Agenda

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
2022 SALMON INFORMATION MEETING
~
Wednesday, March 2, 2022
10:00 a.m. – 4:00 p.m.
~ Virtual Only ~

Welcome – Opening Comments and Review Agenda	Moderator, Pete McHugh, CDFW 10:00 a.m.
2021 Central Valley Chinook Spawning Escapement	Audrey Dean, CDFW 10:15 a.m.
2021 Central Valley Chinook River Sport Fisheries	Erin Ferguson, CDFW 10:35 a.m.
BREAK (15 minutes)	10:55 a.m.
2021 Klamath Basin Chinook Spawning Escapement, Harvest, and Age Composition	Domenic Giudice, CDFW 11:10 a.m.
2021 California Ocean Salmon Sport and Commercial Fisheries	Ian Pritchard, CDFW 11:30 a.m.
LUNCH BREAK (1 hour)	11:50 a.m.
NMFS 2022 Ocean Salmon Fishery Guidance	Jeromy Jording, NMFS 12:50 p.m.
Abundance Forecasts and Harvest Model Results	Dr. Michael O'Farrell, NMFS 1:05 p.m.
Introduction of California Salmon Management Panel	Pete McHugh, CDFW (1:30 p.m.)

Panel members:

George Bradshaw, PFMC-SAS, CA Troll Representative
Jim Yarnall, PFMC-SAS, CA Sport Fishery Representative
James Stone, PFMC-SAS, CA Sport Fishery Representative
John Atkinson, PFMC-SAS, CA Charter Boat Representative
Dr. Michael O'Farrell, NMFS SWFSC, PFMC-STT Chair
Kandice Morgenstern, CDFW Marine Region, PFMC-STT
Corey Ridings, PFMC, California Obligatory Appointment
Robert Dooley, PFMC, At Large Appointment
Justin Alvarez, PFMC-SAS California Tribes Representative

Public Comment to California Salmon Management Panel (1:40 p.m.)

- 2022 Ocean Sport Fishery Regulations
- 2022 Ocean Commercial Fishery Regulations
- 2022 Inland Fishery Regulations
  - Klamath River Basin
  - Sacramento River Basin and Delta

Closing Comments Pete McHugh, CDFW
(3:45 p.m.)

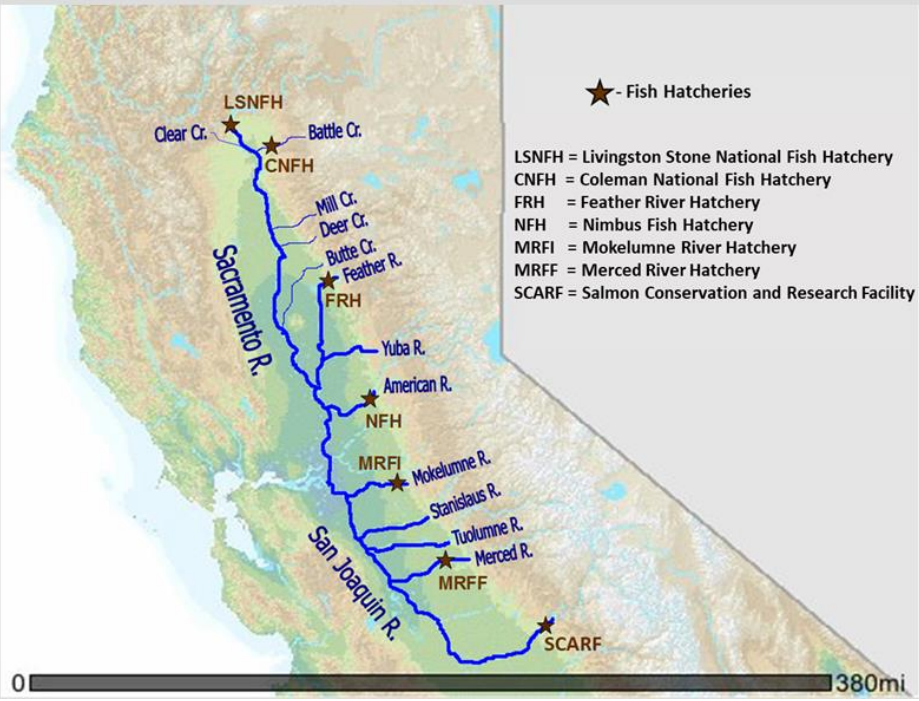
Acronyms:
CDFW: California Department of Fish and Wildlife
NMFS: National Marine Fisheries Service
PFMC: Pacific Fishery Management Council
SAS: PFMC Salmon Advisory Subpanel
STT: PFMC Salmon Technical Team
SWFSC: NMFS Southwest Fisheries Science Center, Santa Cruz, CA

Department of Fish and Wildlife
Ocean Salmon Project

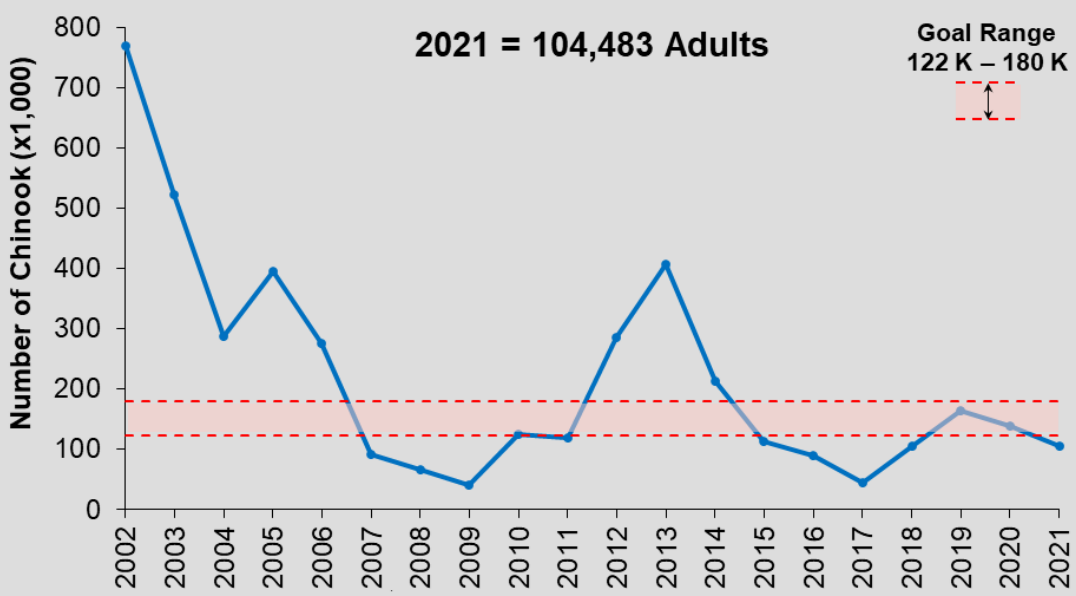
2021 Central Valley Chinook Salmon Spawning Escapement

Presented by
Audrey Dean

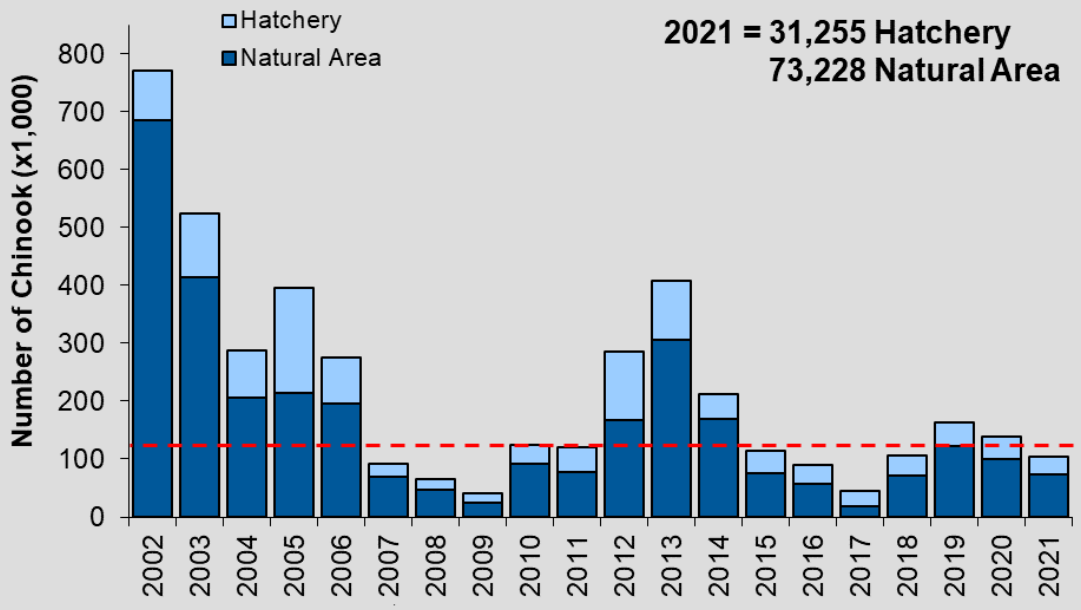
The Central Valley



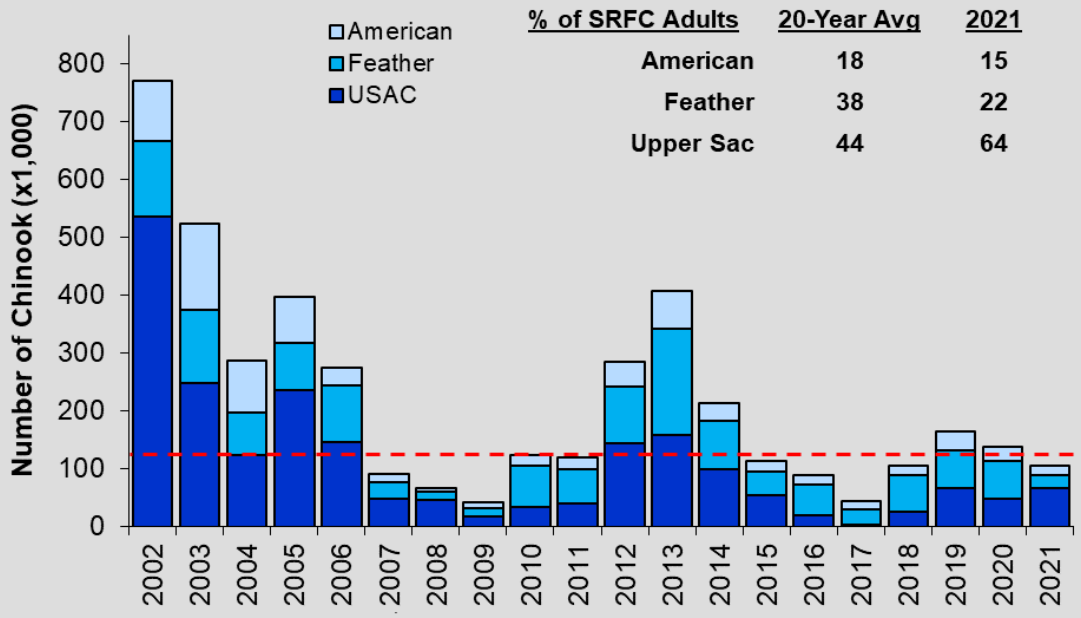
Sacramento River Fall Chinook Adult Spawning Escapement, 2002-2021



Sacramento River Fall Chinook
Hatchery & Natural Area Adult Spawning Escapement, 2002-2021

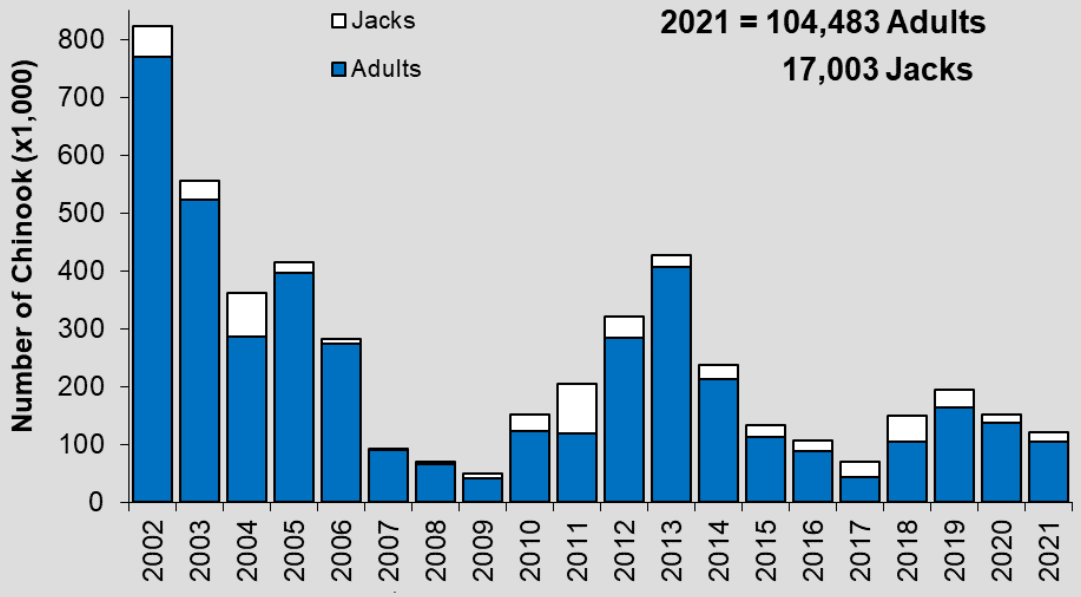


Sacramento River Fall Chinook
Adult Spawning Escapement By Basin, 2002-2021

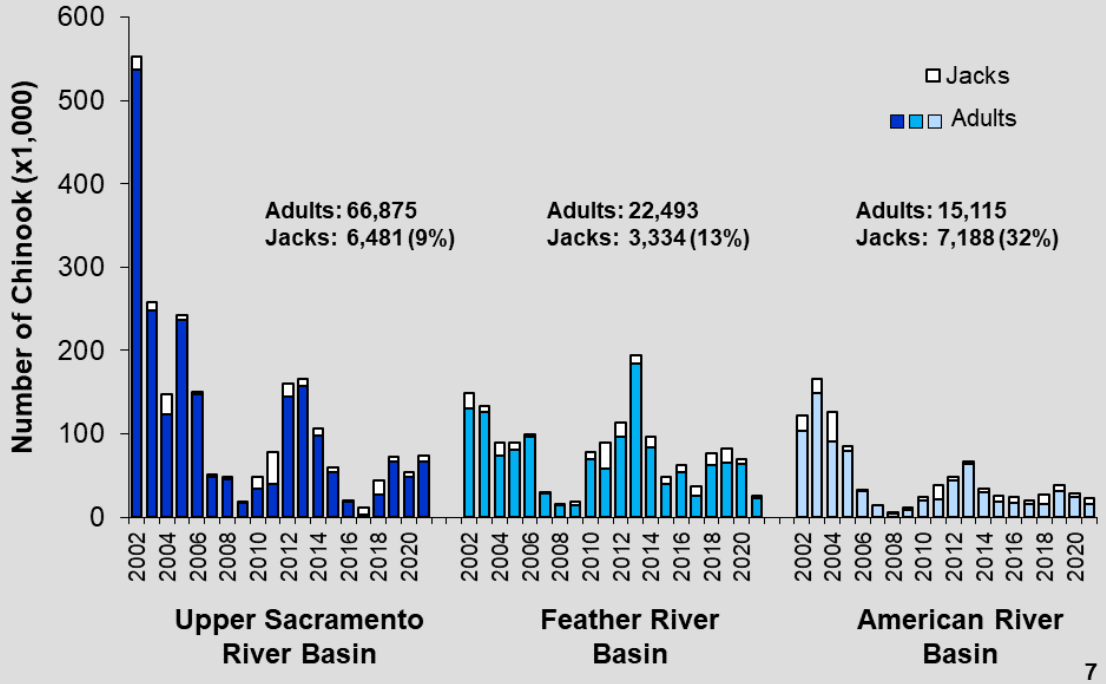


% of SRFC Adults	20-Year Avg	2021
American	18	15
Feather	38	22
Upper Sac	44	64

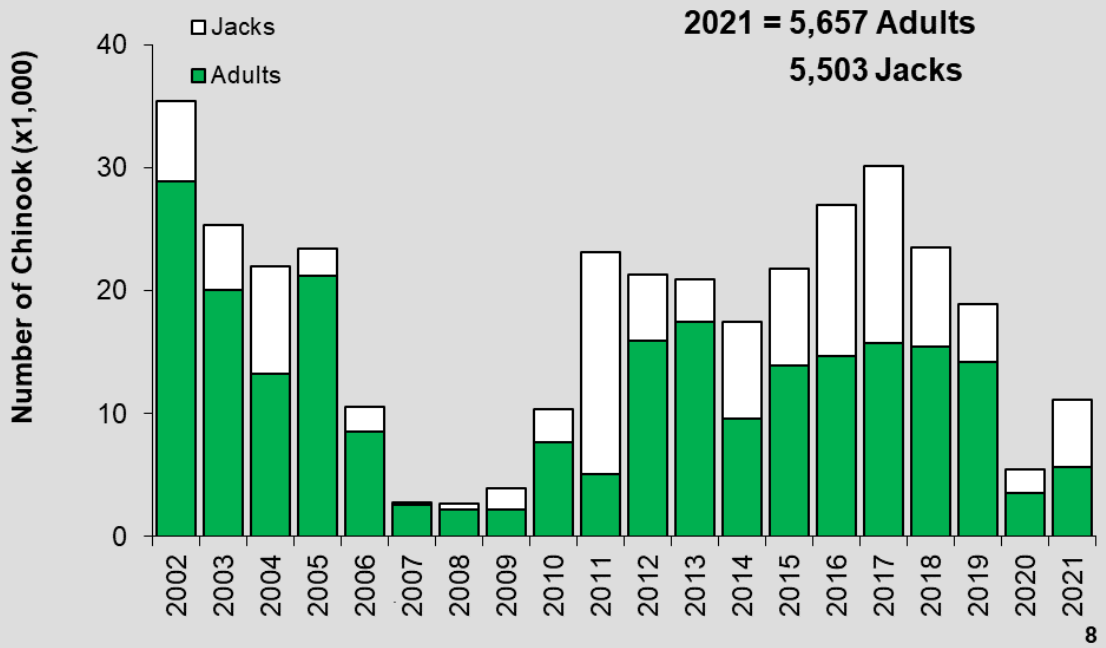
Sacramento River Fall Chinook
Adult & Jack Spawning Escapement, 2002-2021



