

## Agenda

### CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE 2023 SALMON INFORMATION MEETING

Wednesday, March 1, 2023

10:00 a.m. – 4:00 p.m.

~Virtual Only~

Welcome – Opening Comments and Review Agenda	Grace Easterbrook, CDFW 10:00 a.m.
2022 Central Valley Chinook Spawning Escapement	Audrey Dean, CDFW 10:10 a.m.
2022 Central Valley Chinook River Sport Fisheries	Shawn Simkins, CDFW 10:30 a.m.
2022 Klamath Basin Chinook Spawning Escapement, Harvest, and Age Composition	Dan Troxel, CDFW 10:50 a.m.
2022 California Ocean Salmon Sport and Commercial Fisheries	Ian Pritchard, CDFW 11:10 a.m.
LUNCH BREAK (1 hour)	11:30 a.m.
NMFS 2023 Ocean Salmon Fishery Guidance	Jeromy Jording, NMFS 12:30 p.m.
Abundance Forecasts and Harvest Model Results	Dr. Michael O'Farrell, NMFS 12:50 p.m.
Department Recommendations to PFMC on Ocean Fishery Constraints for 2023	Marci Yaremko, CDFW 1:15 p.m.
Introduction to Listening Session	Grace Easterbrook, CDFW 1:30 p.m.

Listening Session for Public Comments

1:40 p.m.

Closing Comments

Grace Easterbrook, CDFW  
3:40 p.m.

Acronyms:

CDFW: California Department of Fish and Wildlife

NMFS: National Marine Fisheries Service

Link to PFMC Briefing Book:

<https://www.pcouncil.org/briefing-book/march-2023-briefing-book/>

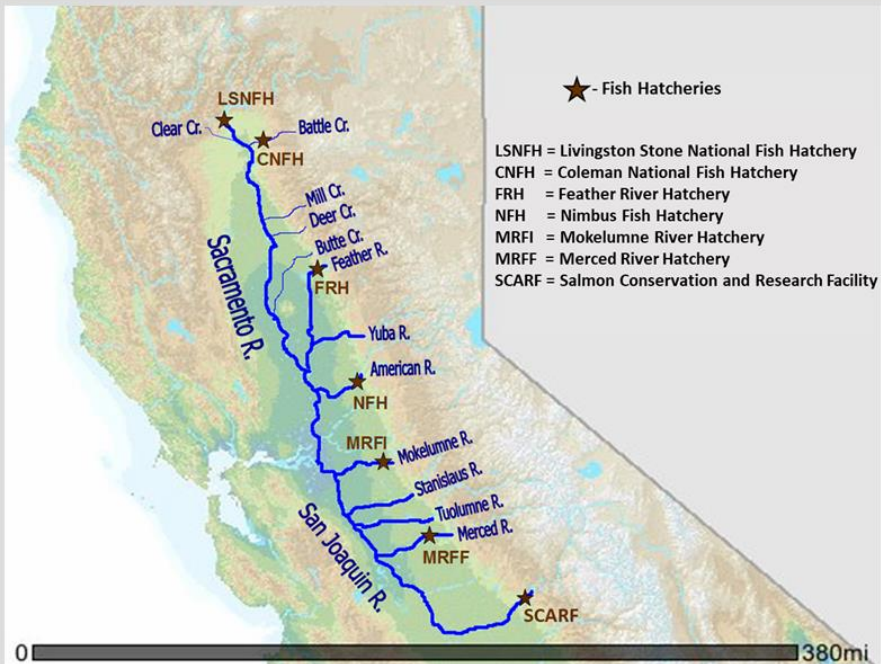


## Department of Fish and Wildlife Ocean Salmon Project

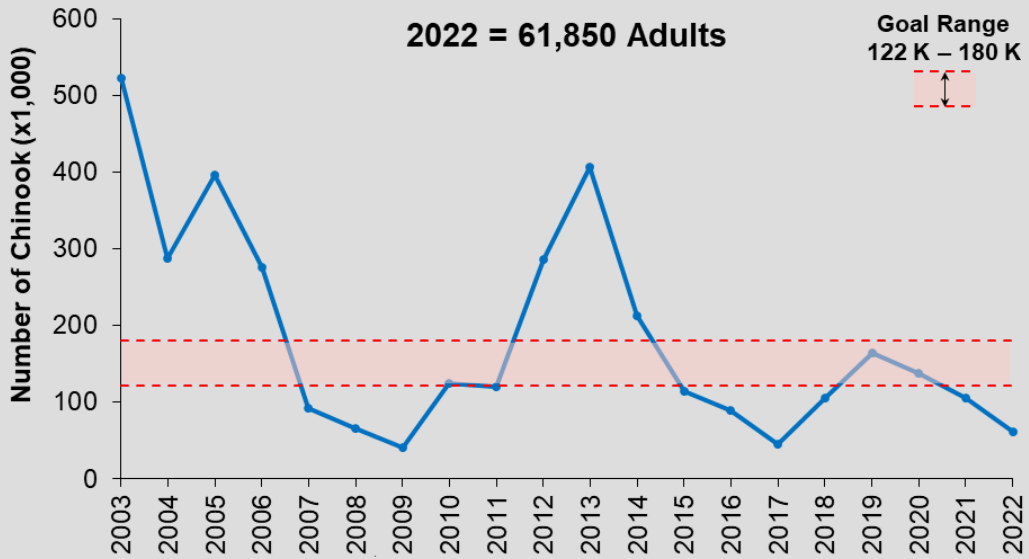
# 2022 Central Valley Chinook Salmon Spawning Escapement

