9	13.7	31.1
1981-85	5.0	3.0	12.8	8.2	26.8
1986-90	22.9	5.4	31.4	21.1	49.3
1991-95	15.7	3.3	4.1	15.2	49.6
1996	26.7	3.6	-	25.6	51.0
1997	29.1	2.0	-	14.7	37.0
1998	11.0	2.6	-	8.2	31.5
1999	18.1	3.3	-	8.2	29.3
2000	24.5	3.1	-	11.4	37.4
2001	26.8	5.7	-	18.6	53.3
2002	24.7	2.9	-	30.9	58.8
2003	17.2	3.9	-	33.1	72.3
2004	20.1	2.9	-	19.4	78.4
2005	11.7	2.6	-	14.6	51.6
2006	7.5	2.7	-	7.1	47.7
2007	6.3	2.1	-	5.7	29.0
2008	6.1	2.7	-	5.8	18.3
2009	7.2	4.2	-	9.2	26.1
2010	10.9	5.0	-	15.6	44.1
2011	7.8	4.0	-	16.1	63.0
2012	13.5	6.0	-	18.7	51.4
2013	13.1	7.2	-	16.3	83.3
2014	11.5	7.9	-	16.1	75.1
2015	10.7	9.6	-	18.3	117.2
2016	4.2	5.8	-	10.1	54.8
2017	5.1	3.1	-	9.8	56.0
2018	5.2	1.5	-	6.8	34.7
2019	5.2	2.5	-	NA	NA
2020 <sup>c/</sup>	3.0	3.9	-	NA	NA

a/ Adults only.

b/ Freshwater harvests are derived from ODFW salmon/steelhead angler catch record card information and represent fish larger than 24 inches (i.e., adults). Includes both hatchery and natural fish.

c/ Preliminary.

TABLE II-4. Spawner indices for naturally produced Oregon coastal fall Chinook and south migrating/localized spring Chinook.<sup>a/</sup>

Year or Average	Fall Chinook Spawner Indices		South/local Migrating Spring Chinook Spawner Indices (1000's of fish)	
	North Migrating Peak Count Adults Per Mile	Rogue River	Rogue River	
		(South/local migrating) Adult Carcass Counts	Gold Ray Dam Counts <sup>b/</sup>	Umpqua River Winchester Dam Counts
1976-80	72	5,256	26	6
1981-85	89	3,906	16	5
1986-90	141	16,797	29	8
1991-95	116	4,387	10	4
1996	147	2,448	10	4
1997	105	1,643	10	3
1998	99	3,601	4	4
1999	124	2,493	6	3
2000	85	3,366	3	3
2001	203	6,380	9	6
2002	269	11,836	7	7
2003	279	14,620	19	8
2004	198	5,326 <sup>c/</sup>	13	5
2005	118	d/	6	4
2006	76	d/	5	3
2007	42	d/	3	2
2008	40	d/	4	3
2009	61	d/	5	5
2010	87	d/	10	6
2011	109	d/	10	9
2012	146	d/	14	8
2013	189	d/	12	7
2014	157	d/	6	6
2015	247	d/	15	5
2016	118	d/	10	4
2017	114	d/	10	4
2018	92	d/	10	3
2019 <sup>e/</sup>	65	d/	5	4
2020 <sup>e/</sup>	135	d/	4	6
Goal	60-90			

a/ North migrating peak counts are taken on nine miles of standard index surveys over nine river systems (see Appendix B, Table B-11 for individual system counts). Complete carcass counts are listed in Appendix B, Table B-10. Complete counts for Gold Ray and Winchester dams are listed in Appendix B, Table B-9.

b/ Gold Ray Dam removed October, 2010. Natural estimates after 2010 derived using relationship of 2004-2010 spawning ground surveys to Gold Ray Dam passage. Estimate includes an unknown number of jacks.

c/ In 2004 one of the standard survey sections was not sampled. In the previous two years this section accounted for 33% of the total adult carcass counts.

d/ Surveys were not conducted.

e/ Preliminary.