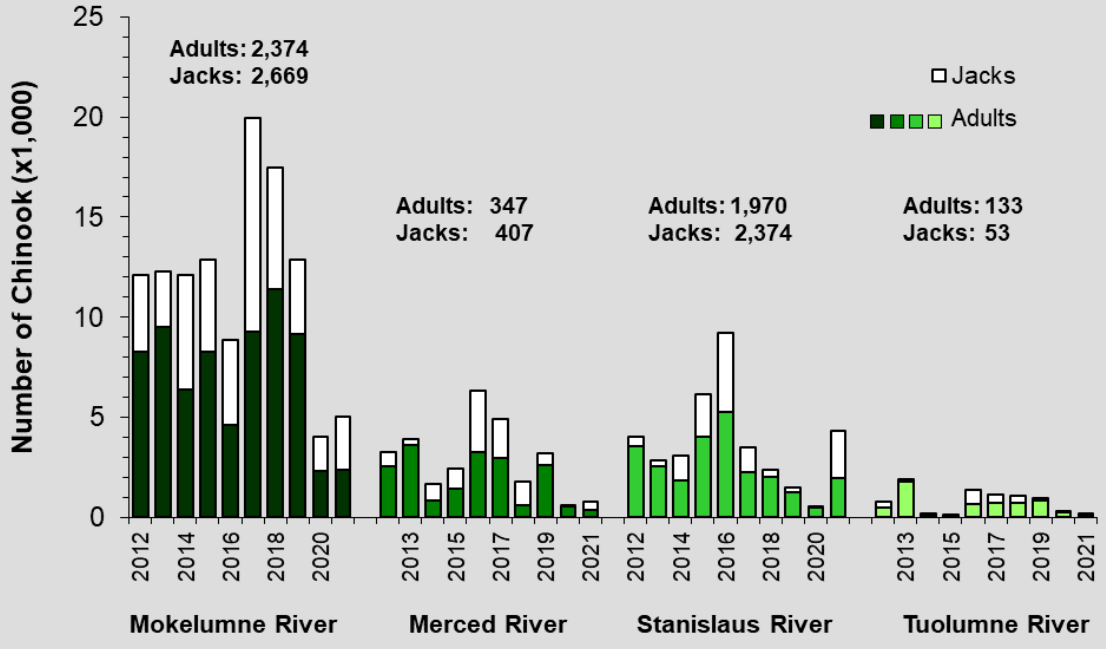
Sacramento River Fall Chinook
Adult & Jack Spawning Escapement By Basin, 2002-2021



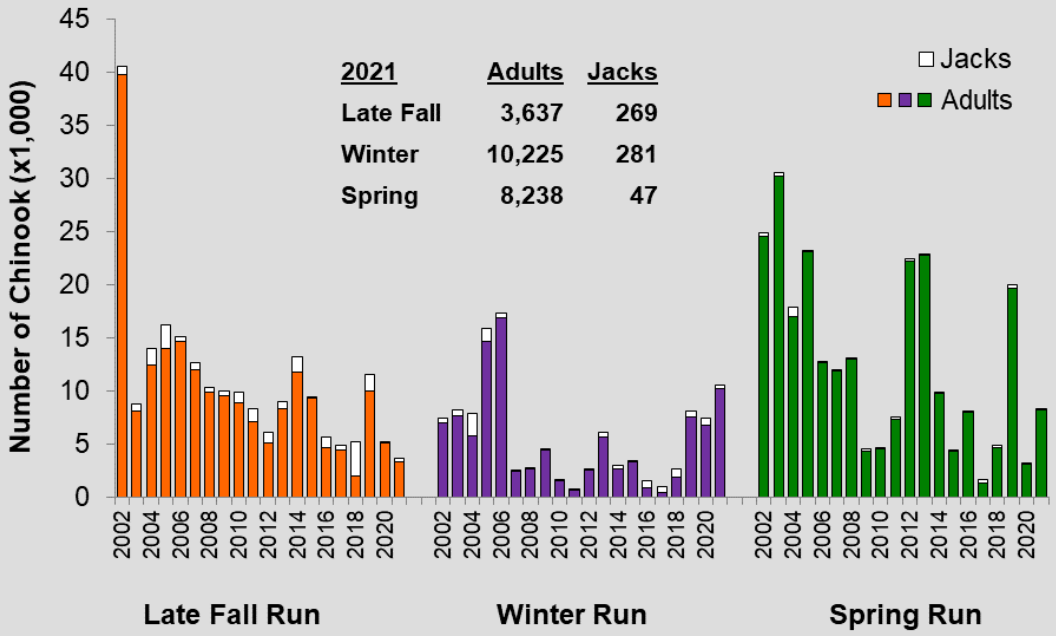
San Joaquin Basin Fall Chinook
Adult & Jack Spawning Escapement, 2002-2021



San Joaquin River Fall Chinook
Adult & Jack Spawning Escapement By Basin, 2012-2021



Other Sacramento Basin Chinook Stocks Spawning Escapement, 2002-2021



Department of Fish and Wildlife Ocean Salmon Project

Thank You

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More information available at:
www.pcouncil.org/salmon

2021 Sacramento River Fall Chinook Hatchery and Natural Area Escapement

		Jacks	Adults	Total	% Jack	% Nat	% SRFC Total
Upper Sacramento River Basin	Hatchery	1,884	14,555	16,439	11%		14%
	Natural	4,597	52,320	56,917	8%	80%	47%
		6,348	**65,070**	**71,418**	**9%**		**61%**
Feather River Basin (including Yuba River)	Hatchery	2,146	9,372	11,518	19%		9%
	Natural	1,188	13,121	14,309	8%	55%	12%
		3,334	**22,493**	**25,827**	**13%**		**21%**
American River Basin	Hatchery	3,743	7,328	11,071	34%		9%
	Natural	3,445	7,787	11,232	31%	50%	9%
		7,188	**15,115**	**22,303**	**32%**		**18%**
Total 2021 SRFC Escapement		**16,870**	**102,678**	**119,548**	**14%**	**67%**	**100%**

2021 Other Central Valley Chinook Stocks Hatchery and Natural Area Escapement

		Jacks	Adults	Total	% Jack	% Nat
Central Valley Late Fall Chinook	Hatchery	119	1,726	1,845	6%	
	Natural	150	1,911	2,061	7%	53%
		269	**3,637**	**3,906**	**7%**	
Sacramento River Winter Chinook	Natural	281	10,225	10,506	3%	100%
		281	**10,225**	**10,506**	**3%**	
Central Valley Spring Chinook	Hatchery	47	2,596	2,643	2%	
	Natural	----	5,642	5,749	----	69%
		47	**8,238**	**8,392**	**----**	
San Joaquin Fall Chinook	Hatchery	2,311	2,173	4,484	52%	
	Natural	3,192	3,484	6,676	48%	60%
		5,503	**5,657**	**11,160**	**49%**	

CENTRAL VALLEY ANGLER SURVEY:
2021 Recreational Harvest of Chinook Salmon

Erin Ferguson, James Lyons, Shawn Simkins, & Rob Titus

California Department of Fish and Wildlife
Fisheries Branch
Central Valley Fishery Resource Assessment & Monitoring
West Sacramento, California

2021 Central Valley Salmon Season

General Season: July 16th- December 16th (154 days)
2 fish daily bag, 4 in possession

Upper Sacramento River Management Zone
Knights Landing Bridge to Deschutes Road Bridge

Knights Landing Bridge to Red Bluff Diversion Dam (154 days)

July 16	Dec 16

Red Bluff Diversion Dam to Deschutes Road Bridge (153 days)

Aug 1	Dec 31

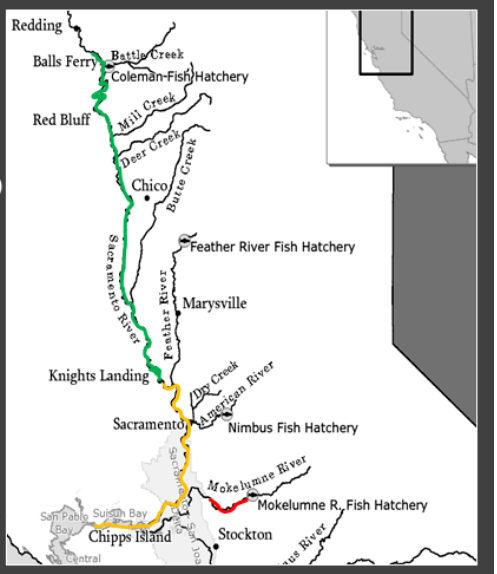
Lower Sacramento River Management Zone
Carquinez Bridge to Knights Landing Bridge

July 16	Dec 16

Mokelumne River Management Zone
Highway 12 overcrossing to Camanche Dam

Highway 12 overcrossing to confluence with Cosumnes R.**

July 16	Dec 16



2021 Central Valley Salmon Season

General Season: July 16th- December 16th (154 days)
2 fish daily bag, 4 in possession

Feather River Management Zone*

Confluence with the Sac. River to unimproved boat ramp above TAO

Confluence with the Sac R. to 200 yds below Live Oak boat ramp

July 16 — Dec 16

200 yds above Live Oak b.r. to unimproved b.r. above TAO (108 days)

July 16 — Oct 31

American River Management Zone

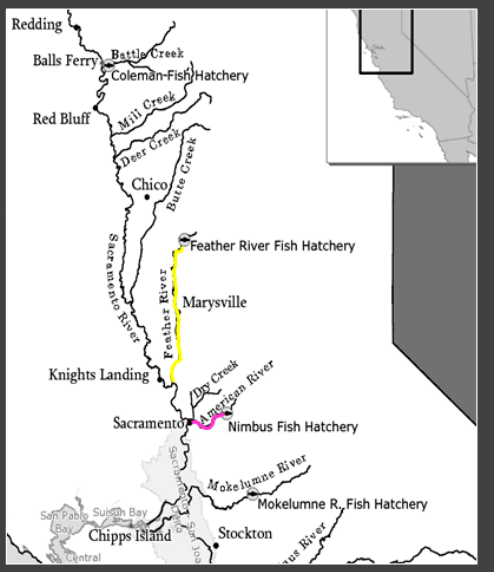
Confluence with the Sac. River to USGS cable crossing

Confluence with Sac. R. to Ancil Hoffman powerlines (169 days)

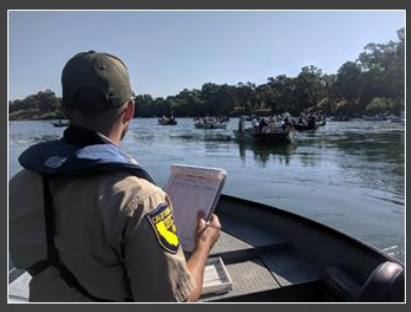
July 16 — Dec 31

Ancil Hoffman powerlines to USGS cable crossing (108 days)

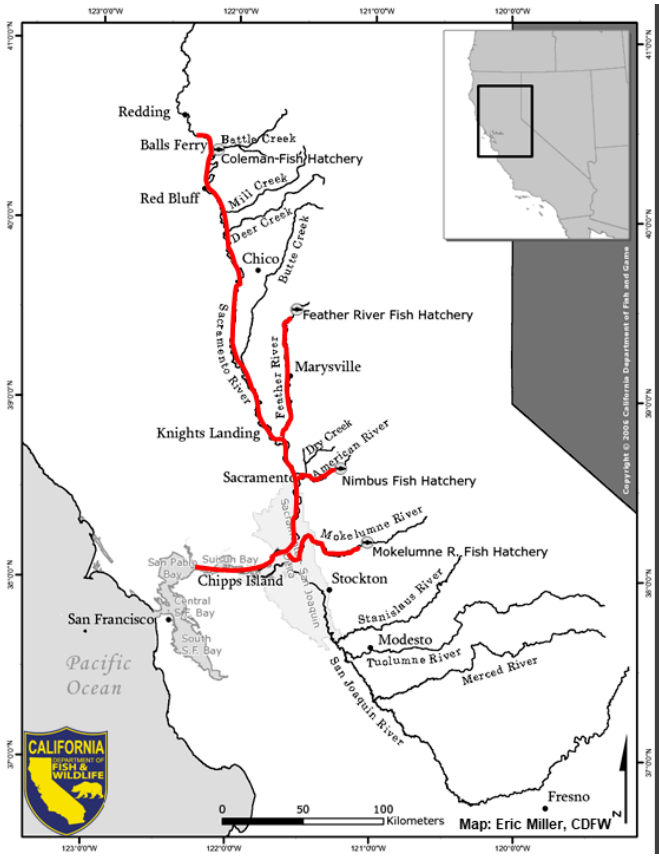
July 16 — Oct 31



Central Valley Angler Survey



- Estimate angler effort targeting Chinook Salmon
- Estimate catch & harvest of Chinook Salmon
- Estimate catch-per-unit-effort (CPUE)
- Collect biological information on the catch
- Recover coded-wire tags



Sampling Design:

- 24 survey sections:
  - *Sacramento River: Carquinez Bridge to Deschutes Rd Bridge*
  - *Feather River*
  - *American River*
  - *Mokelumne River*
- Eight randomly selected sampling days per month:
  - *four weekdays*
  - *four weekend days*

Estimates of Chinook Salmon Effort, Catch, and Harvest

Data collection via:

- Roving angler counts
- Roving angler interviews
- Access point interviews

Overview of 2021 Central Valley Sport Fishery for Chinook Salmon*

Effort: 539,836 angler hours

Trips: 104,619 angling trips

Total catch: 16,198 salmon

Harvest: 14,560 salmon

Est. pounds landed: 108,384 lbs

Released: 1,638 salmon

Pct. retention: 90%

Average size (FL): 790 mm / 31 in.

Catch rate: 2.7 salmon per 100 angler hours

* Based on fishery statistics for the American, Feather, Mokelumne and Sacramento rivers, July – Dec. 2021.

Raw Statistics

Contacted 4,378 fishing parties

1,228 salmon reported kept

1,028 salmon observed

- or 7.0% of the estimated harvest

212 Adipose fin-clipped, 21% of observed salmon

204 heads (96%) taken for CWT recovery

Coded Wire Tag Recoveries

202 CWTs (99%) successfully recovered and read

Percent	Count	
16%	33	Feather River Hatchery fall run
42%	85	Coleman National Fish Hatchery fall run
1.5%	3	Feather River Hatchery spring run
10%	20	Mokelumne River Hatchery fall run
17%	35	Coleman National Fish Hatchery late-fall run
10%	20	Nimbus Hatchery fall run
0%	0	Livingston Stone National Fish Hatchery winter run
1.5%	3	San Joaquin River Conservation Hatchery spring run
1.5%	3	Merced River Fish Facility fall run

Sacramento River Fall-Run Chinook Salmon (SRFC) Harvest

- Defined as any harvest of Chinook Salmon in the American, Feather, and Sacramento rivers
- Daily bag limit of 2 Chinook Salmon and 4 in possession