Presented by  
Audrey Dean

## The Central Valley

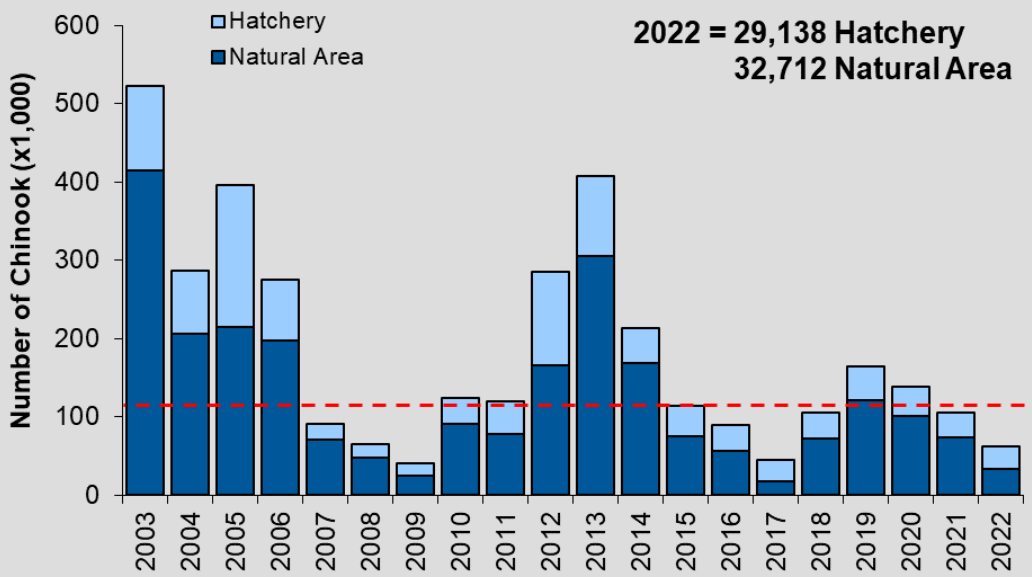


## Sacramento River Fall Chinook Adult Spawning Escapement, 2003-2022



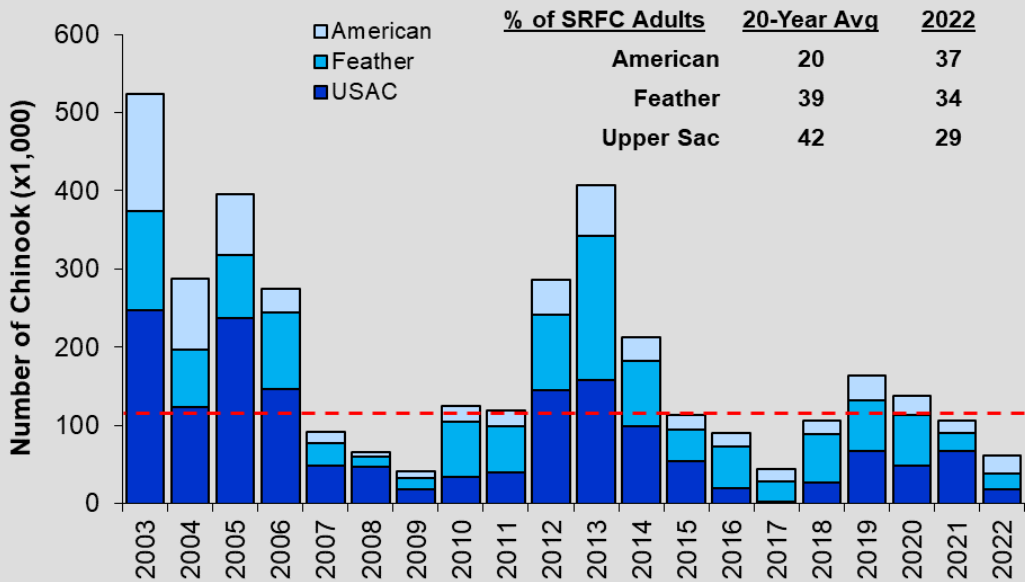
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## Sacramento River Fall Chinook Hatchery & Natural Area Adult Spawning Escapement, 2003-2022



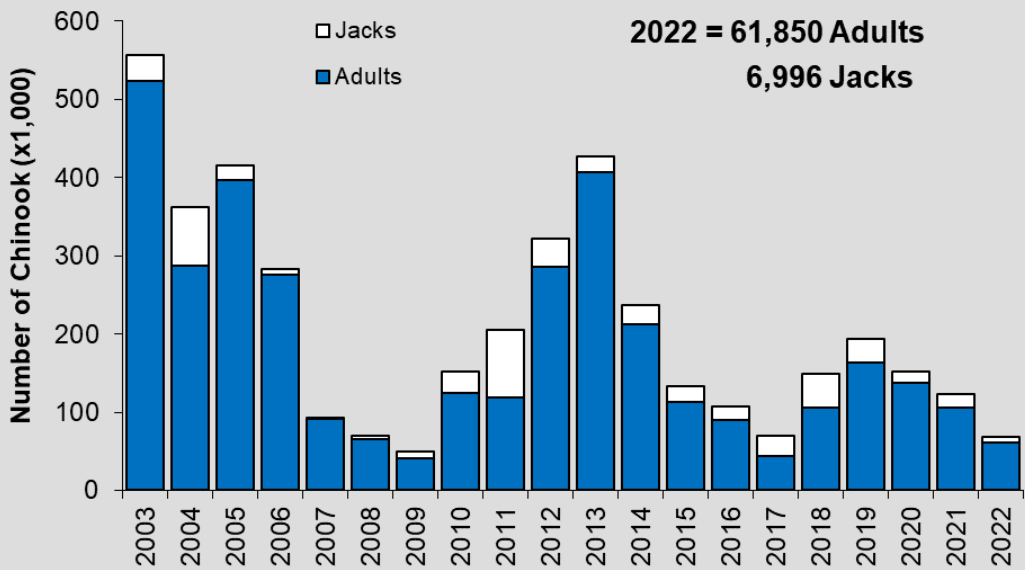
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## Sacramento River Fall Chinook Adult Spawning Escapement By Basin, 2003-2022



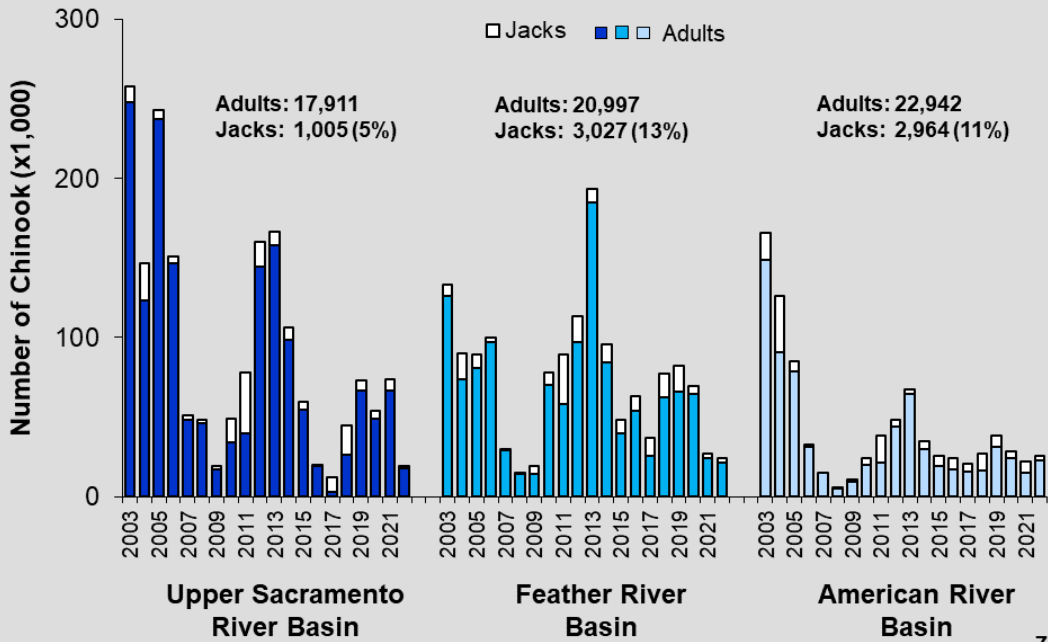
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## Sacramento River Fall Chinook Adult & Jack Spawning Escapement, 2003-2022



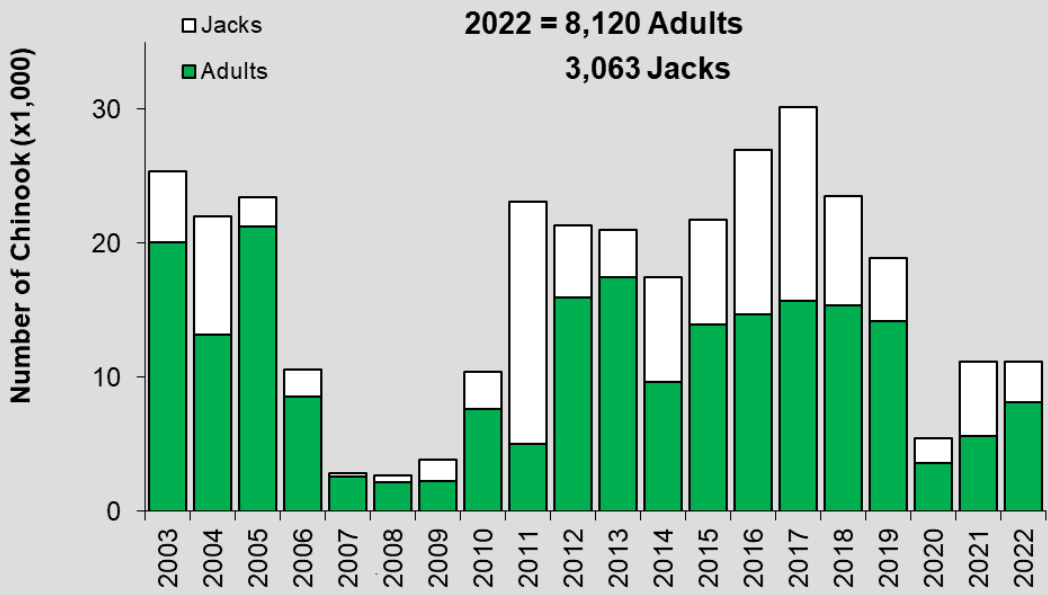
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## Sacramento River Fall Chinook Adult & Jack Spawning Escapement By Basin, 2003-2022