TABLE II-5. Performance of Chinook salmon stocks in relation to 2019 preseason conservation objectives (preliminary data).  
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System and Stock	2020 Conservation/Management Objective(s)	2020 Achievement
<b>Sacramento River Chinook</b>		
Fall	Minimum escapement of 141,955 natural area and hatchery adults.	Preliminary estimate of 137,907 natural and hatchery adult fall Chinook is below the 2020 management objective.
Winter (Endangered)	Age-3 impact rate for the area south of Point Arena, CA no greater than 20.0% (NMFS ESA consultation standard).	Preseason projection of 16.2%; no postseason estimate was available at time of printing.
Spring (Threatened)	No management objective	No management objective
<b>California North Coast Chinook</b>		
Klamath River Fall	Minimum escapement of 36,206 natural area adult spaw ners.	Preliminary estimate of 26,190 is below the 2020 management objective.
California Coastal (Threatened)	No greater than 16.0% ocean harvest rate on age-4 Klamath River fall Chinook.	Preseason projection of 8.8%; no postseason estimate was available at time of printing.
<b>Oregon Coast Chinook</b>		
North Migrating Stocks	150,000-200,000 natural adult spaw ners (equivalent to peak spaw ner index counts of 60-90 adults per mile).	135 natural adult spaw ners per mile, within the aggregate stock index range.
South/Local Migrating Stocks	34,992 natural adult passage estimate at Huntley Park in the lower Rogue River.	30,497 natural adult passage estimate at Huntley Park, below the conservation objective.
<b>Columbia River Basin Fall Chinook</b>		
LRW (Component of threatened lower Columbia River Chinook ESU)	MSY objective of 5,700 natural North Lewis River adult spaw ners.	Preliminary estimate of 19,200, well above the conservation objective.
LCR natural tules (Component of threatened lower Columbia River)	Total (ocean plus inriver) AEQ exploitation rate on ESA-listed natural tules of no more than 38.0%.	Preseason projection of 38%. No postseason estimate was available.
LRH	14,800 adult hatchery spaw ners.	Preseason LRH forecast was 50,000. Postseason estimate not available.
SCH	6,000 adult hatchery spaw ners.	11,746 adult hatchery spaw ners, above the goal.
MCB	No FMP objective; target of 7,900 hatchery adults.	Preliminary estimate of 14,610 adult hatchery spaw ners, above the target.
URB	Minimum 40,000 natural and hatchery adults above McNary Dam, plus meet treaty Indian obligations. <i>U.S. v. Oregon</i> parties agreed to 60,000 in 2011.	186,097 natural and hatchery adults over McNary Dam, well over the MSY target in FMP.

TABLE II-5. Performance of Chinook salmon stocks in relation to 2020 preseason conservation objectives (preliminary data).  
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System and Stock	2020 Conservation/Management Objective(s)	Achievement
<b>Columbia River Basin Fall Chinook (continued)</b>		
Snake River Fall Chinook (Threatened; component of URB)	SRFI ≤0.700 for all ocean fisheries combined (i.e., no less than a 30.0% reduction from the 1988-1993 base period exploitation rate).	Preseason SRFI projection of 0.513. Postseason estimate was not available.
<b>Washington Coastal Chinook</b>		
Fall	Natural spaw ner escapement objectives as provided in state-tribal agreements; meet hatchery egg-take goals and meet treaty Indian obligations.	Preliminary estimates: Quillayute, and Hoko were above the goal. Estimates for other fall stocks were not available.
Spring/Summer	Natural spaw ner escapement objectives as provided in state-tribal agreements; meet hatchery egg-take goals and meet treaty Indian obligations.	Preliminary estimates: Grays Harbor was above the goal, and Quillayute was below the goal. Estimates for other spring/summer stocks were not available.
<b>Puget Sound Chinook</b>		
(Threatened)	Minor part of Washington ocean harvest; Council ocean management not directed at these stocks. Adult equivalent exploitation rate standard developed for some stocks:	Postseason estimates were not available. Preseason predictions of adult equivalent exploitation rates and spaw ner objectives were:
	<u>Exploitation Rate</u> <u>Spaw ner Esc.</u> <u>ISBM</u>	<u>Exploitation Rate</u> <u>Spaw ner Esc.</u> <u>ISBM</u>
· Nooksack spring	≤10.5% SUS   -   ≤1.00	10.5%   -   0.94
· Skagit summer/fall	≤48% Total   -   ≤0.95	48.0%   -   NA <sup>a/</sup>
· Skagit spring	≤10.3% SUS   -   ≤0.95	9.0%   -   NA <sup>a/</sup>
· Stillaguamish summer/fall	≤22% Total   -   ≤1.00	18.4%   -   0.48
· Snohomish summer/fall	≤8% SUS   -   ≤1.00	7.7%   -   0.65
· Lake Wash. summer/fall	-   >0.500   -	-   0.571   -
· White River spring	≤22% SUS   -   -	15.7%   -   -
· Green River summer/fall	-   >1.200   -	-   >1.200   -
· Puyallup summer/fall	-   >0.750   -	-   1.157   -
· Nisqually summer/fall	≤47% Total <sup>b/</sup> -   -	48.8%   -   -
· Skokomish summer/fall	≤50% Total   -   -	48.3%   -   -
· Mid-Hood Canal fall	TBD   -   -	12.2%   -   -
· Dungeness spring	≤10% SUS   -   -	3.4%   -   -
· Elwha summer/fall	≤10% SUS   -   -	3.3%   -   -