Excludes

Harvest in the Mokelumne River

Harvest in the Late-fall-run Chinook Salmon fishery

SRFC Inland Harvest

SRFC comprised 96% of all Chinook Salmon harvest in the Central Valley in 2021

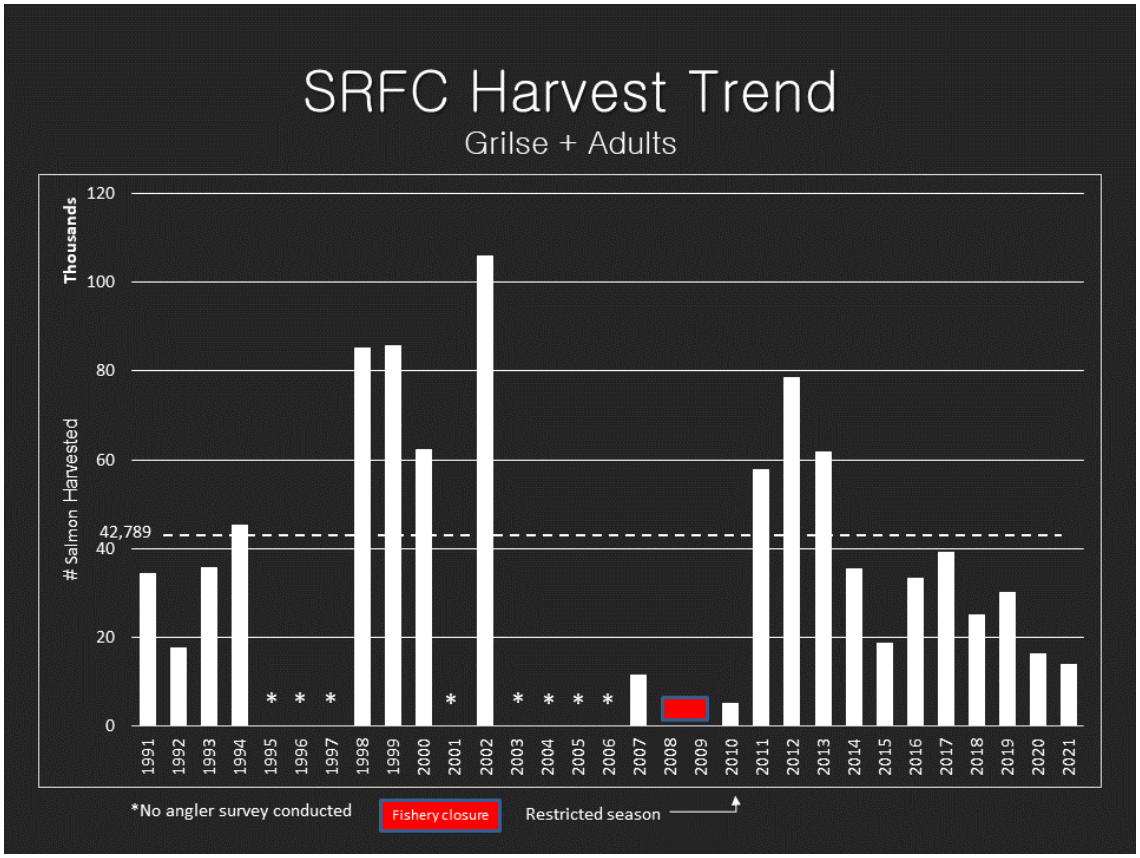
Final SRFC Harvest Estimate

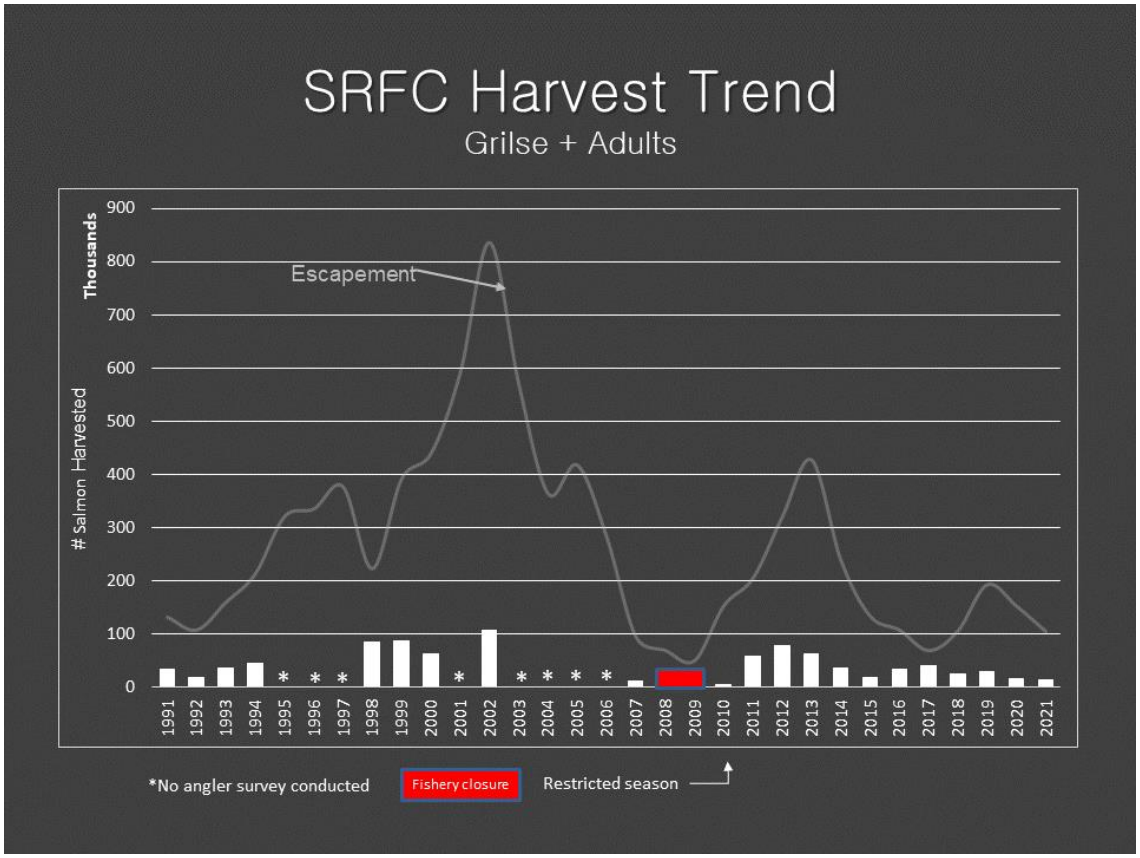
10,788 adult

3,143 grilse*

13,931 Total SRFC

*23% of the harvest were grilse

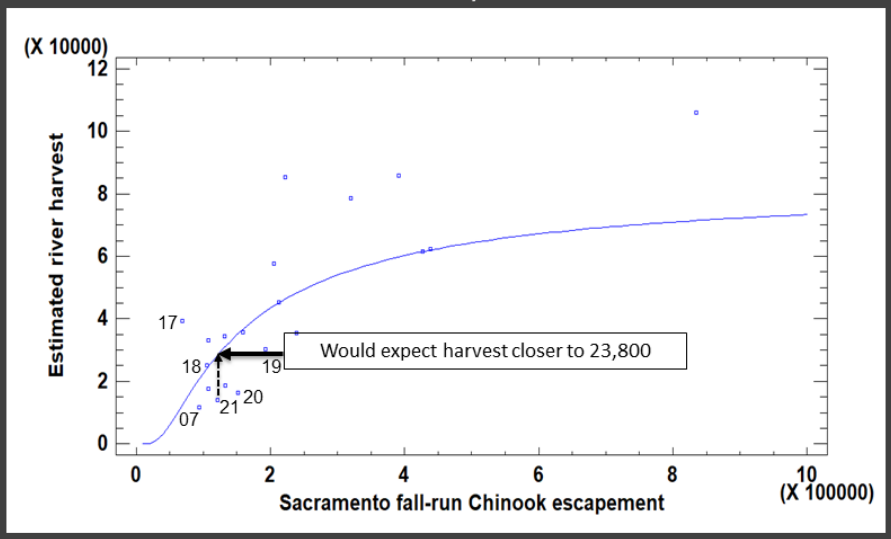

SRFC Harvest Trend
Grilse + Adults
Thousands
Salmon Harvested
120
100
80
60
42,789
40
20
0
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
*No angler survey conducted
Fishery closure
Restricted season


SRFC Harvest Trend
Grilse + Adults
Thousands
Salmon Harvested
Escapement
900
800
700
600
500
400
300
200
100
0
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
*No angler survey conducted
Fishery closure
Restricted season

River harvest was lower than expected in 2021 relative to escapement

River harvest = 13,931*, Escapement = 121,486*

*Adults and jacks



Metrics by Management Zones

	American	Feather	Lower Sacramento	Upper Sacramento
Effort (hours)	37,282	31,549	218,372	226,723
Est. SRFC Harvest	1,593	801	2,586	8,951
% SRFC Harvest[1]	11.4	5.8	18.6	64.2
Ave. FL (mm)	751.3	832.8	741.0	802.8
Ave. Wt. (Kg)	5.8	7.9	6.2	7.8
% Grilse[2]**	51%	13%	38%	15%

[1] Sacramento River Fall-run Chinook fishery, excludes late-fall and Mokelumne River harvest

[2] Based on expansions of coded-wire tag recoveries

** Preliminary

2021 Sacramento River Late-Fall-Run Chinook Salmon Season

Upper Sacramento River Management Zone

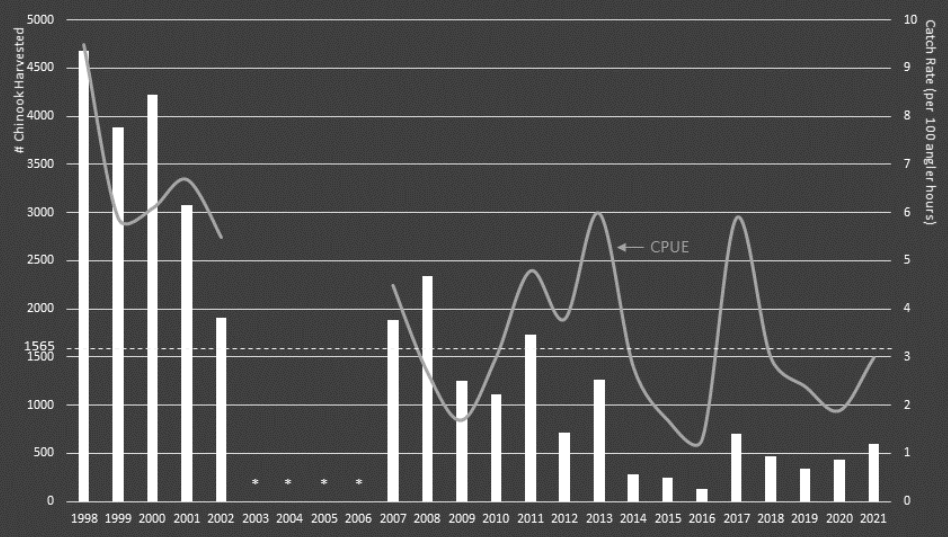
- November 1st – December 16th
  - Knights Landing to RBDD
- December 17th – December 31st
  - RBDD to Deschutes Road Bridge
- 2 Chinook Salmon daily bag
- 4 possession limit

Sacramento River Late-Fall-Run Chinook Salmon Fishery

- *Effort:* 19,646 angler hours
- *Catch rate:* 3.0 salmon per 100 angler hours
- *Harvest:* 593 salmon
- *Ave. Fl (mm):* 785.7 ± 100.7 mm
- *Ave. wt (kg):* 8.0 ± 2.9 kg

SRLFC Harvest Trend

Grilse + Adults



*No angler survey conducted

2021 Mokelumne River Fall-Run Chinook Salmon Season

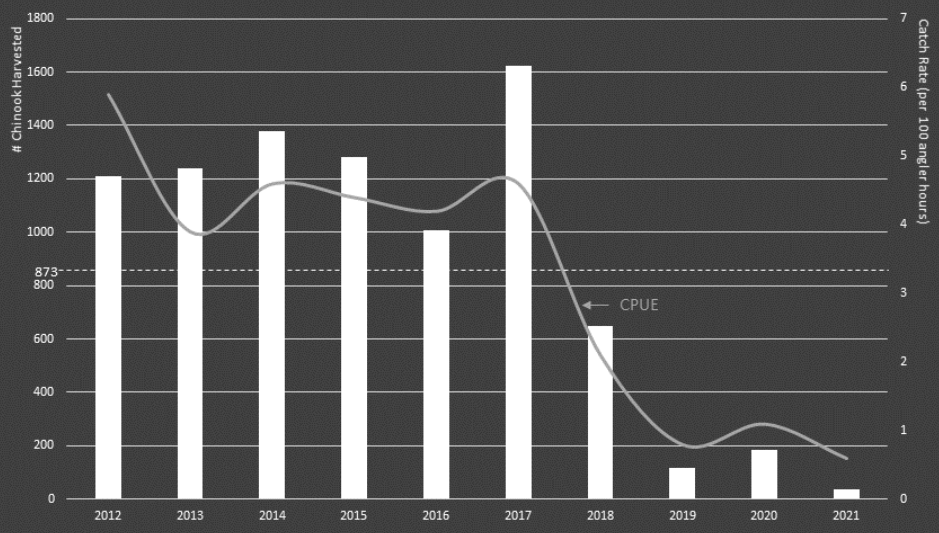
- Camanche Dam to Highway 12 overcrossing
  - Survey includes North and South forks Mokelumne River from confluence of Cosumnes River to Hwy 12 overcrossing, as well as Beaver, Hog, and Sycamore sloughs
- Open July 16 – December 16
- Daily bag limit of 2 Chinook Salmon, possession of 4 salmon

Mokelumne River Fishery
San Joaquin Fall-Run Chinook Salmon (SJRFC)

- *Effort:* 6,273 angler hours
- *Catch rate:* 0.6 salmon per 100 angler hours
- *Harvest:* 36 salmon
- *Ave. Fl (mm):* 763.7 ± 151 mm
- *Ave. wt (kg):* 3.8 ± 1.1 kg

MOK Harvest Trend

Grilse + Adults



Hatchery vs. Natural Origin

Percent hatchery vs. natural origin by management zone[1**]

	Hatchery	Natural
American River	76%	24%
Lower Sacramento River	80%	20%
Feather River	51%	49%
Upper Sacramento River	60%	40%
Mokelumne River	0%*	0%*
	*No CWT's recovered	
System-wide	65%	35%

[1] Based on expansions of coded-wire tag recoveries

** Preliminary

CVAS Staff Contact Information

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State of California – Natural Resources Agency
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Fisheries Branch – Central Valley Angler Survey
P.O. Box 944209
Sacramento, CA 94244-2090
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

March 2, 2022

California Department of Fish and Wildlife
Annual Salmon Information Meeting

SUMMARY OF THE 2021 CENTRAL VALLEY CHINOOK SALMON SPORT FISHERY

Interested Parties:

The purpose of this document is to provide a brief summary of the 2021 Central Valley Chinook Salmon sport fishery. Several key questions about the fishery are addressed, as highlighted below.

When and where did fishing occur?

Sport fishing for Chinook Salmon in Central Valley rivers opened on July 16, 2021 on the Feather, American, and Mokelumne rivers, and on the Sacramento River from the Carquinez Bridge to the Red Bluff Diversion Dam. An additional Sacramento River reach, from the Red Bluff Diversion Dam to the Deschutes Road Bridge, opened on August 1, 2021. Closing dates varied among river sections from October 31 through December 31, 2021. The varied closing dates were developed to avoid contact in the river sport fishery with threatened spring-run and endangered winter-run Chinook Salmon. The daily bag limit was 2 salmon with a 4 salmon possession limit for each licensed angler.

What methods were used to monitor the fishery and estimate harvest?

The Central Valley Angler Survey monitored the river sport fishery using a random-stratified sampling design and roving survey method to cover the 400+ mile fishery area. We divided the fishery area into 24 survey sections and sampled each section on eight randomly selected days per month, resulting in a sampling rate of about 27% of total available fishing days. We started survey runs with a roving count to estimate angler use on a given sample day. This first angler use count was followed by roving interviews of anglers from which data on fishing effort and catch were collected from individual fishing parties. The second run through a survey section during which interviews were conducted also provided a second angler use count.

Some survey sections were more amenable to access point interviews, where surveyors contacted anglers as they left the water – for example, at a popular boat launch – and collected whole trip data. Angler interviews were used to estimate catch per unit of fishing effort, which was used along with the average angler use count to estimate the number of Chinook Salmon harvested in a given survey section on a given survey day. These data were then used to develop monthly estimates of Chinook

Salmon harvest in each survey section, which were then combined to yield a season total harvest.

Biological data, including length, weight, and sex, were collected on all harvested Chinook Salmon. Coded-wire tags from adipose fin-clipped salmon were used for hatchery stock identification and to estimate age structure of the catch.

How did the fishery perform and what was the composition of the harvest?

Estimated angling effort in the Central Valley Chinook Salmon sport fishery totaled 539,836 hours, corresponding to about 104,619 fishing trips. This level of effort was 40.4% less than that estimated in the 2020 fishery (906,072) and represented 43.9% fewer fishing trips (186,520 trips in 2020). Total harvest in the Central Valley river fishery was estimated at 14,560 salmon with an additional 1,638 salmon caught and released. Retention rate of salmon was approximately 90% of the catch. Based on observed catch, 21% of the Chinook Salmon harvested were adipose fin clipped and coded wire tagged. Of the 202 coded-wire tags recovered and read, 68% were from Sacramento Basin fall-run Chinook Salmon, 17% were from Coleman National Fish Hatchery late-fall-run Chinook Salmon, 11.5% were from San Joaquin Basin fall-run Chinook Salmon, 1.5% were from Feather River Hatchery spring-run Chinook Salmon, 1.5% were from San Joaquin River spring-run Chinook Salmon, and 0 were from Livingston Stone National Fish Hatchery winter-run Chinook Salmon.

Fork length (FL) frequency analysis was used to determine the delineation between 2-year-old (grilse) and older (adult) Sacramento River fall-run Chinook. The size break between the two age groups was 729 mm FL for males and 715 mm FL for females, resulting in nearly 23% of the harvest consisting of grilse. The total estimated harvest of Sacramento River fall-run Chinook was 3,143 grilse and 10,788 adults, for a total harvest of 13,931[1].

Acknowledgments

The California Department of Fish and Wildlife would like to thank Central Valley fishing guides and the angling public for their cooperation in working with the Central Valley Angler Survey to provide data on their angling effort and catch, and for surrendering salmon heads for coded-wire tag recovery. The Central Valley Angler Survey is supported by a grant under the Federal Aid in Sport Fish Restoration Act (16 U.S.C. §§ 777–777l).

[1] This number corresponds to total Chinook Salmon harvested in the Sacramento River fall-run Chinook fishery and excludes harvest in the Mokelumne River and the late-fall management zone (Sacramento River above Knights Landing after October 31), regardless of origin as determined by coded-wire tags.