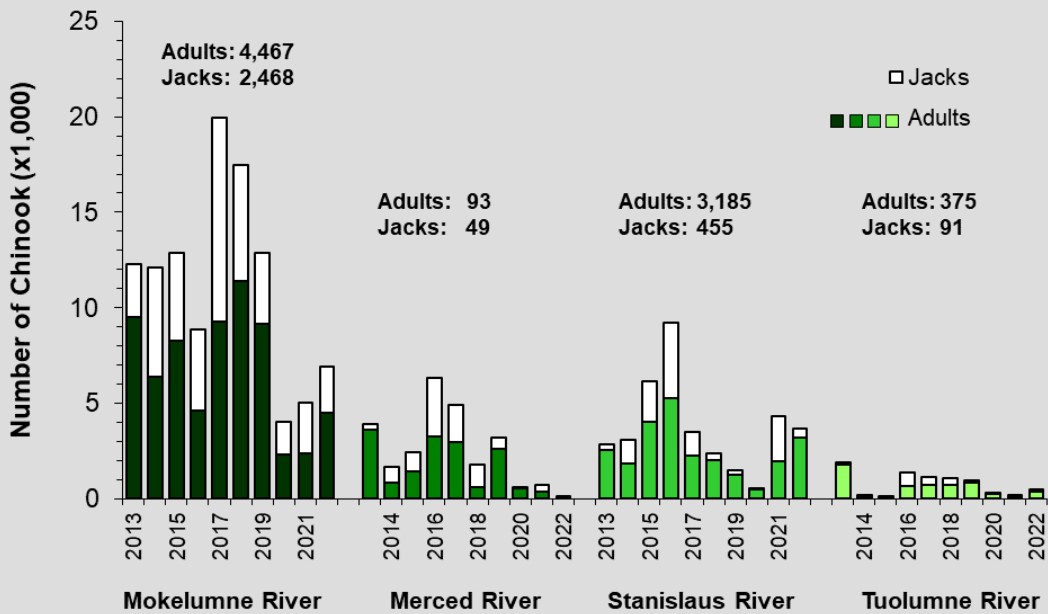
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## San Joaquin Basin Fall Chinook Adult & Jack Spawning Escapement, 2003-2022



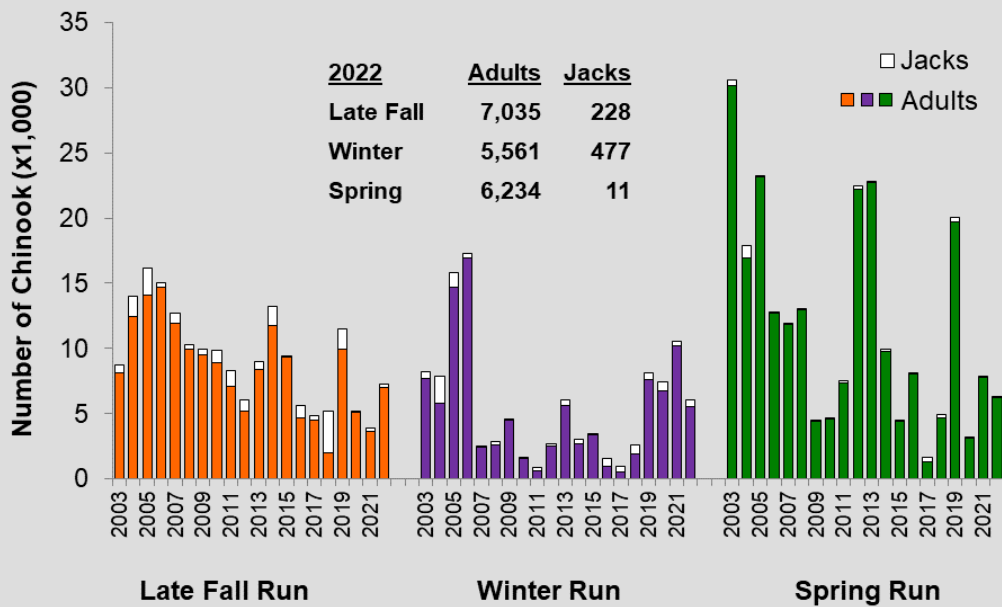
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## San Joaquin River Fall Chinook Adult & Jack Spawning Escapement By Basin, 2013-2022



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## Other Sacramento Basin Chinook Stocks Spawning Escapement, 2003-2022



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## Department of Fish and Wildlife Ocean Salmon Project



### Thank You

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(Specialist)

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[www.pcouncil.org/salmon](http://www.pcouncil.org/salmon)

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### 2022 Sacramento River Fall Chinook Hatchery and Natural Area Escapement

		Jacks	Adults	Total	% Jack	% Nat	% SRFC Total
Upper Sacramento River Basin	Hatchery	346	8,918	9,264	4%		13%
	Natural	<u>659</u>	<u>8,993</u>	<u>9,652</u>	<u>7%</u>	51%	<u>14%</u>
		<b>1,005</b>	<b>17,911</b>	<b>18,916</b>	<b>5%</b>		<b>27%</b>
Feather River Basin (including Yuba River)	Hatchery	2,368	11,909	14,277	17%		21%
	Natural	<u>659</u>	<u>9,088</u>	<u>9,747</u>	<u>7%</u>	41%	<u>14%</u>
		<b>3,027</b>	<b>20,997</b>	<b>24,024</b>	<b>13%</b>		<b>37%</b>
American River Basin	Hatchery	1,212	8,311	9,523	13%		14%
	Natural	<u>1,752</u>	<u>14,631</u>	<u>16,383</u>	<u>11%</u>	63%	<u>24%</u>
		<b>2,964</b>	<b>22,942</b>	<b>25,906</b>	<b>11%</b>		<b>38%</b>
<b>Total 2022 SRFC Escapement</b>		<b>6,996</b>	<b>61,850</b>	<b>68,846</b>	<b>10%</b>	<b>52%</b>	<b>100%</b>



## 2022 Other Central Valley Chinook Stocks Hatchery and Natural Area Escapement

		Jacks	Adults	Total	% Jack	% Nat
Central Valley Late Fall Chinook	Hatchery	109	2,162	2,271	5%	
	Natural	<u>119</u>	<u>4,873</u>	<u>4,992</u>	<u>2%</u>	69%
		<b>228</b>	<b>7,035</b>	<b>7,263</b>	<b>3%</b>	
Sacramento River Winter Chinook		<u>477</u>	<u>5,561</u>	<u>6,038</u>	<u>8%</u>	
		<b>477</b>	<b>5,561</b>	<b>6,038</b>	<b>8%</b>	
Central Valley Spring Chinook	Hatchery	11	1,761	1,772	0.6%	
	Natural	----	<u>4,473</u>	<u>4,473</u>	----	72%
		<b>11</b>	<b>6,234</b>	<b>6,245</b>	----	
San Joaquin Fall Chinook	Hatchery	1,515	3,582	5,097	30%	
	Natural	<u>1,548</u>	<u>4,538</u>	<u>6,086</u>	<u>25%</u>	54%
		<b>3,063</b>	<b>8,120</b>	<b>11,183</b>	<b>27%</b>	