a/ ISBM obligation not applicable because escapement goal expected to be met.

b/ An additional 2% ER may be added to facilitate inriver selective gear studies.

TABLE II-6. Chinook stock status relative to overfished and overfishing criteria. A stock is overfished if the 3-year geometric mean spawning escapement is less than the minimum stock size threshold (MSST); a stock experiences overfishing if the total annual exploitation rate exceeds the maximum fishing mortality threshold (MFMT).

Chinook Stock	Spawning Escapement									Exploitation Rate						
	2015	2016	2017	2018	2019	2020	3-yr Geo Mean	MSST	S <sub>MSY</sub>	2015	2016	2017	2018	2019	2020	MFMT
Sacramento Fall	113,468	89,699	44,329	105,466	163,767	137,907	133,549	91,500	122,000	0.55	0.56	0.68	0.52	0.68	NA	0.78
Klamath River Fall	28,112	13,937	19,904	52,352	20,022	26,190	<b>30,167</b>	30,525	40,700	0.59	0.37	0.10	0.32	0.42	NA	0.71
Southern Oregon	30,462	27,278	91,977	39,497	19,426	30,497	28,602	20,500	34,992	NA	NA	NA	NA	NA	NA	0.78
Central and Northern OR <sup>a/</sup>	247	118	114	92	65	135	93	30 fish/mile	150k-200k	0.45	0.47	0.44	0.65	NA	NA	0.78
Upper River Bright - Fall <sup>a/</sup>	323,276	151,373	96,096	58,540	77,880	NA	75,950	19,182	39,625	0.37	0.47	0.42	0.33	NA	NA	0.86
Upper River - Summer <sup>a/</sup>	88,691	79,253	56,265	38,816	41,090	70,654	48,302	6,072	12,143	0.53	0.55	0.44	0.52	NA	NA	0.75
Willapa Bay - Fall <sup>b/</sup>	2,824	1,888	3,078	2,853	2,894	NA	2,940	1,696	3,393	0.49	0.62	0.55	0.65	NA	NA	0.78
Grays Harbor Fall <sup>b/</sup>	17,305	11,248	17,145	20,741	14,880	NA	17,426	5,694	13,326	0.49	0.62	0.55	0.65	NA	NA	0.78
Grays Harbor Spring	1,841	926	1,384	493	983	2,828	1,111	546	1,400	NA	NA	NA	NA	NA	NA	0.78
Queets - Fall <sup>a/</sup>	5,483	3,035	2,822	2,207	2,663	NA	2,550	1,250	2,500	0.49	0.62	0.55	0.65	NA	NA	0.87
Queets - Sp/Su	532	704	825	484	322	NA	505	350	700	NA	NA	NA	NA	NA	NA	0.78
Hoh - Fall <sup>b/</sup>	1,795	2,831	1,808	2,478	1,552	NA	1,909	600	1,200	0.49	0.62	0.55	0.65	NA	NA	0.90
Hoh Sp/Su	1,070	1,144	1,364	793	766	NA	939	450	900	NA	NA	NA	NA	NA	NA	0.78
Quillayute - Fall <sup>b/</sup>	3,440	3,654	3,604	3,937	7,765	8,202	6,306	1,500	3,000	0.49	0.62	0.55	0.65	NA	NA	0.87
Quillayute - Sp/Su	783	871	1,097	990	1,442	635	968	600	1,200	NA	NA	NA	NA	NA	NA	0.78
Hoko -Su/Fa <sup>a/</sup>	2,877	1,324	1,188	2,179	1,815	1,298	1,725	425	850	0.29	0.28	0.26	0.53	NA	NA	0.78

a/ CWT based exploitation rates from PSC-CTC 2020 Exploitation Rate Analysis and Model Calibration.

b/ Queets River fall Chinook coded-wire-tag (CWT) exploitation rates used as a proxy. Exploitation rates in the terminal fisheries will differ from those calculated for Queets fall CWTs.