Central Valley Angler Survey Contacts

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Shawn.Simkins@wildlife.ca.gov
Rob.Titus@wildlife.ca.gov

Note: ***All statistics presented in this summary are preliminary and subject to change as they are finalized.***

California Department of Fish and Wildlife

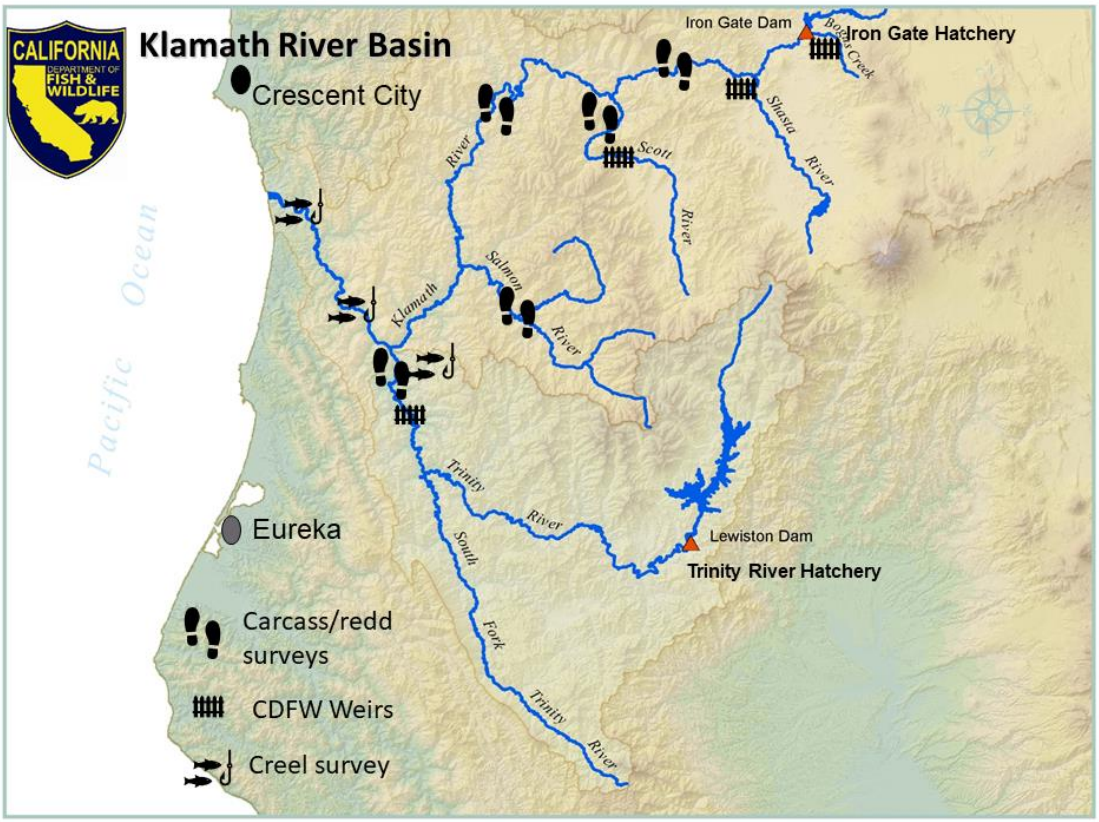
Klamath-Trinity Project

Klamath Basin Chinook Salmon Spawning Escapement, Harvest and Age Composition, 2021 Season

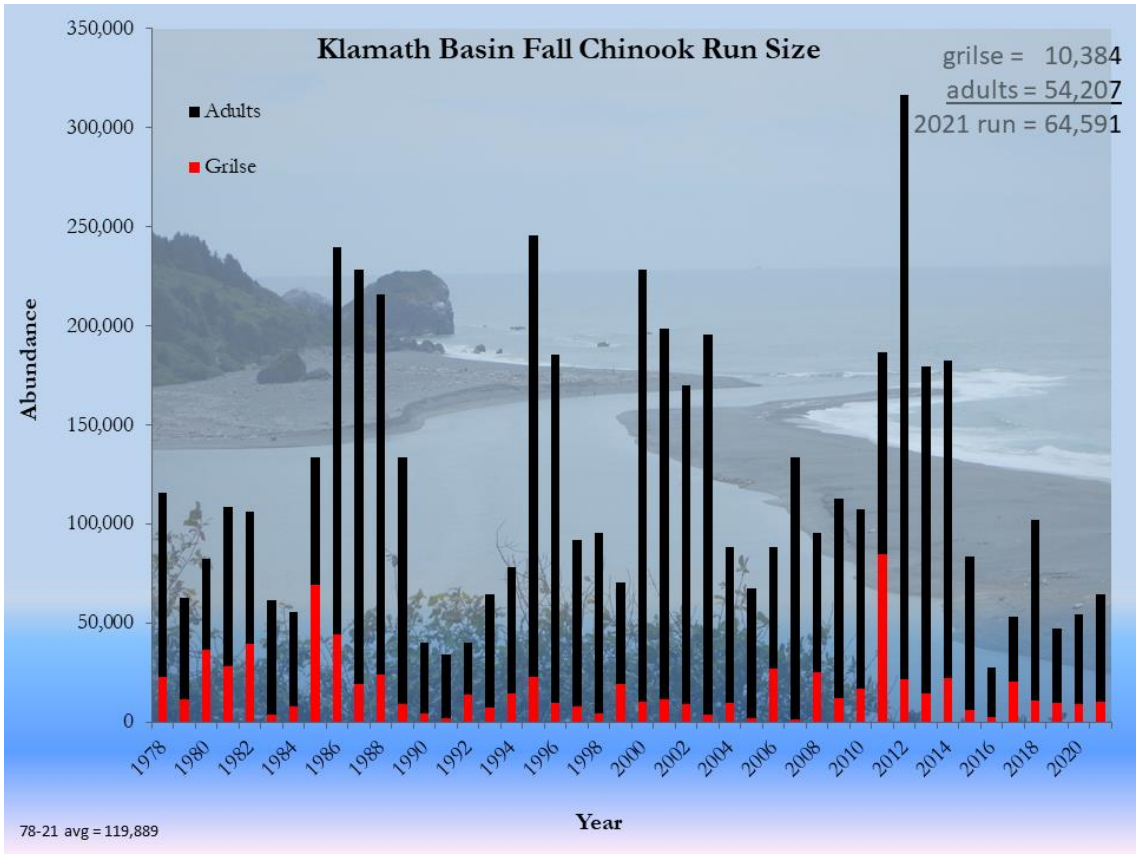
Salmon Information Public Meeting

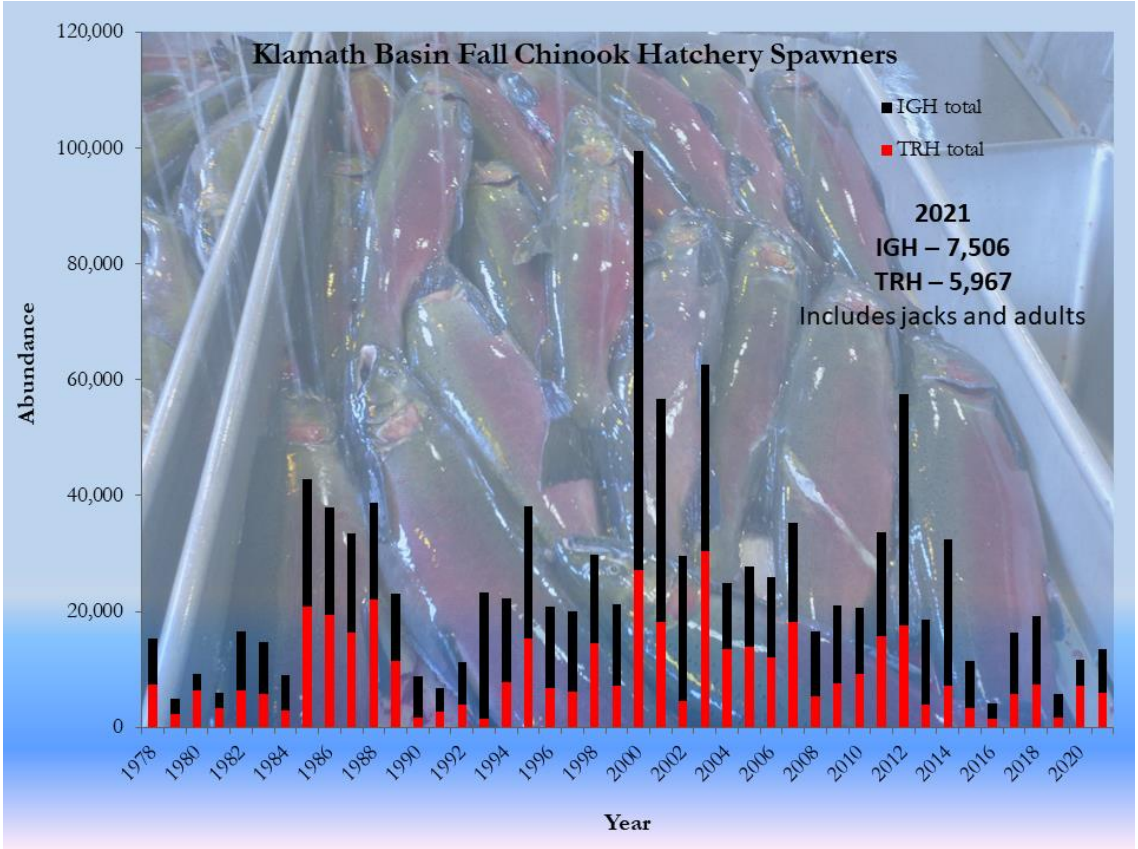
March 2, 2022

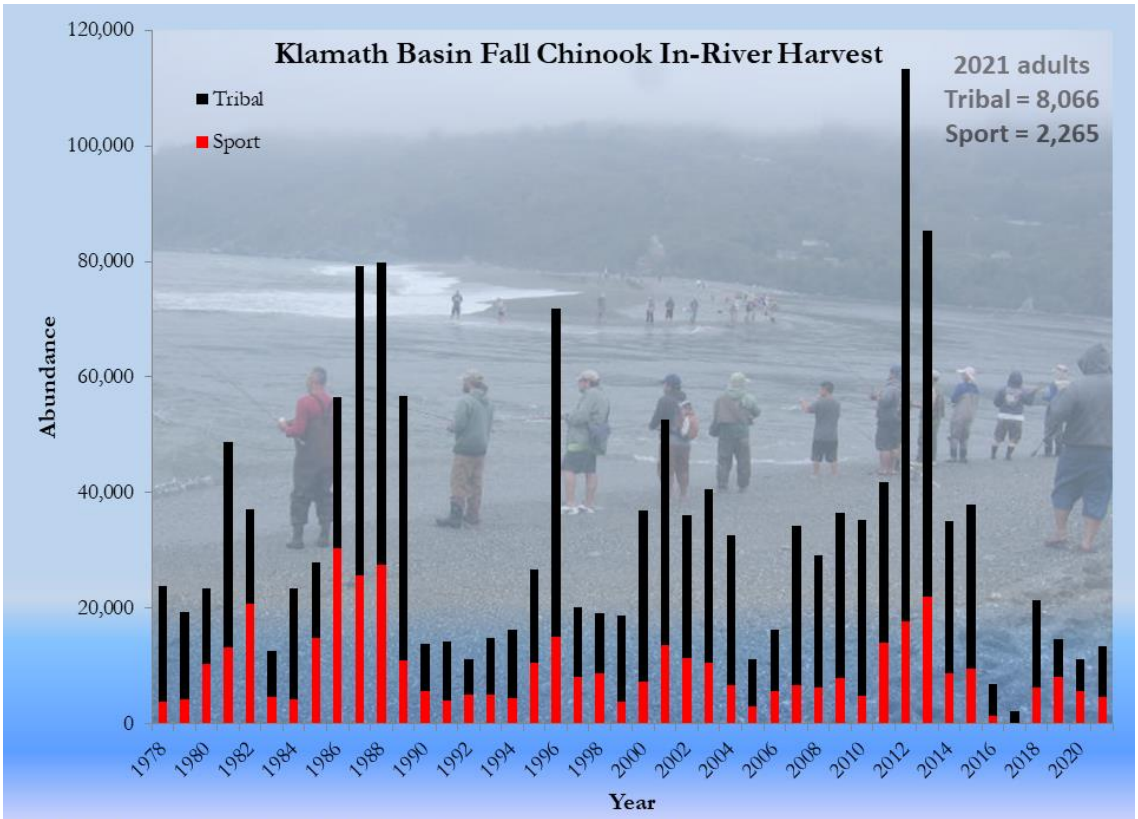
Domenic Giudice- Environmental Scientist



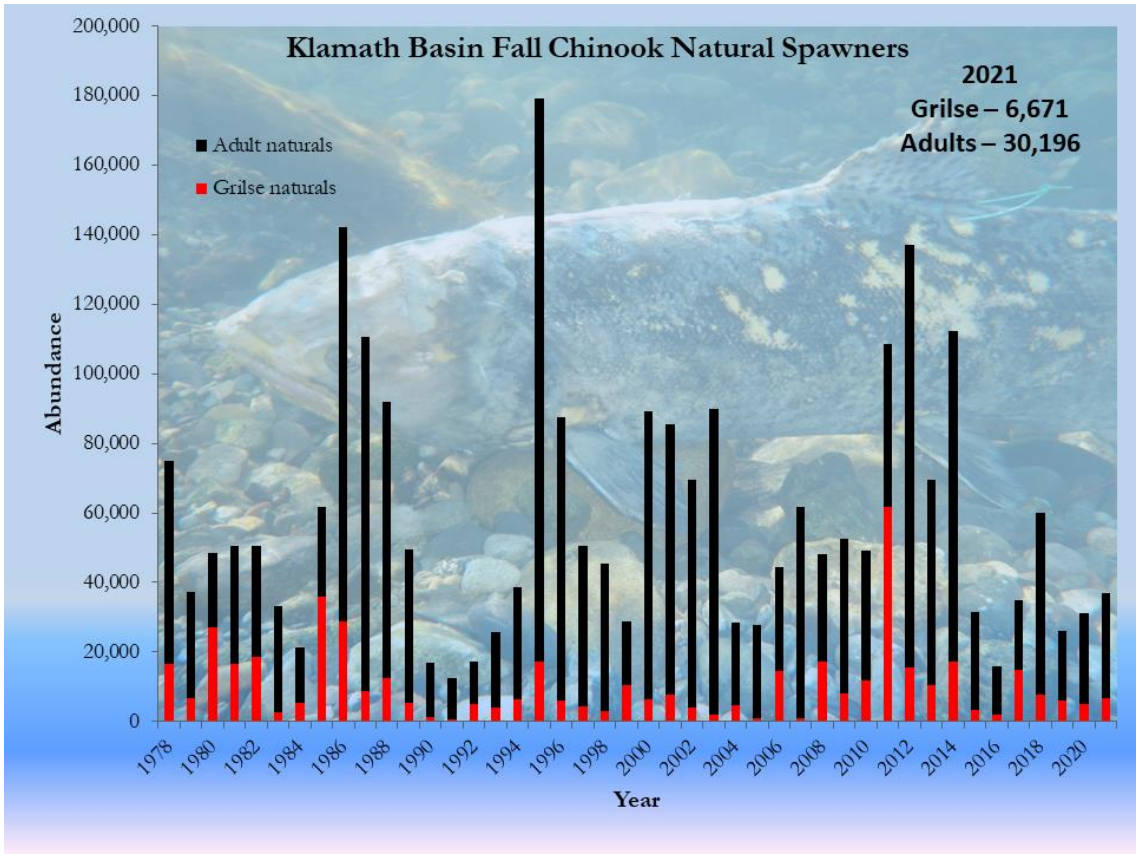
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
THE GREAT SEAL OF THE HOOPA VALLEY TRIBE
Salmon River Restoration Council
CALIFORNIA DEPARTMENT OF FISH & WILDLIFE
AMERICORPS
Mid Klamath Watershed Council
FOREST SERVICE
U.S.
DEPARTMENT OF AGRICULTURE
THE YUROK TRIBE
WSP
KARUK TRIBE of CALIFORNIA
NATURAL RESOURCES
Northern California Resource Center
we help people
U.S. FISH & WILDLIFE SERVICE
Quartz Valley Indian Reservation
SISKIYOU RESOURCE CONSERVATION DISTRICT
RCD
Trinity River Restoration Program
Restore • Adapt • Improve
AND LANDOWNERS


Klamath Basin Fall Chinook Run Size
grilse = 10,384
adults = 54,207
2021 run = 64,591
Adults
Grilse
Abundance
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
Year
78-21 avg = 119,889





2021 Adult KRFC quotas: tribal = 8,100, in river rec= 1,200



Age Composition of the 2021 Klamath Basin fall Chinook Salmon run

Escapement & Harvest	AGE 2	AGE 3	AGE 4	AGE 5	Total Adults	Total Run
Hatchery Spawners						
Iron Gate Hatchery	494	4,862	2,096	54	7,012	7,506
Trinity River Hatchery	129	5,523	315	0	5,838	5,967
subtotal	**623**	**10,385**	**2,411**	**54**	**12,850**	**13,473**
					23.7%	20.9%
Natural Spawners						
Klamath Basin subtotal	3,332	6,738	10,133	72	16,944	20,276
Trinity Basin subtotal	3,339	12,361	892	0	13,252	16,591
subtotal	**6,671**	**19,099**	**11,025**	**72**	**30,196**	**36,867**
					55.7%	57.1%
Recreational Harvest						
Klamath River harvest	2,373	1,115	601	12	1,728	4,101
Trinity River harvest	24	534	3	0	537	561
subtotal	**2,397**	**1,649**	**604**	**12**	**2,265**	**4,662**
					4.2%	7.2%
Tribal Harvest						
Klamath River harvest	161	2,629	2,745	66	5,440	5,601
Trinity River harvest	451	2,019	608	0	2,627	3,078
subtotal	**612**	**4,648**	**3,353**	**66**	**8,066**	**8,678**
					14.9%	13.4%
Dropoff Mortality	75	406	304	7	717	792
Klamath River Ich disease testing	6	61	50	2	113	119
					1.5%	1.4%
Total River Run	**10,384**	**36,248**	**17,747**	**213**	**54,207**	**64,591**

Source: 2022 KRTT

2021 Preliminary results/findings

The 2021 Klamath Basin fall Chinook run estimate is 54% of the 44-year average.

The number of 2 year-old fish (10,384) is 60% of the long-term average

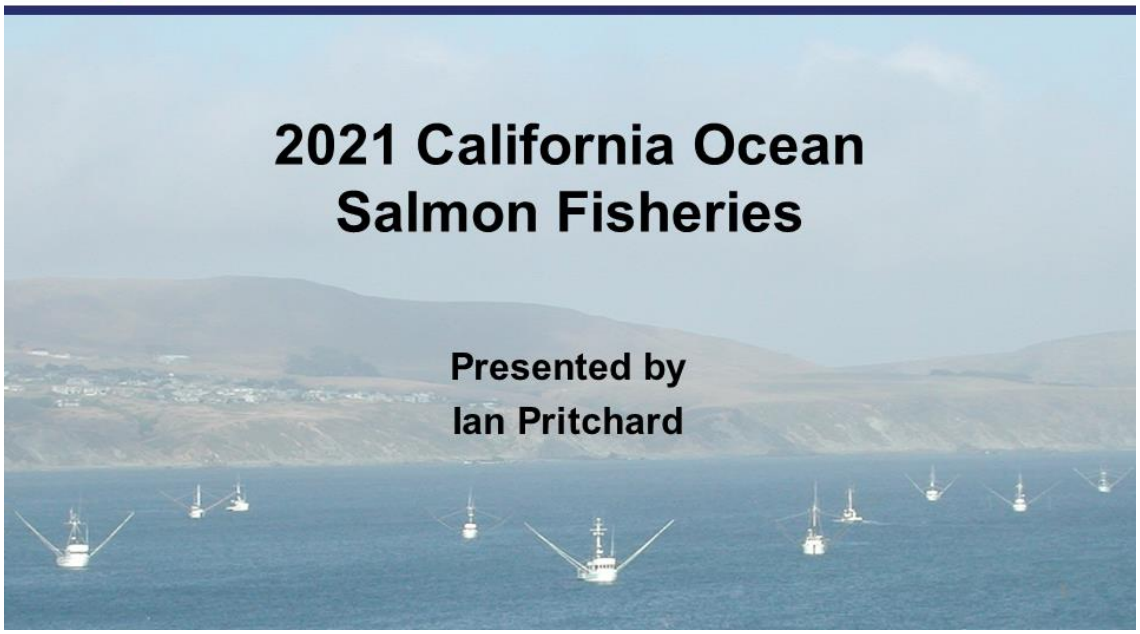
The adult Chinook returns to the basin were 87% percent of the projected forecast (62,100 pre vs. 54,000 post).