# CENTRAL VALLEY ANGLER SURVEY: 2022 Recreational Harvest of Chinook Salmon



Shawn Simkins, James Lyons, Erin Ferguson, &  
Robyn Bilski



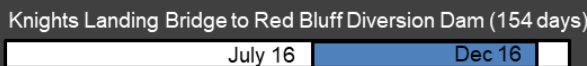
California Department of Fish and Wildlife  
Fisheries Branch  
Central Valley Fishery Resource Assessment & Monitoring  
West Sacramento, California



## 2022 Central Valley Salmon Season

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

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



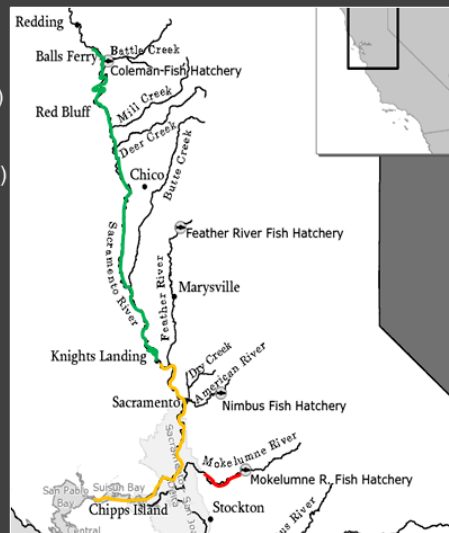
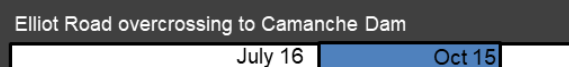
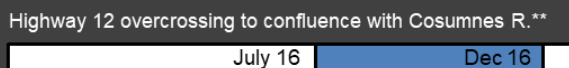
Red Bluff Diversion Dam to Deschutes Road Bridge (153 days)

Aug 1	Dec 31
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Lower Sacramento River Management Zone  
Carquinez Bridge to Knights Landing Bridge



Mokelumne River Management Zone  
Highway 12 overcrossing to Camanche Dam



# 2022 Central Valley Salmon Season

General Season: July 16<sup>th</sup>- December 16<sup>th</sup> (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
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200 yds above Live Oak b.r. to unimproved b.r. above TAO (108 days)  

July 16	Oct 31
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## American River Management Zone

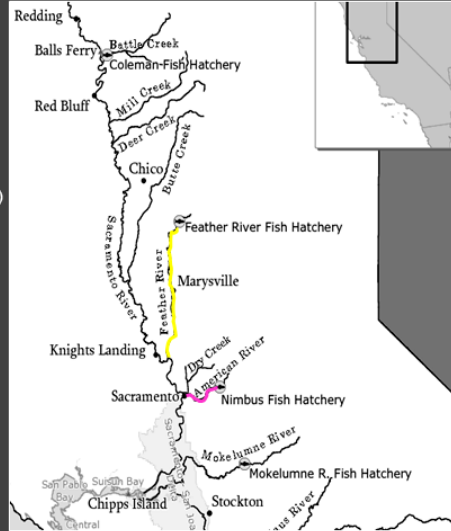
**Confluence with the Sac. River to USGS cable crossing**

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

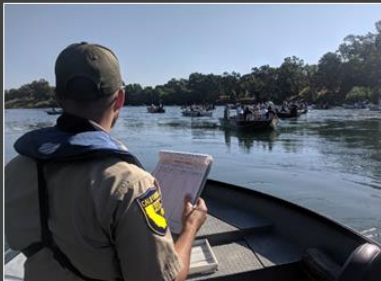
July 16	Dec 31
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Ancil Hoffman powerlines to USGS cable crossing (108 days)  

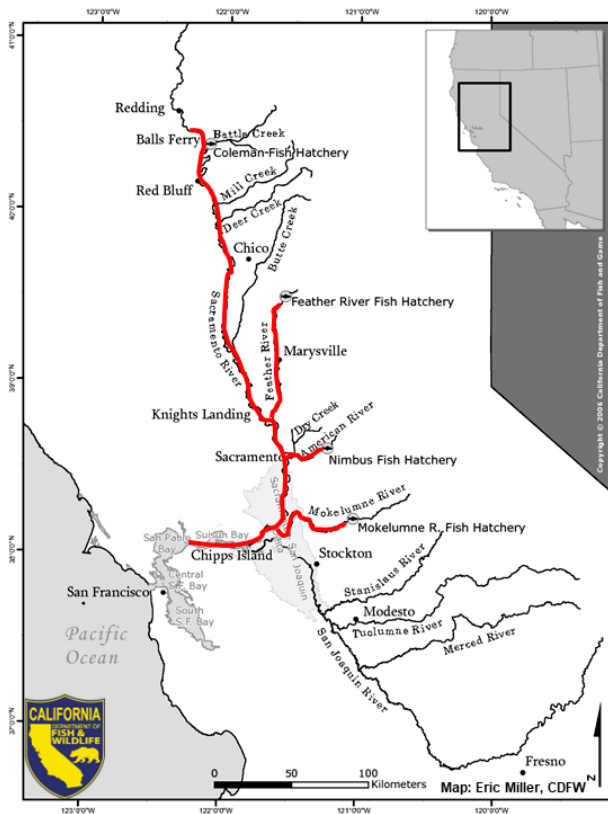
July 16	Oct 31
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# Central Valley Angler Survey



- 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:

- 25 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 2022 Central Valley Sport Fishery for Chinook Salmon\*

**Effort:** 348,911 angler hours

**Trips:** 73,075 angling trips

**Total catch:** 8,800 salmon

**Harvest:** 6,075 salmon

**Est. pounds landed:** 106,767 lbs.

**Released:** 2,725 salmon

**Pct. retention:** 69%

**Average size (FL):** 817 mm / 32 in.

**Catch rate:** 2.5 salmon per 100 angler hours



\* Based on fishery statistics for the American, Feather, Mokelumne and Sacramento rivers, July – Dec. 2022.

## Raw Statistics

Contacted 3,298 fishing parties

540 salmon reported kept

481 salmon observed

- or 7.9% of the estimated harvest

112 Adipose fin-clipped, 23.3% of observed salmon

105 heads (94%) taken for CWT recovery



# Coded Wire Tag Recoveries

103 CWTs (98%) successfully recovered and read

Percent	Count	
22%	23	Feather River Hatchery fall run
39%	40	Coleman National Fish Hatchery fall run
2%	2	Feather River Hatchery spring run
7%	7	Mokelumne River Hatchery fall run
15%	16	Coleman National Fish Hatchery late-fall run
14%	14	Nimbus Hatchery fall run
0%	0	Livingston Stone National Fish Hatchery winter run
<1%	1	San Joaquin River Conservation Hatchery spring run
0%	0	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 89% of all Chinook Salmon harvest in the Central Valley in 2022