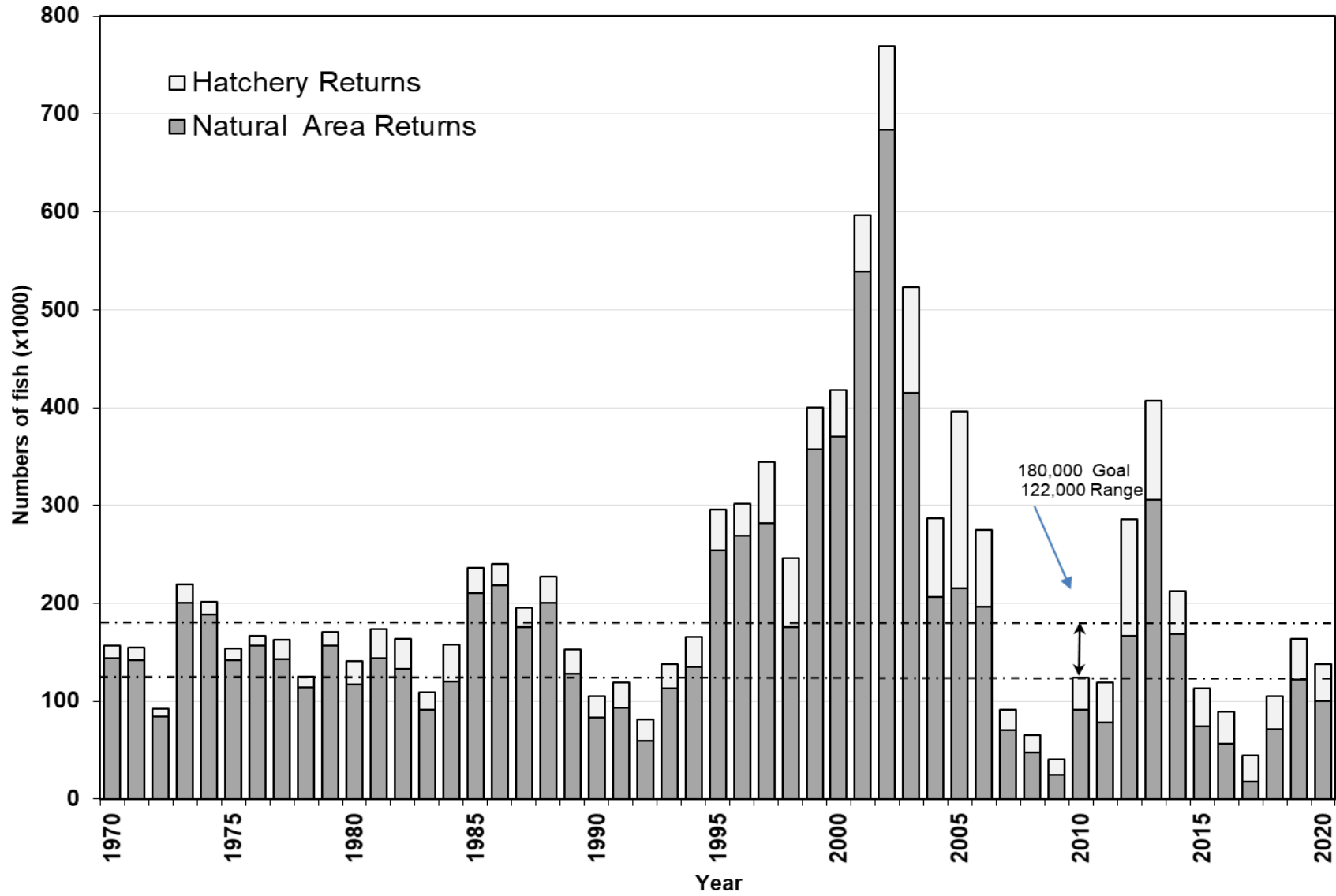


Figure II-1. Sacramento River adult fall Chinook spawning escapement, 1970-2020.