The adult fall Chinook natural escapement objective was 31,574 (30,196 returned in 2021) under *de minimis* fishing and was not met.

The geometric mean of adult natural escapement for the past three years is 25,111.

A 2022 natural area escapement of ~85,251 adults is necessary to "rebuild" the stock (achieve 3-year geometric mean of 40,700).

Department of Fish and Wildlife
Ocean Salmon Project

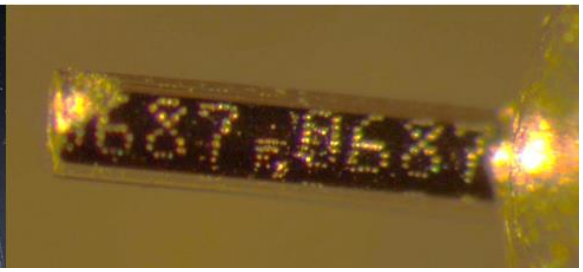


2021 California Ocean Salmon Fisheries

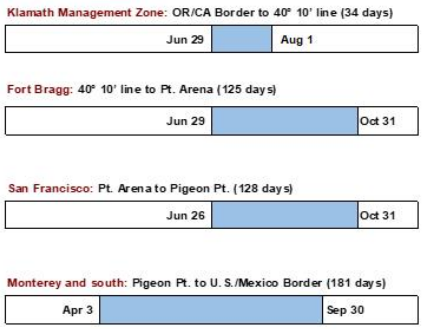
Presented by
Ian Pritchard

Ocean Salmon Project Objectives

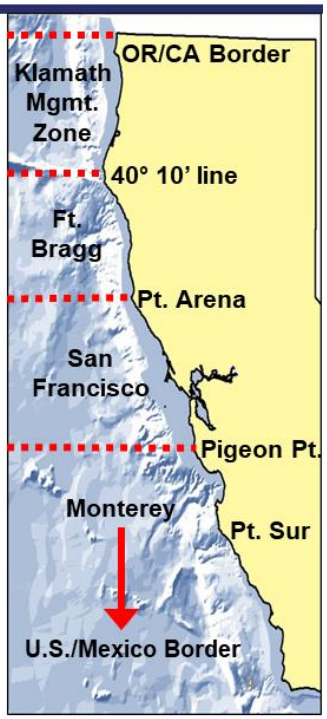
1. Estimate ocean salmon catch & fishing effort in CA for each management area by half-month periods for both recreational and commercial fisheries
2. Determine the contribution rates of specific salmon stocks by fishery, time, and management area using coded-wire tag recoveries



2021 California Recreational Season

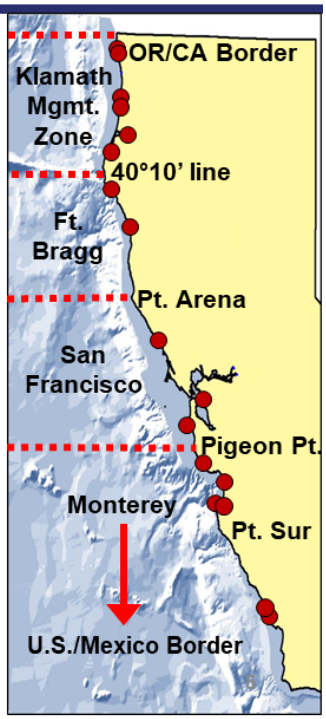


Minimum size: 24" through May 15
Minimum size: 20" After May 15
Bag limit: 2 fish per day



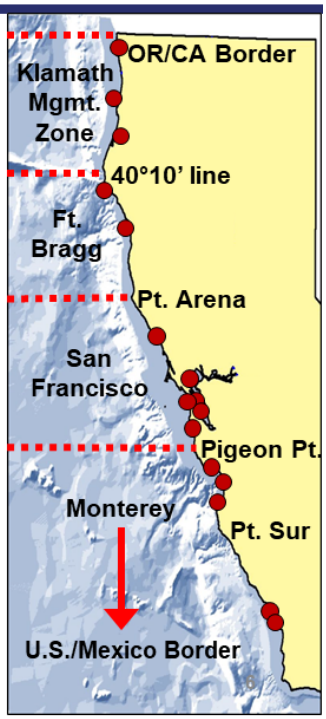
Sample Design – Private Skiff Fishery

- CRFS samples ≥ 20% of all skiff days in each management area and period
  - 17 primary salmon skiff sample sites
  - Average 7 sample days per month at each site
  - All the skiff trips made at a sample site for an entire day are sampled
  - 464 skiff days were sampled during the 2021 ocean salmon season
  - Random stratified sampling design using weekday and weekend/holiday strata
- Samplers observe, identify to species, and count all salmon landed
- Each salmon inspected for missing adipose fin
- Adipose fin-clipped salmon are set aside, and the heads are collected for coded-wire tag extraction

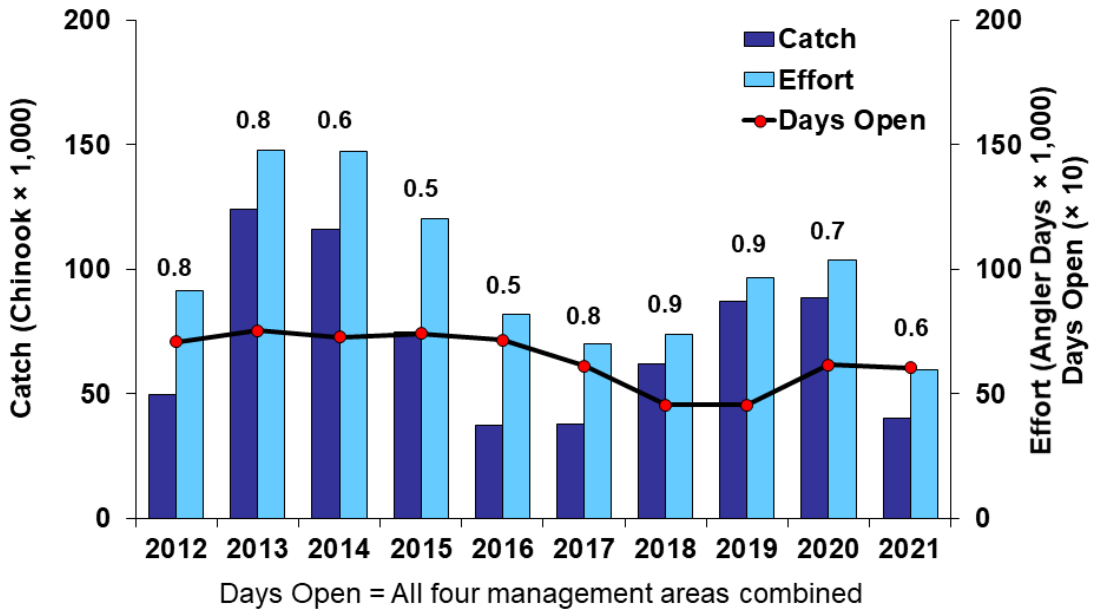


Sample Design – CPFV Fishery

- Sample ≥ 20% of all salmon-targeting CPFV trips in each management area and period
  - 15 primary salmon CPFV sample sites
  - 115 CPFVs participated in the 2021 ocean salmon fishery
  - 1,233 salmon-targeting CPFV trips were sampled during the 2021 ocean salmon season
- Samplers observe, identify to species, and count all salmon landed
- Each salmon inspected for missing adipose fin
- Adipose fin-clipped salmon are set aside, and the heads are collected for coded-wire tag extraction

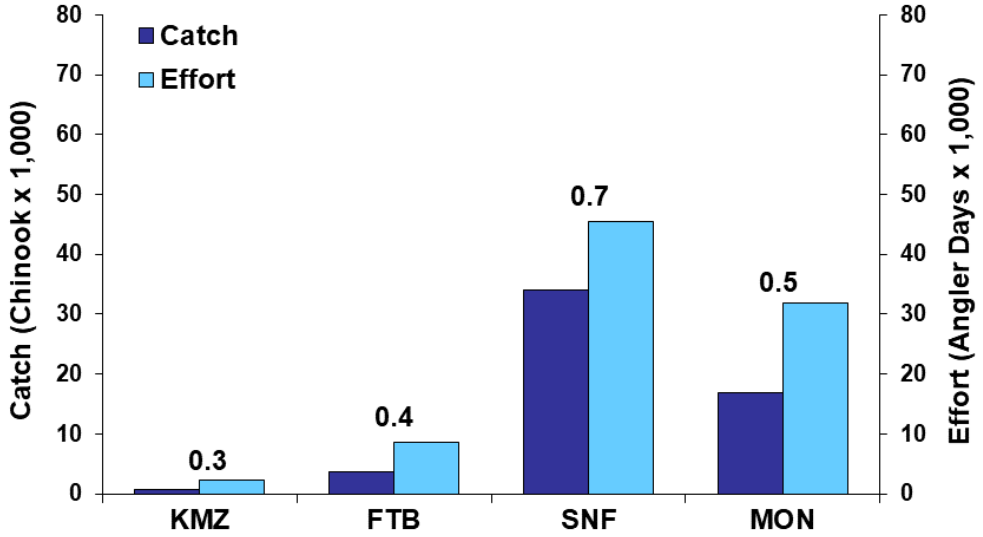


Recreational Catch and Effort, 2012-2021

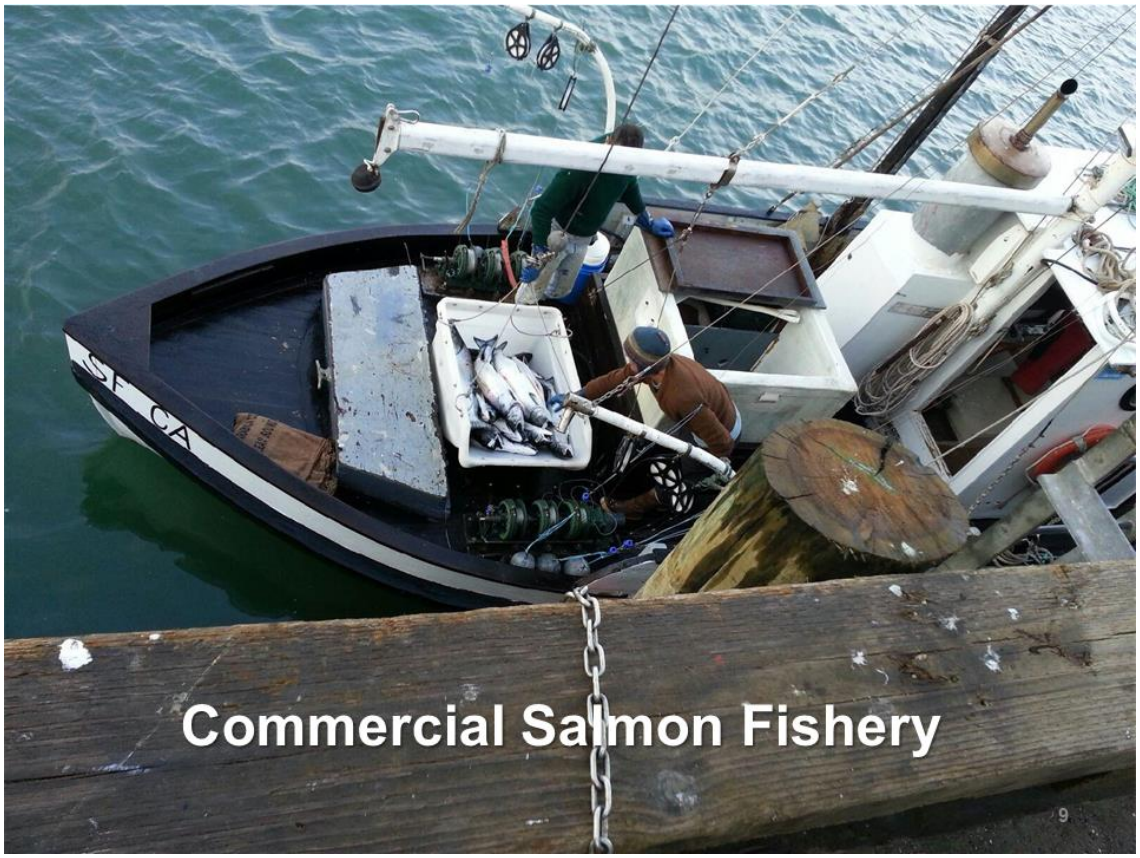


Days Open = All four management areas combined

2021 Recreational Catch and Effort by Management Area



	KMZ	FTB	SNF	MON	TOTAL
Days Open	34	125	128	181	
Total Chinook	641	3,694	33,996	16,950	**55,281**
Angler Days	2,261	8,637	45,391	31,863	**88,152**



2021 California Commercial Season

Klamath Mgmt. Zone: OR/CA Border to Humboldt S. Jetty (Closed)

Fort Bragg: 40° 10' line to Pt. Arena (47 days)

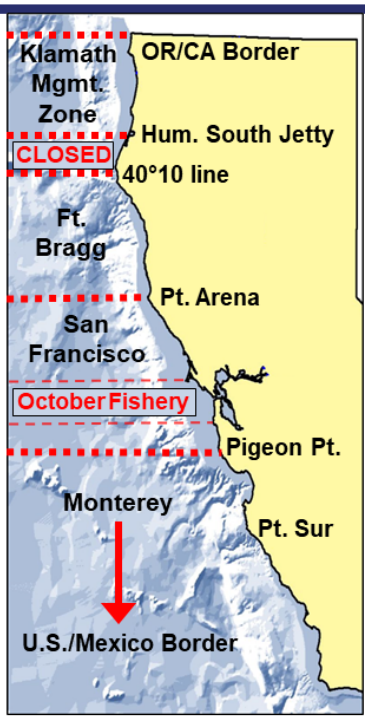
Aug 1 — Sept 30

San Francisco: Pt. Arena to Pigeon Pt. (79 days)

Jun 16 — * — Oct 15

Monterey: Pigeon Pt. to U.S./Mexico Border (58 days)

May 1 — Aug 17



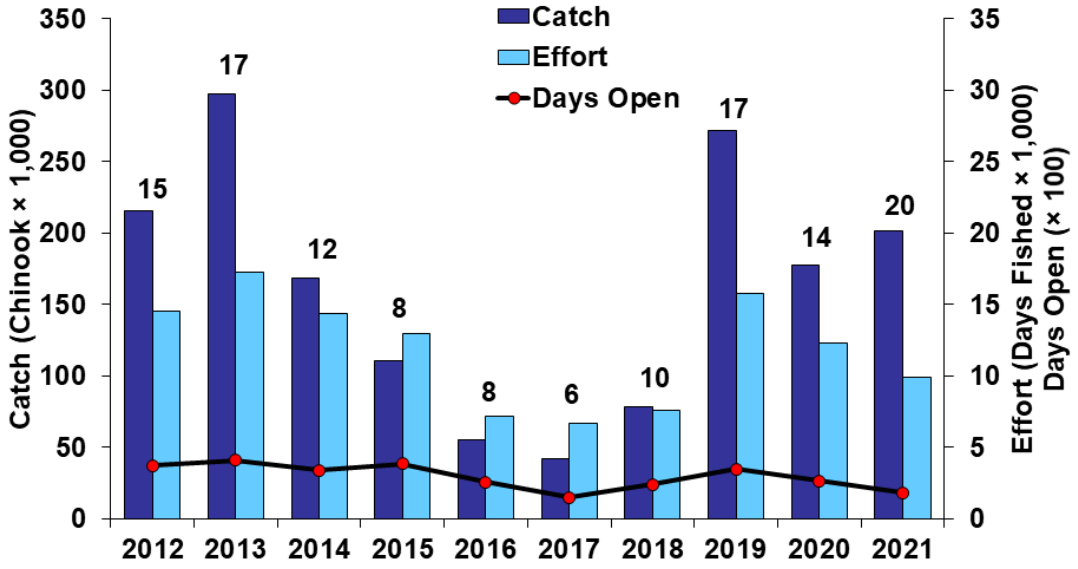
** Oct 1-15 fishery: Open Mon-Fri from Pt. Reyes to Pt. San Pedro*

Minimum size 27" in all areas, except 26" in SF after August

Sample Design – Commercial Fishery

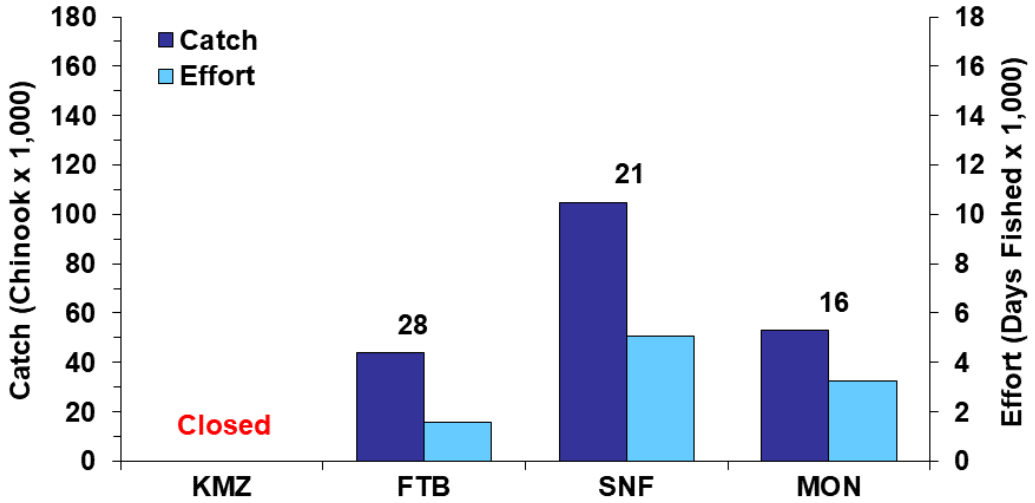
- Sample ≥ 20% of all commercial landings by weight in each management area and period
- Samplers observe, identify to species, and count all salmon being offloaded
- Each salmon inspected for missing adipose fin
- Adipose fin-clipped salmon are set aside, and the snouts are collected for coded-wire tag extraction