## Final SRFC Harvest Estimate

4,860 adult

540 grilse\*

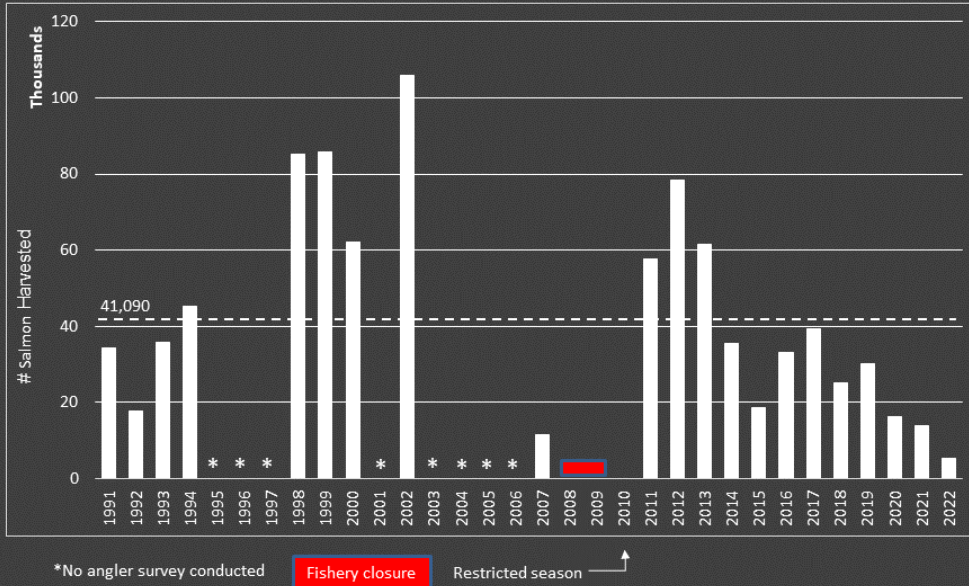
**5,400 Total SRFC**

\*10% of the harvest were grilse



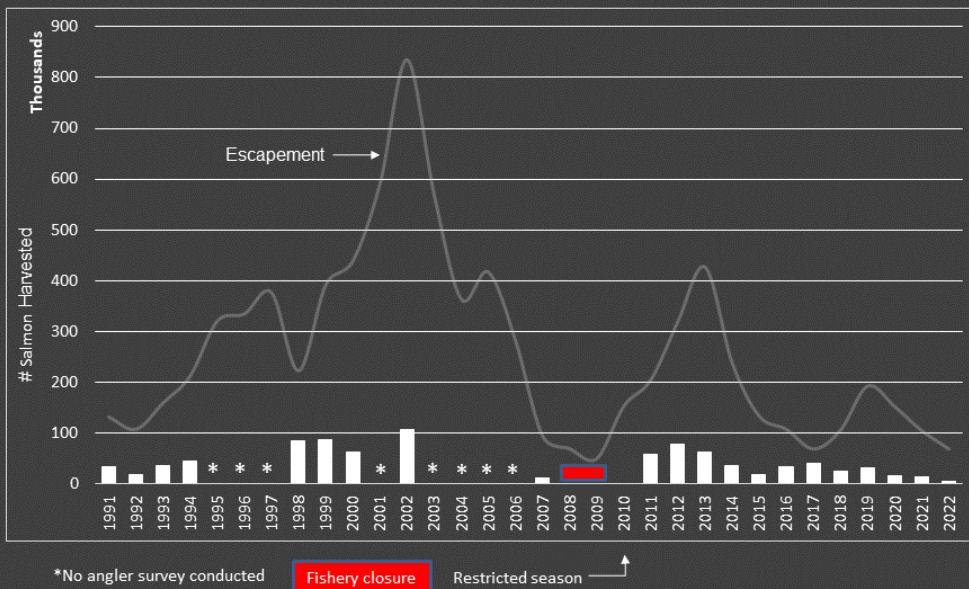
# SRFC Harvest Trend

## Grilse + Adults



# SRFC Harvest Trend

## Grilse + Adults

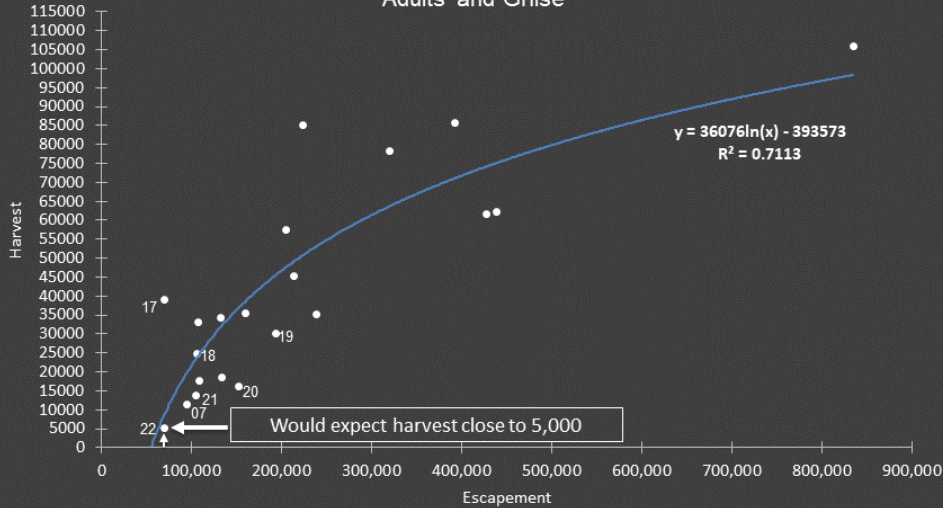




# River harvest relative to escapement

River harvest = 5,400\*, Escapement = 68,846\*

\*Adults and Grilse



## Metrics by Management Zones

	American	Feather	Lower Sacramento	Upper Sacramento
Effort (hours)	57,453	47,742	133,979	83,182
Est. SRFC Harvest	1,795	1,044	996	1,565
% SRFC Harvest <sup>1</sup>	33.2	19.3	18.4	29.1
Ave. FL (mm)	794.6	821.4	765.6	842.0
Ave. Wt. (Kg)	6.8	8.2	7.2	8.9
% Grilse <sup>2**</sup>	20%	0%	24%	8%

<sup>1</sup> Sacramento River Fall-run Chinook fishery, excludes late-fall and Mokelumne River harvest

<sup>2</sup> Based on expansions of coded-wire tag recoveries

\*\* Preliminary

# 2022 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



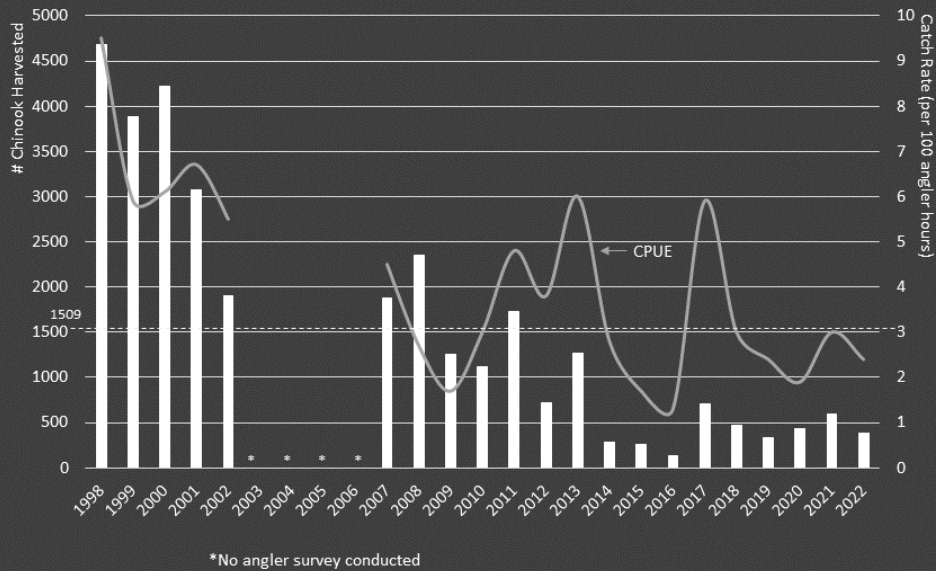
## Sacramento River Late-Fall-Run Chinook Salmon Fishery



- *Effort:* 16,144 angler hours
- *Catch rate:* 2.4 salmon per 100 angler hours
- *Harvest:* 387 salmon
- *Ave. Fl (mm):* 792.0 ± 132.6 mm / 31.1 in.
- *Ave. wt (kg):* 8.1 ± 3.8 kg / 17.9 lbs.