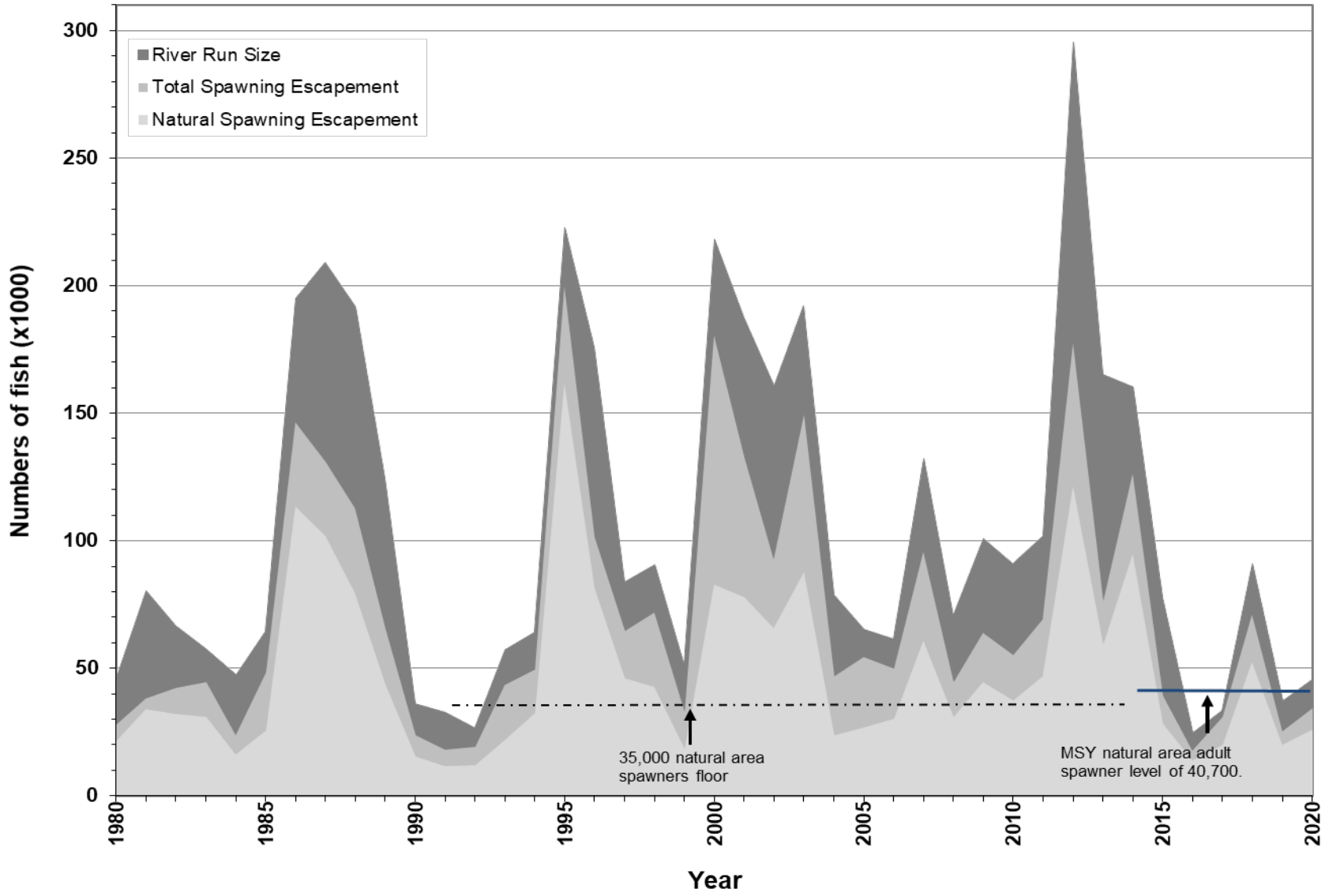


Figure II-2. Klamath River adult fall Chinook returns and spawning escapement, 1980-2020.