Commercial Catch and Effort, 2012-2021



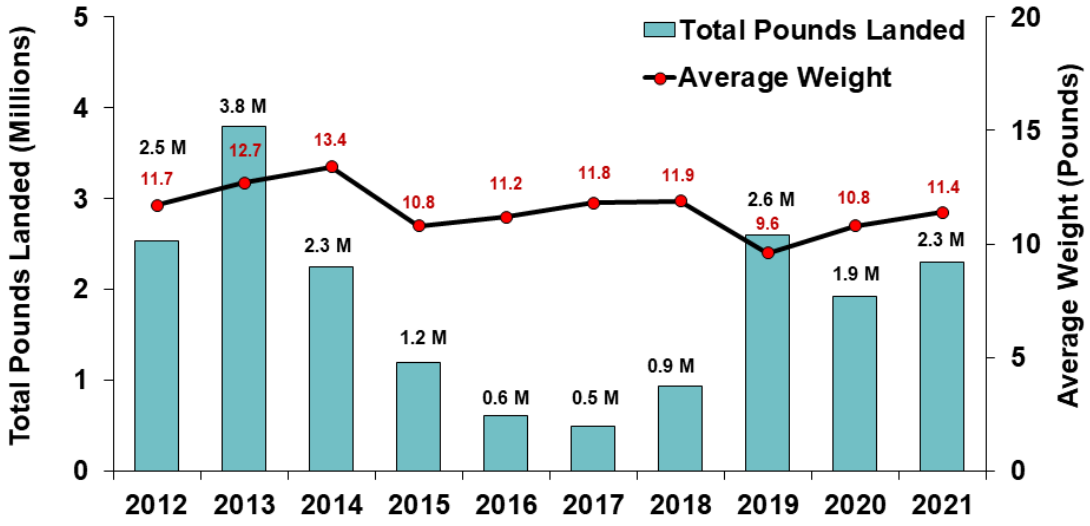
Days Open = All four management areas combined

2021 Commercial Catch and Effort by Management Area

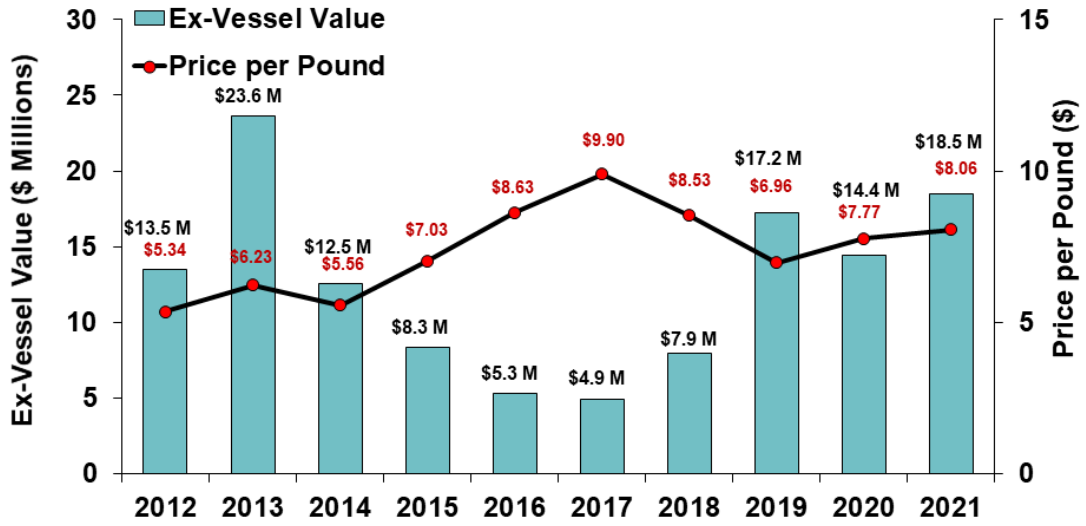


Days Open	47	79	58	**TOTAL**
Total Chinook	43,722	104,893	52,804	**201,419**
Days Fished	1,576	5,080	3,261	**9,917**

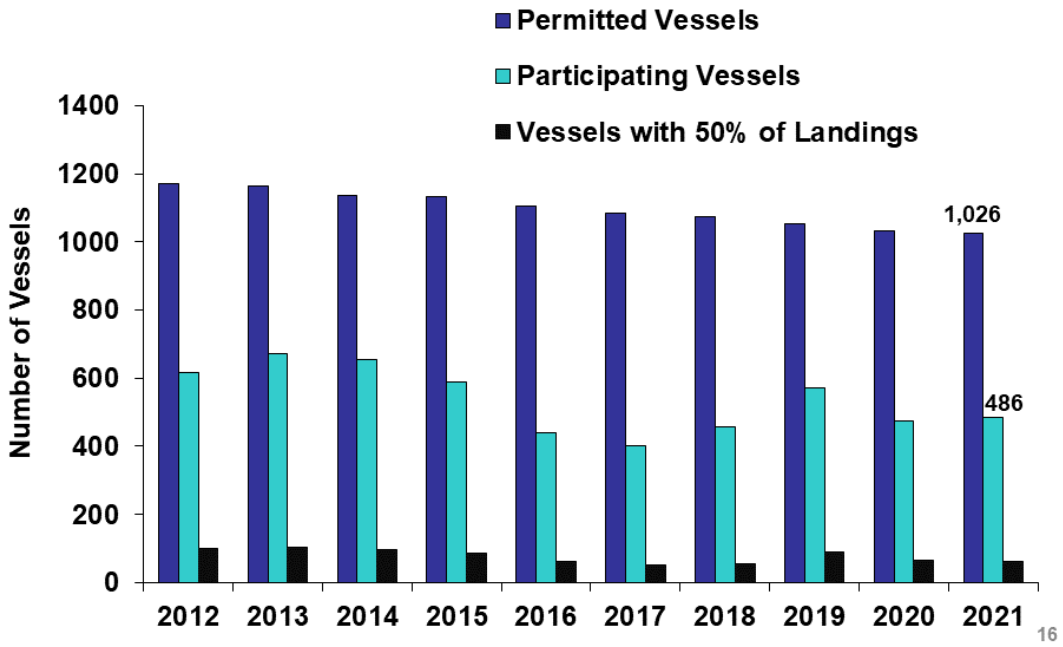
Total Commercial Pounds Landed and Average Weight, 2012-2021



Commercial Ex-Vessel Value and Price per Pound, 2012-2021



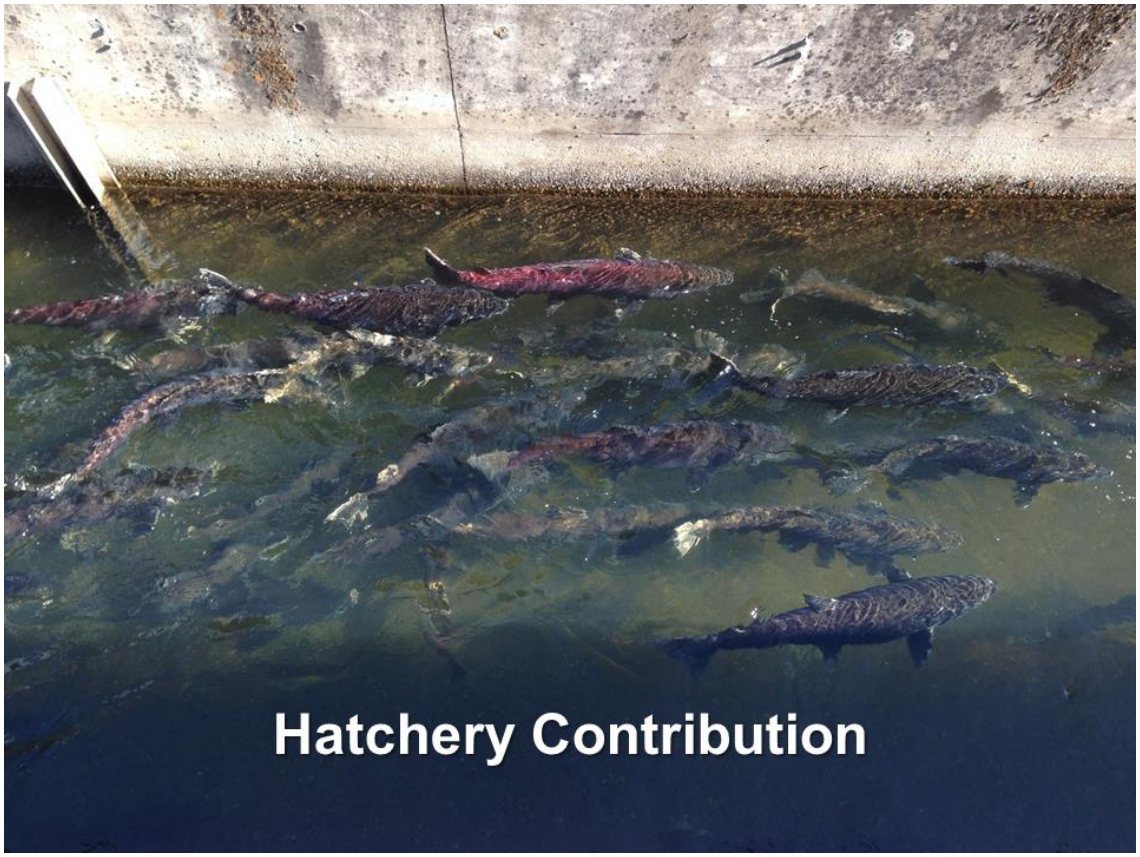
Number of Vessels with Landings Compared to Permitted Vessels, 2012-2021



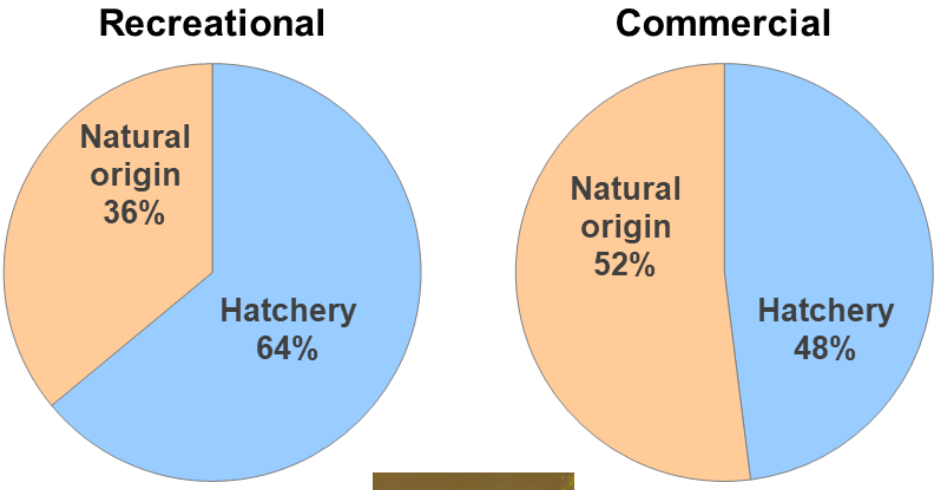
2021 Fall Ocean Fisheries Impacts on Age-4 Klamath River Fall Chinook

Area	Recreational	Commercial
Northern Oregon	0	0
Coos Bay	32	8
KMZ - Oregon	0	0
KMZ - California	0	0
Fort Bragg	36	55
San Francisco	0	0
Monterey	0	0
Total	68	63

0.29% Age-4 ocean harvest rate in fall fisheries, which will be deducted from the allowable ocean harvest rate when determining the 2022 season structure



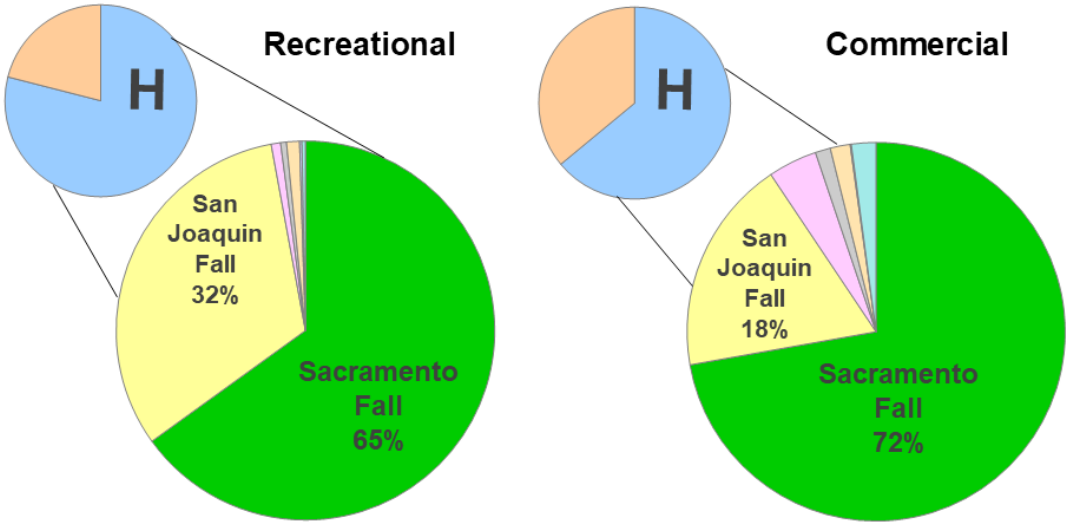
Hatchery Contribution to 2021 CA Ocean Fisheries



N = 2,660 CWTs

N = 8,610 CWTs

Hatchery Contribution to 2021 CA Ocean Fisheries

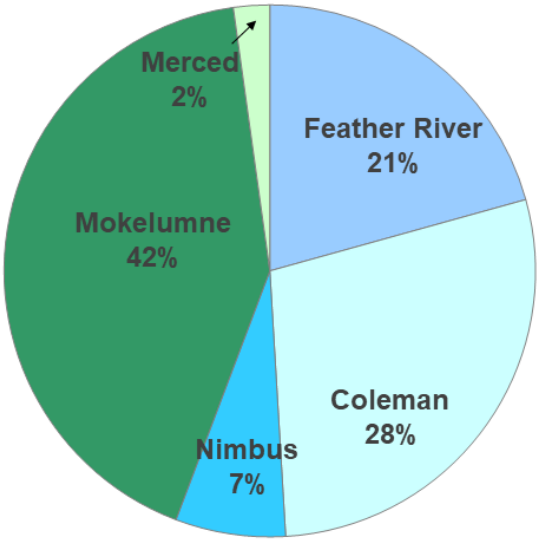


≈3% Other Stocks:
CV Late-Fall (0.5%), CV Spring (1.1%), Klamath River Fall (0.8%), Sacramento Winter (0.2%), Other (0.3%)

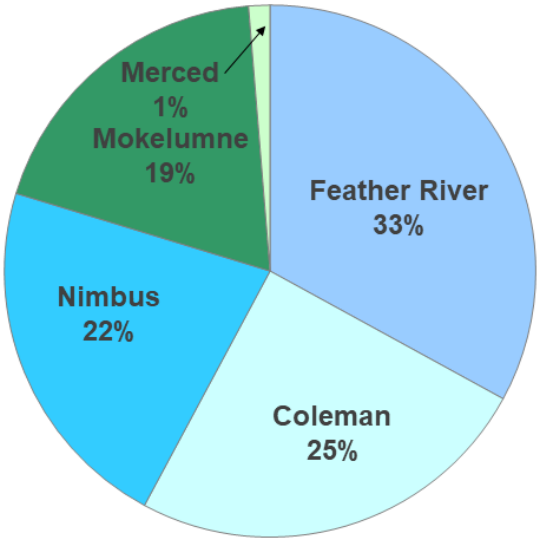
≈10% Other Stocks:
CV Late-Fall (1.3%), Klamath River Fall (4.2%), CV Spring (1.7%), Sacramento Winter (0.1%), Other (2.1%)

Hatchery Contribution to 2021 CA Ocean Fisheries

Recreational
Central Valley fall Chinook



Commercial
Central Valley fall Chinook



Department of Fish and Wildlife Ocean Salmon Project

NOAA FISHERIES
West Coast Regional Office

2022 Ocean Salmon Fishery Information

California Department of Fish and Wildlife
Salmon Informational Meeting
March 2, 2022

Jeromy Jording
Sustainable Fisheries Division
West Coast Region

All Guidance Preliminary; final at March Council Meeting

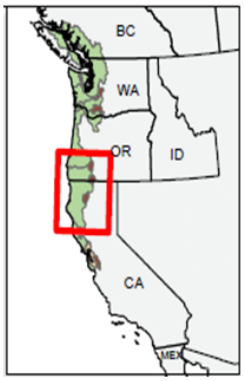
2022 recommendation is to be conservative within the guidelines of the Salmon FMP. (forecasts will be covered in Michael O'Farrell's presentation)

Indicator Stock	NMFS Guidance will achieve these escapement levels
Sacramento River fall Chinook	Upper end of the hatchery and natural area adult spawner conservation range
Klamath River fall Chinook	Continue to use the rebuilding plan: 38,180 natural area adult spawners

Endangered Species Act (ESA) Listed Stocks

Coho Salmon

- Prohibit coho-directed fisheries off CA;
- Prohibit coho retention in Chinook-directed fisheries off CA
- Southern Oregon/Northern California Coho
  - ESA – Threatened
  - Recovery plan released September 2014 (79 FR 58750) – Current Steps: workshops to develop implementation plan
- Central California Coastal Coho
  - ESA – Endangered
  - Final recovery plan released 2012
  - Current Steps: Species in the Spotlight designation with NOAA Fisheries and the CDFW formed a "Priority Action Coho Team" to assemble State and Federal recovery plan priorities and actions



SONCC coho salmon

- The Council and NMFS engaged in a public process to develop a new HCR for SONCC coho since April 2020.
- The Council formed an Ad Hoc SONCC Workgroup tasked with developing a range of alternatives for Council consideration
- This process culminated at an emergency Council meeting January 21, 2022, where the Council adopted a motion to amend the FMP's HCR for SONCC coho.
- NMFS is now working on a new opinion that will apply to fisheries in 2022 evaluating the proposed amendment.