# SRLFC Harvest Trend

Grilse + Adults



## 2022 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, Camanche Dam to Mackville Road, as well as Beaver, Hog, and Sycamore sloughs
- Open July 16 – December 16
- Daily bag limit of 2 Chinook Salmon, possession of 4 salmon



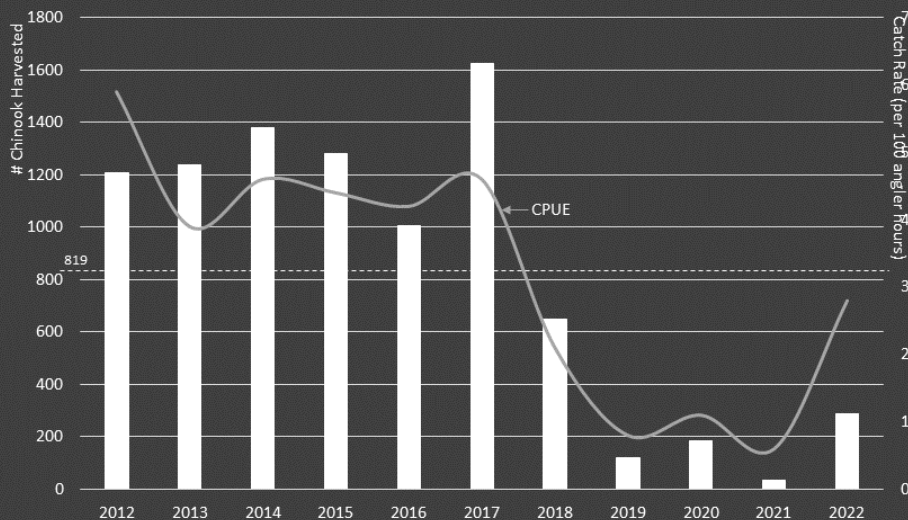
## Mokelumne River Fishery San Joaquin Fall-Run Chinook Salmon (SJRFC)



- **Effort:** 10,411 angler hours
- **Catch rate:** 2.8 salmon per 100 angler hours
- **Harvest:** 288 salmon
- **Ave. Fl (mm):**  $809.5 \pm 75.1$  mm
- **Ave. wt (kg):**  $8.5 \pm 2.3$  kg

## MOK Harvest Trend

Grilse + Adults



# Hatchery vs. Natural Origin

Percent hatchery vs. natural origin by management zone<sup>1\*\*</sup>

	Hatchery	Natural
American River	73%	27%
Lower Sacramento River	55%	45%
Feather River	78%	22%
Upper Sacramento River	70%	30%
Mokelumne River	67%	33%
System-wide	70%	30%

<sup>1</sup> Based on expansions of coded-wire tag recoveries

\*\* Preliminary

# CVAS Staff Contact Information

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Erin Ferguson

Project Lead  
Erin.Ferguson@wildlife.ca.gov



March 1, 2023

California Department of Fish and Wildlife  
Annual Salmon Information Meeting

## SUMMARY OF THE 2022 CENTRAL VALLEY CHINOOK SALMON SPORT FISHERY

Interested Parties:

The purpose of this document is to provide a brief summary of the 2022 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, 2022 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, 2022. Closing dates varied among river sections from October 31 through December 31, 2022. 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 25 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 348,911 hours, corresponding to about 73,075 fishing trips. This level of effort was 35.4% less than that estimated in the 2021 fishery (539,846) and represented 30.2% fewer fishing trips (104,619 trips in 2021). Total harvest in the Central Valley river fishery was estimated at 6,075 salmon with an additional 2,725 salmon caught and released. Retention rate of salmon was approximately 69% of the catch. Based on observed catch, 23.3% of the Chinook Salmon harvested were adipose fin clipped and coded wire tagged. Of the 103 coded-wire tags recovered and read, 75% were from Sacramento Basin fall-run Chinook Salmon, 15% were from Coleman National Fish Hatchery late-fall-run Chinook Salmon, 7% were from San Joaquin Basin fall-run Chinook Salmon, 2% were from Feather River Hatchery spring-run Chinook Salmon, <1% were from San Joaquin River spring-run Chinook Salmon, and 0 were from Livingston Stone National Fish Hatchery winter-run Chinook Salmon.

Coded-wire tag data were used to determine the proportion of grilse (age 2-year-old or younger) and adult (age 3-year-old or older) Sacramento River fall-run Chinook. Known ages determined from coded-wire-tags resulted in 90% of the harvest consisting of adults and 10% of the harvest consisting of grilse. The total estimated harvest of Sacramento River fall-run Chinook was 540 grilse and 4,860 adults, for a total harvest of 5,400<sup>1</sup>.

### **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).

<sup>1</sup> 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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**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

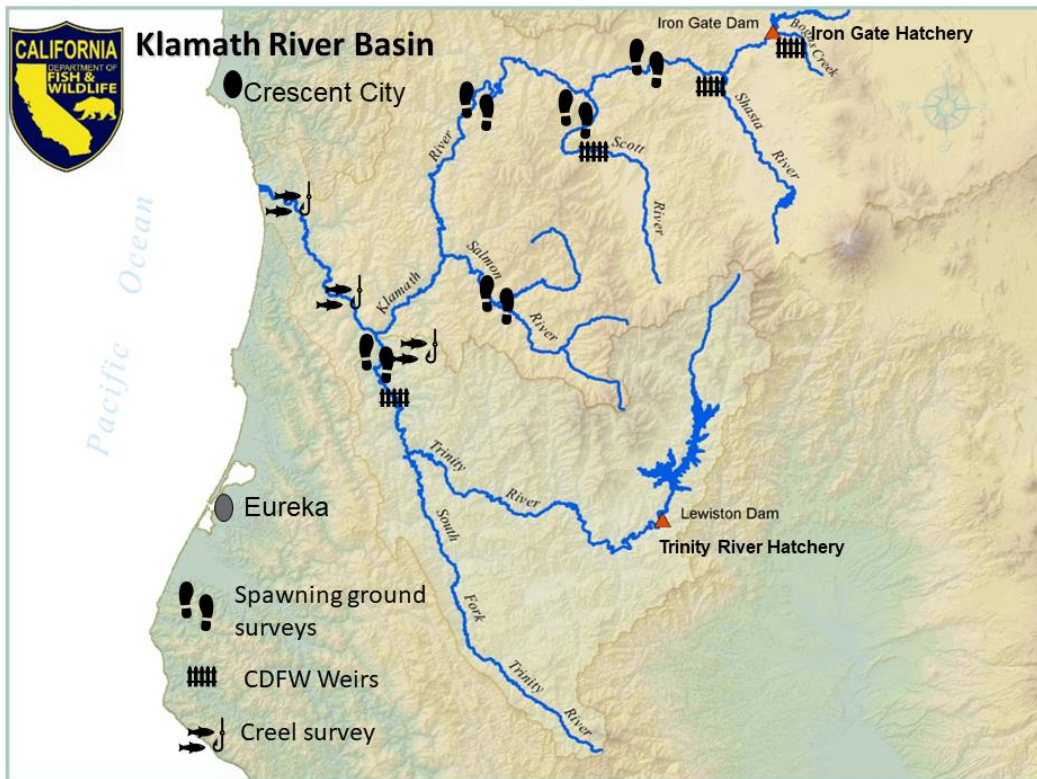
### Klamath Basin Chinook Salmon Spawning Escapement, Harvest and Age Composition, 2022 Season

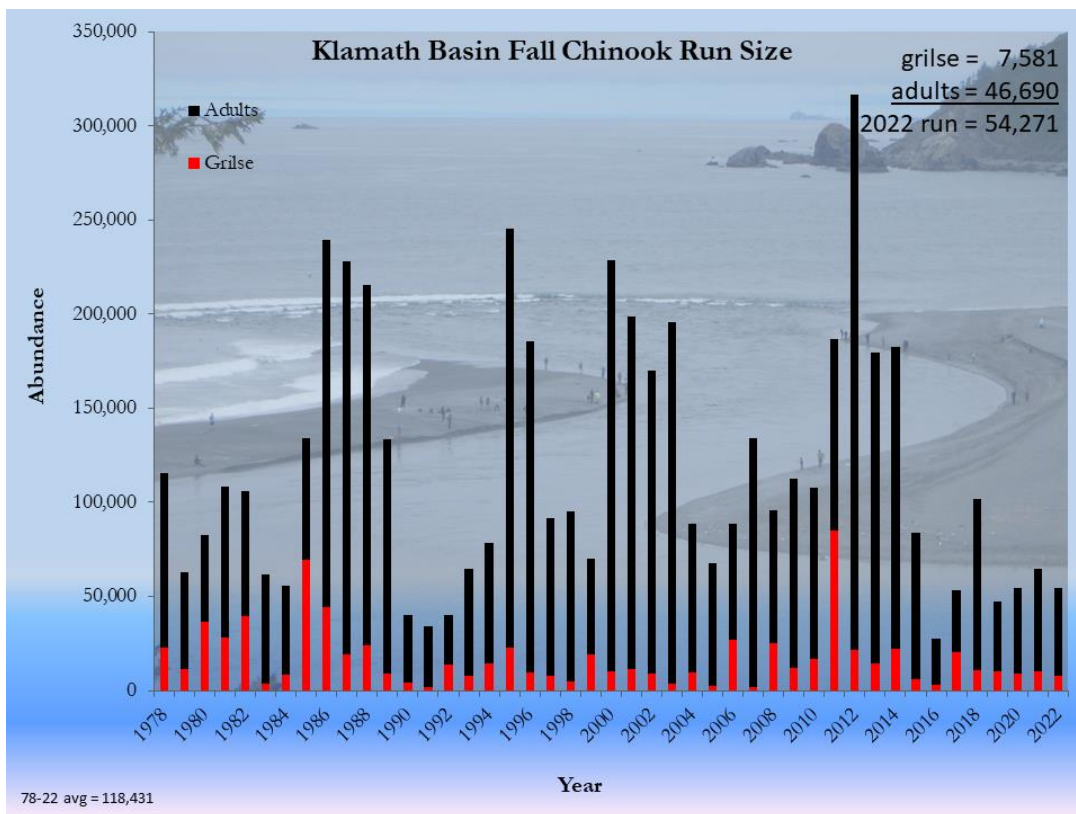


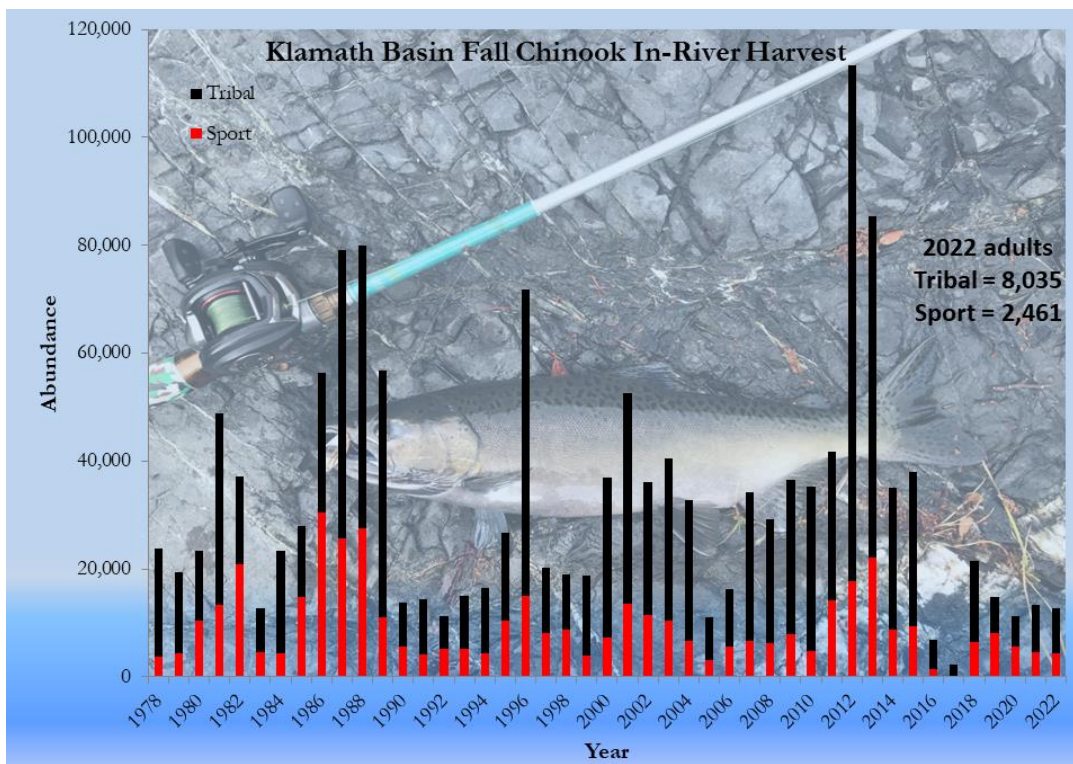
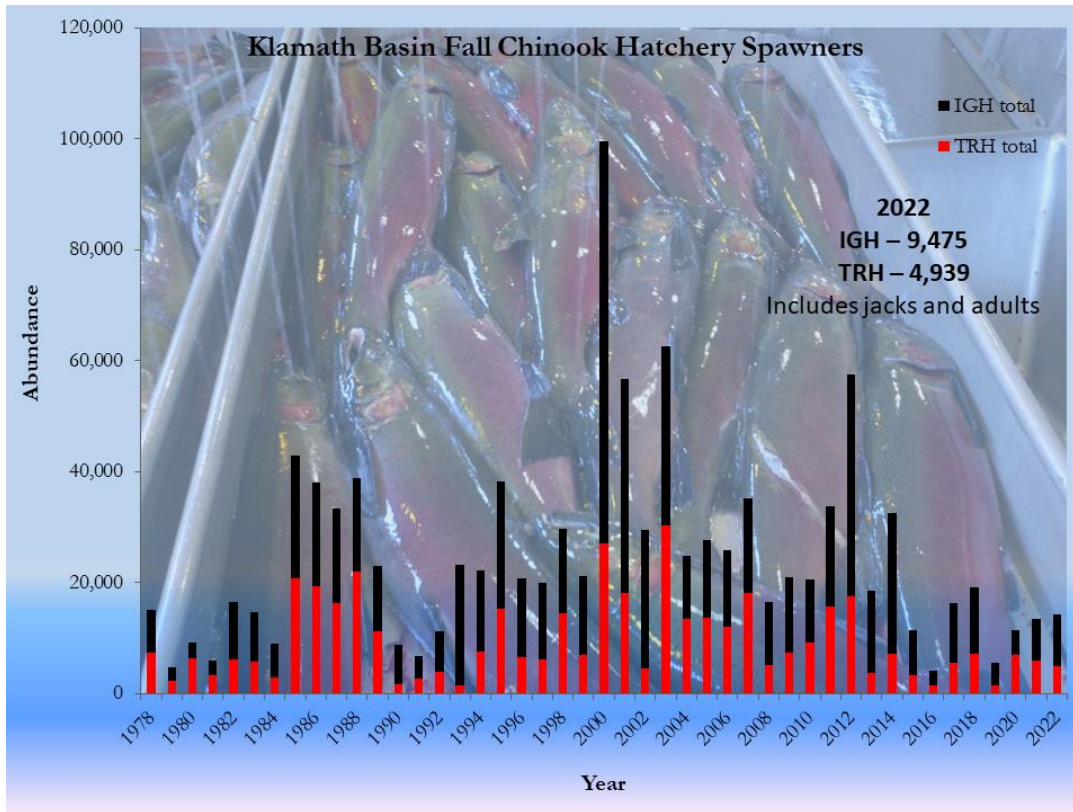
Salmon Information Meeting