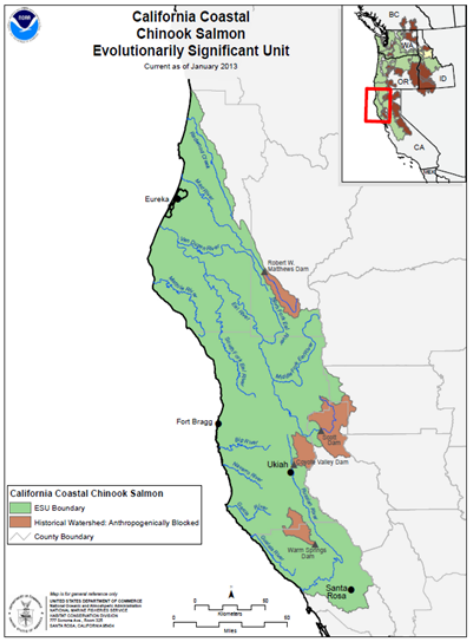
SONCC coho salmon

Preliminary Guidance for 2022

- Continue the prohibition of coho retention
- Constrain Council fisheries, when combined with freshwater fisheries, to a total exploitation rate on Rogue/Klamath coho salmon hatchery stocks to no more than 15 percent, except that the Trinity River population would be limited separately to a total ER of 16 percent.

California Coastal Chinook Salmon

- ESA-threatened
- Multi-species recovery plan was available for public comment through January 2016 (80 FR 75066)



California Coastal Chinook Salmon

- Current consultation standard is a maximum Klamath River fall Chinook age-4 ocean harvest rate of 16.0%
- Recall that the KOHM was updated in 2021
  - This was done to try to align the fishery model with observed exceedances to the 16% HR limit (0.16), however:

Year	Preseason Age-4 HR	Postseason Age-4 HR
2018	0.12	0.24
2019	0.16	0.36
2020	0.09	0.23
2021	0.11	0.27

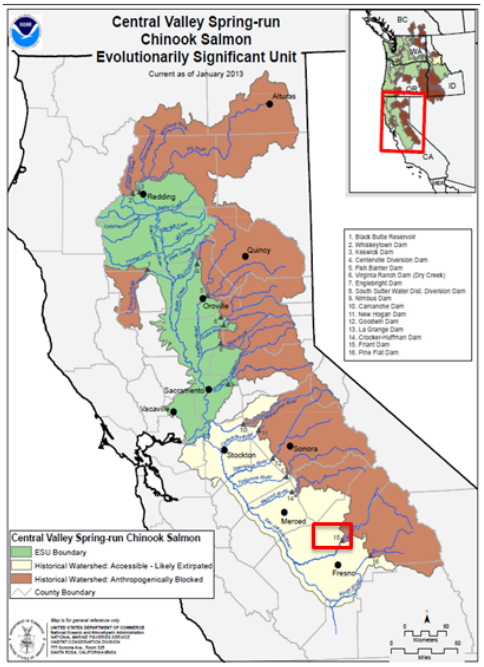
California Coastal Chinook Salmon

Preliminary Guidance for 2022

- Given the pattern of post season performance, NMFS advises the Council to manage for a buffer of 40% on the preseason target ocean harvest rate (preseason target that will achieve postseason attainment of 16% given the pattern of recent model performance); **unless** the Council and its advisory bodies identify management measures or further model adjustments that the available information indicates would have the same effect for 2022 ocean salmon fisheries.

Central Valley Spring Chinook Salmon

- ESA-threatened
- Recovery plan adopted July 2014 (79 FR 42504)
- SWRC management framework continues to provide sufficient protection

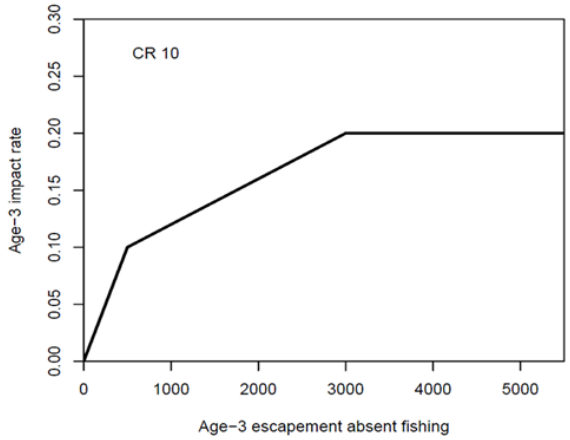


Sacramento River Winter Chinook Salmon

- ESA – Endangered
- Recovery plan adopted July 2014 (79 FR 42504)
- Guidance for 2022:
  - Continuation of consultation standards on minimum size limits and seasonal windows
  - Circle hook restrictions while mooching in the recreational fishery between Horse Mountain and Point Conception

Sacramento River Winter Chinook Salmon

- The current HCR:



- Based on this new rule NMFS preliminary guidance for an allowable impact rate in 2022 is: 20.0%

Southern Resident Killer Whales

- ESA – Endangered
  - Final recovery plan released 2008
  - Since 2009, the population has declined from 87 whales down to a near historic low of 72 whales.
- In 2021, NMFS issued a new opinion on the Council's FMP, as it had amended the FMP to include Amendment 21, which established an arithmetic mean of pre-fishing Chinook salmon abundance in the area North of Cape Falcon (Washington coast area) (using years 1994-1996, 1998-2000, and 2007) as a management threshold.

Southern Resident Killer Whales

- Management measures proposed for California fisheries when the threshold is tripped include:
  - Close California (& Oregon) waters of the Klamath Management Zone to commercial and recreational salmon fisheries from October 1 through March 31 of the following year.
  - Increase the duration of the Klamath Control Zone area expansion beginning September 1 through March 31 of the following year.
  - Close commercial and recreational salmon fisheries in the Monterey management area from October 1 through March 31 of the following year.

Southern Resident Killer Whales

- NMFS expects the Council salmon fisheries in the coastal waters of the EEZ will continue to meet the conservation objectives for ESA-listed salmon and continue to be responsive to the abundance of salmon stocks similar to that over this last decade when the whale status has declined
- Amendment 21 incorporated into the FMP an expectation the method would likely be updated as new data became available and models were updated.
- As of 2022, updates to both the FRAM and Shelton et al. models (the two models the SRKW Workgroup used to develop its method) are available for use.

Southern Resident Killer Whales

Preliminary Guidance for 2022

- At the March Council meeting, the Council should follow the process outlined in the FMP to discuss and determine whether a review of the best scientific information available indicates that a modification of the Chinook low abundance threshold is ready for 2022.
- Either way, with or without an update to the threshold, we advise the Council to use the methodology adopted by the Council's Ad Hoc Workgroup to assess the pre-fishery forecasted abundance levels (FRAM time step one) by spatial aggregate (the North of Cape Falcon, Cape Falcon south to Humbug Mountain, and aggregated South of Humbug Mountain management areas) using available updates to both FRAM and the Shelton et. al models.

Southern Resident Killer Whales

Preliminary Guidance for 2022

- If the NOF abundance is equal to or less than the average in the years of abundance used in the threshold described in the FMP (1994 – 1996, 1998 – 2000 and 2007) (FRAM time step one), or as updated, the Council should implement precautionary conservation measures detailed in Section 6.6.8 of the FMP for Council salmon fisheries that affect the abundance in NOF waters (this includes salmon fisheries in Washington, Oregon, and California waters) to benefit the whales.

Thank You

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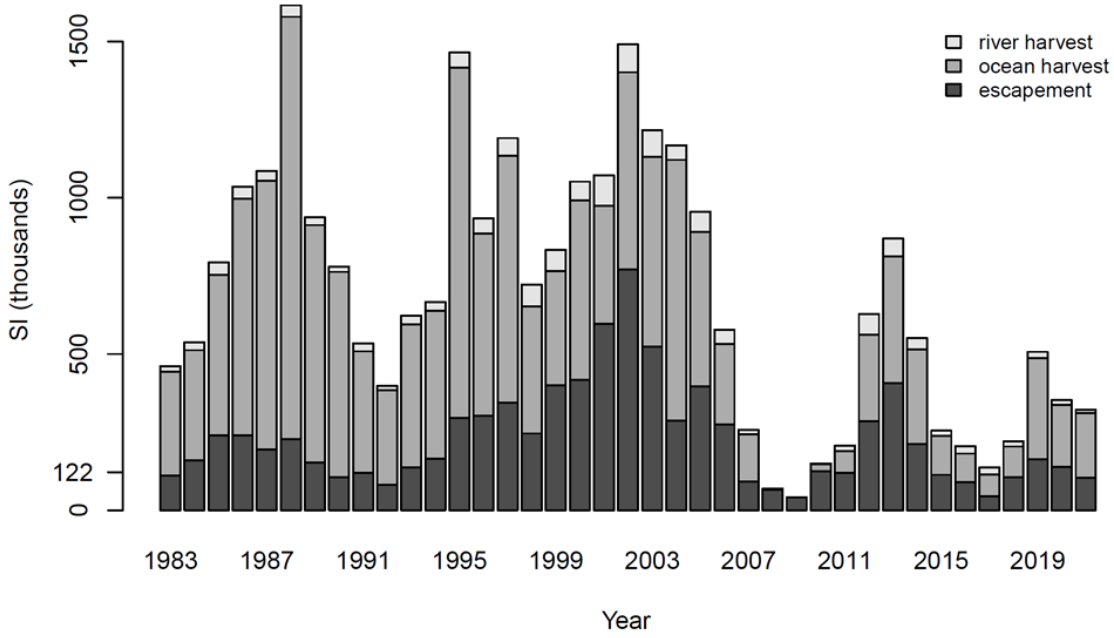
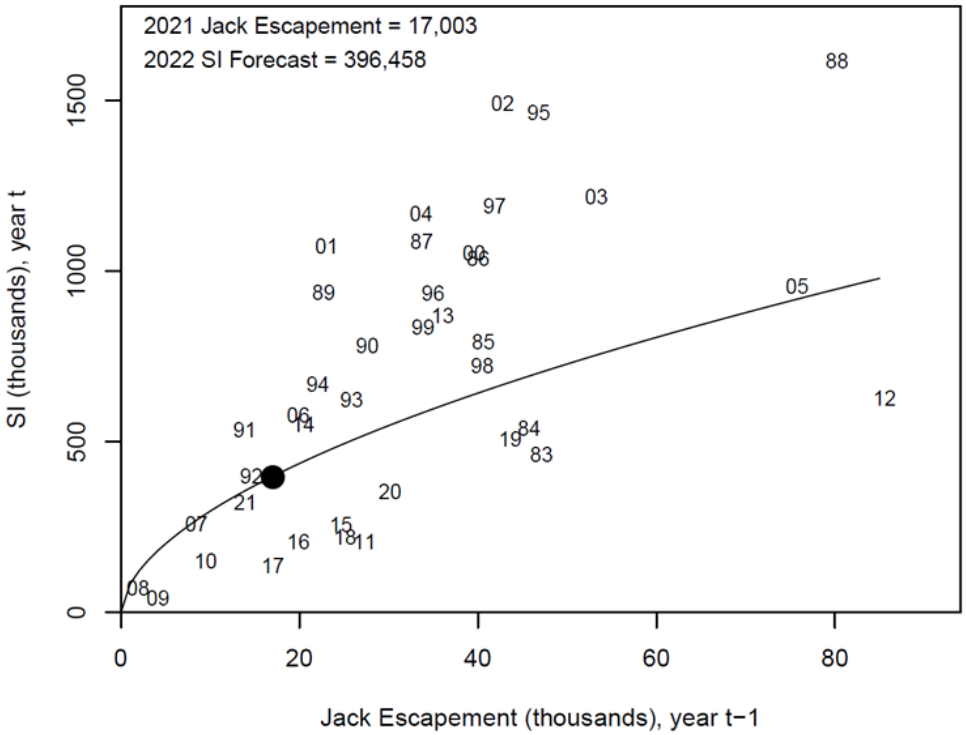
Susan.Bishop@noaa.gov

Special thanks to:
Michael O'Farrell SWFSC

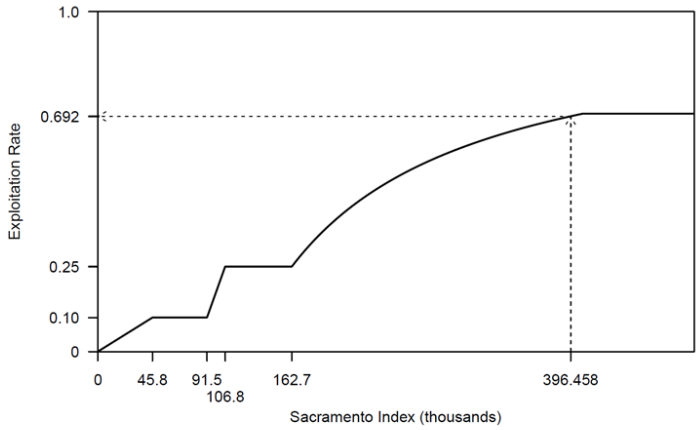
2021 Sacramento Index (SI) = 322,137



2022 SI forecast = 396,458

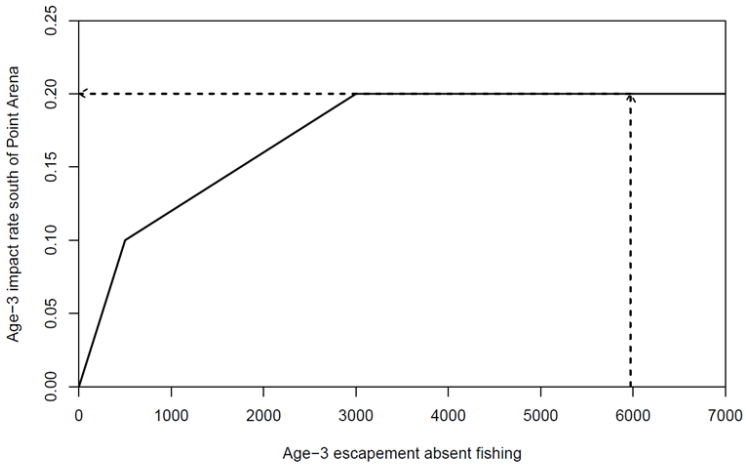


2022 SRFC management



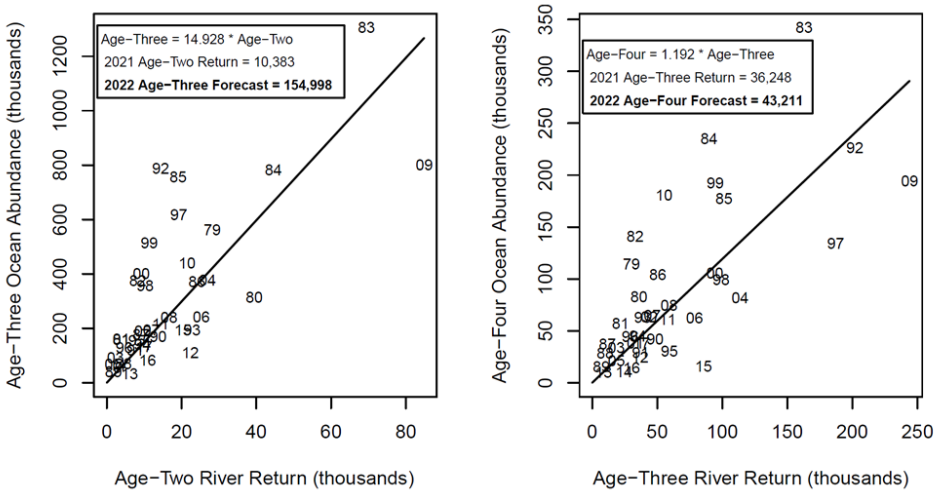
- 2022 forecast higher than 2021
- Must target an escapement of at least 122,000 (69.2% exploitation rate)
- 2021 regs: escapement prediction of 189,235
- Unlikely constrains 2022 fisheries

2022 winter Chinook management



- Abundance forecast: 5,971 (lower than 2021)
- Maximum allowable age-3 impact rate: 20%
- 2021 regs: preliminary impact rate of 14.6%
- Unlikely to constrain fisheries south of Point Arena

2022 Klamath abundance forecast

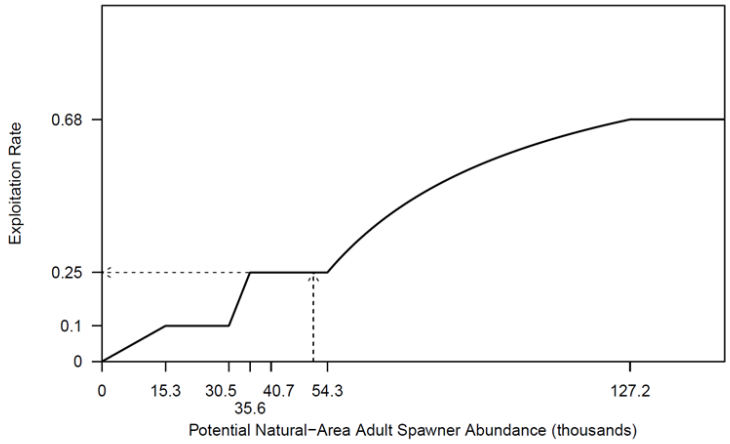


Age-3:
154,998

Age-4:
43,211

Age-5:
1,908

2022 Klamath fall Chinook management



- Potential spawner abundance: 50,906
- Max exploitation rate: 25%
- Minimum escapement: 38,180

2022 KRFC management, contd.

- 2021 regs applied to 2022 abundance
  - Tribal allocation: 50% of total harvest
  - River recreational allocation: 15% of non-tribal harvest
  - Natural-area adult spawner prediction: 33,829
  - Exploitation rate: 33.5%
  - Likely to constrain 2022 fisheries

2022 California Coastal Chinook

- Max allowable KRFC age-4 ocean harvest rate of 16%
- 2021 fisheries: preliminary prediction of 16.5%
- Likely to constrain 2022 fisheries

2022 California Ocean Salmon Preseason Process: Calendar of Events

March 8-14, 2022 - Pacific Fishery Management Council March Meeting
San Jose, CA
The Council will determine if any in-season action for fisheries scheduled to open prior to May 16 is needed. They will also craft three regulatory alternatives for ocean salmon fisheries in effect on or after May 16. Final adoption of alternatives for public review is tentatively scheduled for March 14.
Preseason Report II: Proposed Alternatives and Environmental Assessment Part 2 for 2022 Ocean Salmon Fishery Regulations will be available online in late March at: www.pcouncil.org.

March 22, 2022 - Pacific Fishery Management Council Public Hearing
Eureka, CA
The Council will receive comments from the public on the three California ocean salmon fishery regulatory alternatives adopted by the Council in March. More information is available at: www.pcouncil.org.

April 6-13, 2022 - Pacific Fishery Management Council April Meeting
Seattle, WA
The Council will adopt final regulatory measures for analysis by the STT. Final adoption of recommendations to the National Marine Fisheries Service will also occur and is tentatively scheduled for April 13.
Preseason Report III: Council-Adopted Management Measures and Environmental Assessment Part 3 for 2022 Ocean Salmon Fishery Regulations will be available online in late April at: www.pcouncil.org.

April 20-21, 2022 - California Fish and Game Commission Meeting
Monterey/Santa Cruz area, CA
The Commission will receive an update on ocean salmon sport fishery regulations in effect in 2022. The public may address and/or ask questions of the Commission relating to the implementation of its policies or any other matter within the jurisdiction of the Commission. Agenda and audio available online at: www.fgc.ca.gov.

Who Can I Contact Regarding the Upcoming Salmon Season?

Contact a member of the Pacific Fishery Management Council's **Salmon Advisory Subpanel**:

Justin Alvarez California Tribes	Hoopa Valley Tribal Fisheries PO Box 1348 Hoopa, CA 95546	Telephone: (530) 625-4267 Email: jalvarez@hoopa-nsn.gov
George Bradshaw California Troll	F/V Swan PO Box 1565 Crescent City, CA 95531	Telephone: (707) 954-9339 Email: GeorgeBradshaw707@gmail.com
Jim Yarnall CA Sport Fisheries	California Sport Fisheries 6308 Eggert Road Eureka, CA 95503	Telephone: (707) 443-2496 Email: jimyarnall@gmail.com
James Stone CA Sport Fisheries	Nor-Cal Guides & Sportsmen's Association PO Box 111 Sutter, CA 95982	Telephone: (530) 923-9440 Email: jstone@ncgasa.org
John Atkinson CA Charter Boat	Golden Gate Fishermen's Association 42 Seawolf Passage Corte Madera, CA 94925	Telephone: (415) 924-6851 Email: newrayann@comcast.net

To make comments directly to the Pacific Fishery Management Council regarding the upcoming salmon season, please visit the Council's website at https://www.pcouncil.org/council-meetings/upcoming-meeting/ and navigate to the E-Portal for Public Comment for the upcoming March or April meeting.

Online Resources:

Review of 2021 Ocean Salmon Fisheries
Available online at: https://www.pcouncil.org/salmon-management-documents/

Preseason Report I: Stock Abundance Analysis for 2022 Ocean Salmon Fishery Regulations
Available online in March at: https://www.pcouncil.org/salmon-management-documents/

Klamath Basin Age Composition and Stock Projection Reports
Available online in March at: https://www.pcouncil.org/salmon-document-library/

State of California
Department of Fish and Wildlife
Ocean Salmon Project – Marine Region
https://wildlife.ca.gov/oceansalmon

2021 Ocean Salmon Commercial Regulations

***** NEW IN 2021: THE BOUNDARY BETWEEN THE KMZ AND FORT BRAGG IS NOW THE 40°10' LINE NEAR CAPE MENDOCINO *****

OR/CA Border to the 40°10' Line (Klamath Management Zone/KMZ):
Closed

40°10' Line to Point Arena (Fort Bragg):
August 1-17, September 1-30
- Minimum size limit: 27 inches total length
- All salmon must be landed in California and north of Point Arena *

Point Arena to Pigeon Point (San Francisco):
June 16-30; July 17-22; August 1-17; September 1-30
- Minimum size limit: 27 inches total length through August, 26 inches thereafter
- During September, all salmon must be landed south of Point Arena *

Point Reyes to Point San Pedro (Fall Area Target Zone):
October 1, 4-8, 11-15
- Five days per week, open Monday through Friday
- Minimum size limit: 26 inches total length
- All salmon caught in the area must be landed between Pt. Arena and Pigeon Pt *

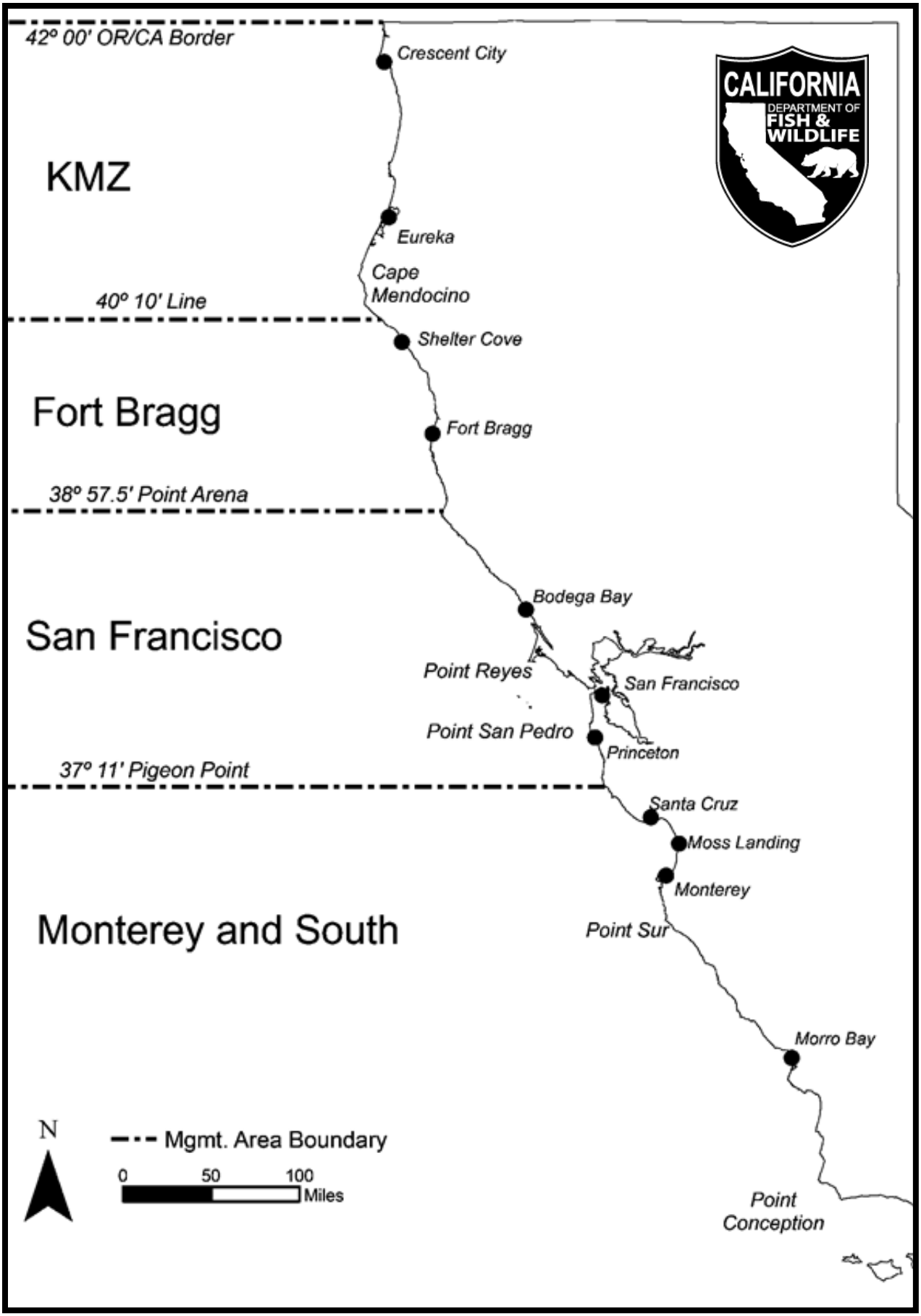
Pigeon Point to the U.S./Mexico Border (Monterey and south):
May 1-12, 20-27; June 16-30; July 17-22; August 1-17
- Minimum size limit: 27 inches total length

General Commercial Regulations

- **All salmon except coho; all commercial salmon must be landed in California** *
- **Single point, single shank barbless hooks are required** *
- **No more than 6 lines are allowed per vessel (CCR T-14, §182)**
- **Compliance with minimum size or other special restrictions:** All salmon on board a vessel must meet the minimum size and other special requirements for the area being fished and the area in which they are landed if that area is open or has been closed less than 48 hours. Salmon may be landed in an area that is closed more than 48 hours only if they meet the minimum size and other special requirements for the area in which they were caught AND it is not otherwise prohibited in the regulations.*
- **Electronic Reporting Requirements:** Any fish receiver or fisherman with a fisherman's retail license shall record landing information on an electronic fish ticket, including the number of individual fish (CCR T-14, §197). Submission is required within three business days (Cal. Fish & Game Code, § 8046). Any person who lands salmon shall keep a copy of all landing receipts documenting salmon landings on board the fishing vessel that caught the salmon until 15 days after the last salmon season closure for the calendar year (CCR T-14, §182).
- **Transit through closed area with salmon on board:** It is unlawful for a vessel to have fishing gear in the water while transiting any area closed to salmon fishing while possessing salmon (CCR T-14, §182).
- **Barbless circle hooks[1] required when fishing with bait and fishing by any means other than trolling[2]***
  1. *A CIRCLE HOOK is defined as a hook with a generally circular shape and a point which turns inwards, pointing directly to the shank at a 90-degree angle (CCR T-14, §182).*
  2. *TROLLING is defined as angling from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions (CCR T-14, §182).*

NOTE: When Pacific halibut are caught and landed incidentally in the commercial salmon troll fishery under a license issued by the IPHC, both the number of Pacific halibut landed and the number of salmon landed must be recorded on the electronic fish ticket. Please see federal regulations for incidental Pacific halibut harvest requirements and restrictions.*

* Federal Regulations per Table 1 in the PFMC's 2021 'Pre-III' report (https://www.pcouncil.org/documents/2021/04/2021-preseason-report-iii.pdf/) [the final 2021 Federal Register number for regulations was not available at the time of printing]


42º 00' OR/CA Border
Crescent City
CALIFORNIA
DEPARTMENT OF
FISH &
WILDLIFE
KMZ
Eureka
Cape
Mendocino
40º 10' Line
Shelter Cove
Fort Bragg
Fort Bragg
38º 57.5' Point Arena
Bodega Bay
San Francisco
Point Reyes
San Francisco
Point San Pedro
Princeton
37º 11' Pigeon Point
Santa Cruz
Moss Landing
Monterey
Monterey and South
Point Sur
Morro Bay
N
Mgmt. Area Boundary
0
50
100
Miles
Point
Conception

State of California
Department of Fish and Wildlife
Ocean Salmon Project – Marine Region
https://wildlife.ca.gov/oceansalmon

2021 Ocean Salmon Sport Regulations

***** NEW IN 2021: THE BOUNDARY BETWEEN THE KMZ AND FORT BRAGG IS NOW THE 40°10' LINE NEAR CAPE MENDOCINO *****

OR/CA Border to the 40°10' Line (Klamath Management Zone/KMZ):
June 29 – August 1
- Minimum size limit: 20 inches total length
- Special Salmon Closures: (see CCR T-14, §27.75)
  - Smith River mouth – closed year-round
  - Klamath River mouth – closed year-round; in August, this closure expands ("Klamath Control Zone")
  - Eel River mouth – closed in August and September only

40°10' Line to Point Arena (Fort Bragg):
June 29 – October 31
- Minimum size limit: 20 inches total length

Point Arena to Pigeon Point (San Francisco):
June 26 – October 31
- Minimum size limit: 20 inches total length

Pigeon Point to the U.S./Mexico Border (Monterey and south):
April 3 – September 30
- Minimum size limit: 24 inches total length through May 15 and 20 inches total length thereafter

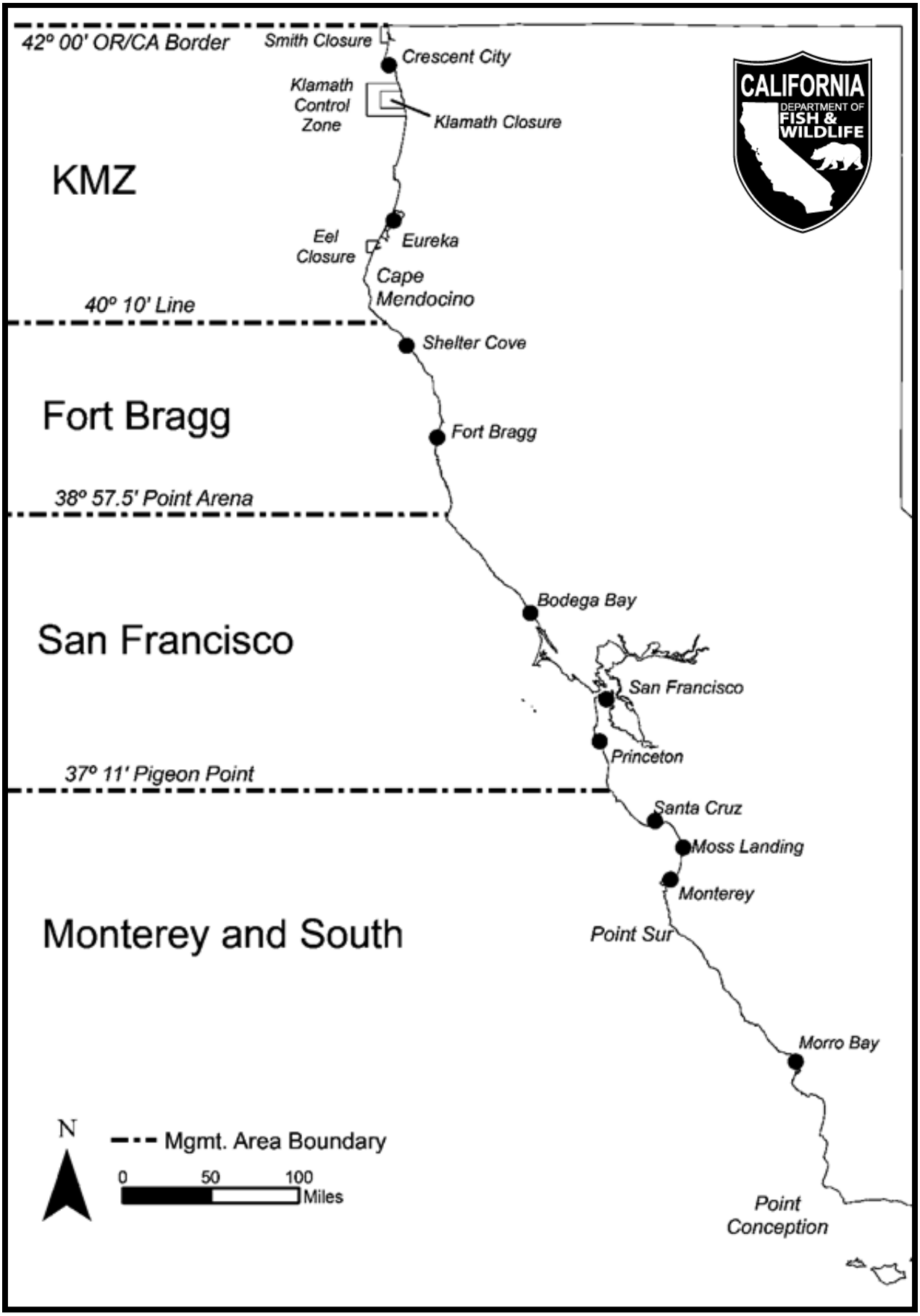
General Sport Regulations

- **Daily bag limit (CCR T-14, §27.80): 2 salmon of any species except coho (silver).**
- **Possession limit:** No more than two daily bag limits may be possessed when on land. On a vessel in ocean waters, no person shall possess or bring ashore more than one daily bag limit (CCR T-14, §27.80(e)).
- **Retention of coho (silver) salmon or steelhead trout prohibited in ocean fisheries (CCR T-14, §27.70(b) and §27.80(b)).**
- **Salmon may not be filleted on any boat or prior to being brought ashore (CCR T-14, §27.80(c)).**
- **Salmon may only be taken by angling as defined in CCR T-14, §1.05**. No sinkers or weights exceeding 4 lbs. may be used, except that a fishing line may be attached to a sinker or weight of any size if such sinker or weight is suspended by a separate line and the fishing line is released automatically by a mechanical device from the sinker or weight when any fish is hooked (CCR T-14, §27.80(a)).
- **North of Point Conception:** No more than two single-point, single-shank barbless hooks shall be used, and no more than one rod per angler when fishing for salmon or fishing from a boat with salmon on board (CCR T-14, §27.80(a)).
- **40°10' Line to Point Conception (CCR T-14, §27.80(a)):** When fishing with bait and angling by any means other than TROLLING[1], no more than two single-point, single-shank barbless CIRCLE HOOKS[2] shall be used. The distance between the two hooks must not exceed 5 inches when measured from the top of the eye of the top hook to the inner base of the curve of the lower hook and both hooks must be permanently tied in place (hard tied). **NOTE: These special gear restrictions apply to each angler fishing for salmon or fishing from any boat or floating device with salmon on board.**
  1. *TROLLING is defined as angling from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.*
  2. *A CIRCLE HOOK is defined as a hook with a generally circular shape and a point which turns inwards, pointing directly to the shank at a 90-degree angle.*
- **Recovery of coded-wire tag from salmon head:** Any person in possession of a recreationally taken salmon with a missing adipose fin (the small, fleshy fin on the back of the fish between the back fin and tail) shall immediately relinquish the head of the salmon, upon request by an authorized agent or employee of the Department, to facilitate the recovery of any coded-wire tag (CCR T-14, §1.73).

<u>OCEAN SALMON REGULATIONS HOTLINES</u>

NATIONAL MARINE FISHERIES SERVICE: (800) 662-9825

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE: (707) 576-3429


42º 00' OR/CA Border
Smith Closure
Crescent City
Klamath Control Zone
Klamath Closure
KMZ
Eel Closure
Eureka
Cape Mendocino
40º 10' Line
Shelter Cove
Fort Bragg
Fort Bragg
38º 57.5' Point Arena
Bodega Bay
San Francisco
San Francisco
Princeton
37º 11' Pigeon Point
Santa Cruz
Moss Landing
Monterey
Monterey and South
Point Sur
Morro Bay
Point Conception
N
Mgmt. Area Boundary
0
50
100
Miles