March 1, 2023

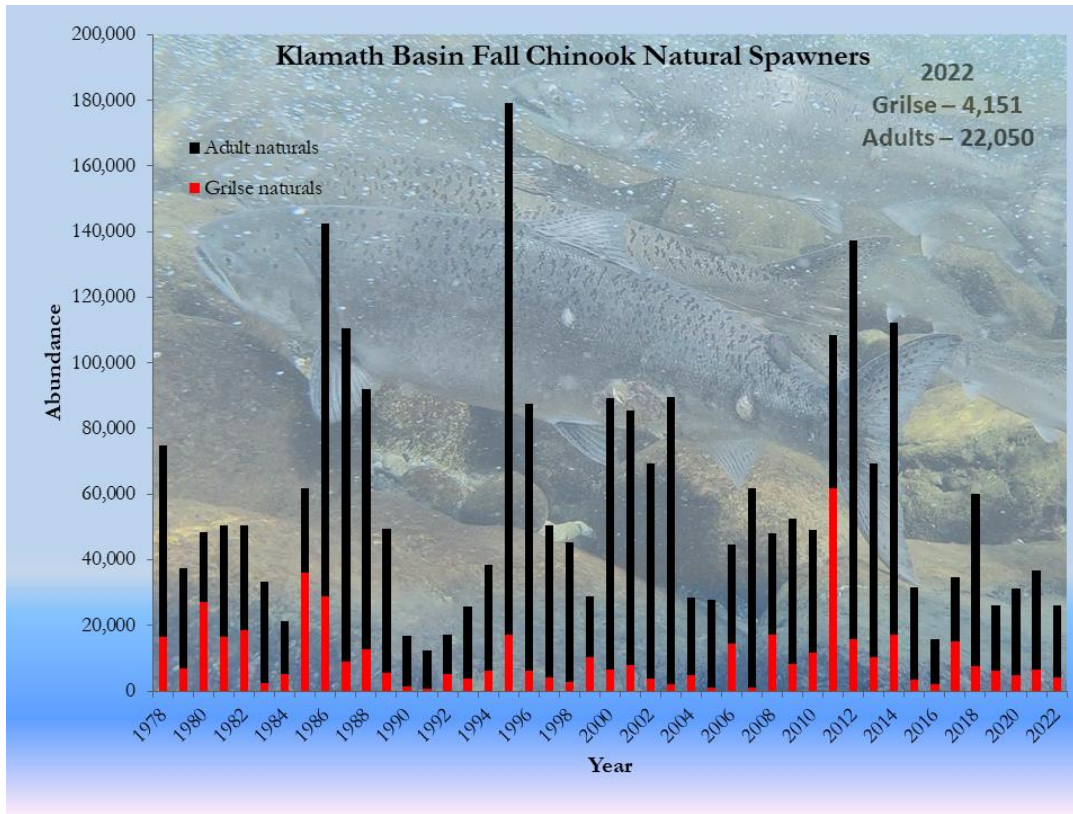
Dan Troxel - Environmental Scientist







2022 Adult KRFC quotas: Tribal = 9,434, In-river Recreational= 2,119



### Age Composition of the 2022 Klamath Basin fall Chinook Salmon run

Escapement & Harvest	AGE				Total Adults	Total Run
	2	3	4	5		
<b>Hatchery Spawners</b>						
Iron Gate Hatchery	206	7,336	1,931	2	9,269	9,475
Trinity River Hatchery	973	2,327	1,632	7	3,966	4,939
<b>subtotal</b>	<b>1,179</b>	<b>9,663</b>	<b>3,563</b>	<b>9</b>	<b>13,235</b>	<b>14,414</b>
<b>Natural Spawners</b>						
Klamath Basin subtotal	989	11,030	3,693	47	14,770	15,759
Trinity Basin subtotal	3,162	5,067	2,192	21	7,280	10,442
<b>subtotal</b>	<b>4,151</b>	<b>16,097</b>	<b>5,885</b>	<b>69</b>	<b>22,050</b>	<b>26,201</b>
<b>Recreational Harvest</b>						
Klamath River harvest	1,744	1,787	428	0	2,215	3,959
Trinity River harvest	126	189	57	0	246	372
<b>subtotal</b>	<b>1,870</b>	<b>1,976</b>	<b>485</b>	<b>0</b>	<b>2,461</b>	<b>4,331</b>
<b>Tribal Harvest</b>						
Klamath River harvest	41	3,111	3,070	76	6,257	6,298
Trinity River harvest	293	836	933	9	1,778	2,071
<b>subtotal</b>	<b>334</b>	<b>3,947</b>	<b>4,003</b>	<b>85</b>	<b>8,035</b>	<b>8,369</b>
<b>Dropoff Mortality</b>						
Klamath River Ich disease testu	48	384	352	8	744	792
	0	112	51	1	164	164
					1.9%	1.8%
<b>Total River Run</b>	<b>7,582</b>	<b>32,179</b>	<b>14,339</b>	<b>172</b>	<b>46,689</b>	<b>54,271</b>

Source: 2023 KRTT

## 2022 Preliminary results/findings

The 2022 Klamath Basin fall Chinook run estimate is 46% of the 44-year average.

The number of 2 year-old fish (7,581) is 44% of the long-term average.

The adult Chinook returns to the basin were 70% percent of the projected forecast (66,800 pre vs. 46,700 post).

The adult fall Chinook natural escapement objective was 38,180 (22,050 returned in 2022) under *de minimis* fishing and was not met.

The geometric mean of adult natural escapement for the past three years is ~26,000.

A 2023 natural area escapement of ~101,500 adults is necessary to “rebuild” the stock (achieve 3-year geometric mean of 40,700).



**Follow up questions?**

**Dan Troxel – Klamath River Project (Arcata, CA)**

**Email: [dan.troxel@wildlife.ca.gov](mailto:dan.troxel@wildlife.ca.gov) Phone: (707) 822-0330**

Photo credits: CA Dept Fish and Wildlife, Klamath River Project and US Forest Service Orleans/Ukonom Ranger District Fisheries Biologist



## Department of Fish and Wildlife Ocean Salmon Project

### 2022 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





# Recreational Salmon Fishery

## 2022 California Recreational Season

**Klamath Management Zone:** OR/CA Border to 40° 10' line (67 days)

May 1			Sep 5
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**Fort Bragg:** 40° 10' line to Pt. Arena (111 days)

May 1			Sep 5
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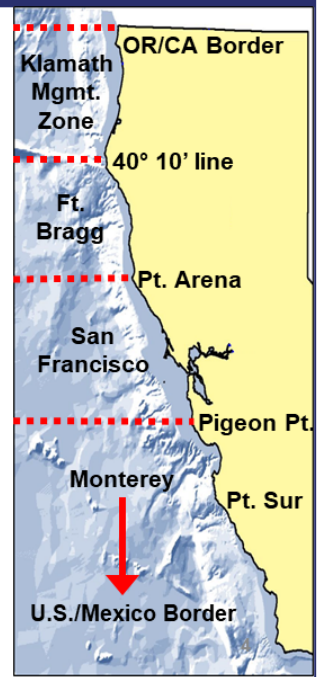
**San Francisco:** Pt. Arena to Pigeon Pt. (191 days)

Apr 2			Oct 31
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**Monterey and south:** Pigeon Pt. to U.S./Mexico Border (184 days)

Apr 2			Oct 2
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Minimum size: 20" north of Pt. Arena  
 Minimum size: 24" south of Pt. Arena through May 15  
 Minimum size: 20" south of Pt. Arena thereafter  
 Bag limit: 2 fish per day





## Sample Design – Private Skiff Fishery

- CRFS samples  $\geq 20\%$  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
  - 540 skiff days were sampled during the 2022 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

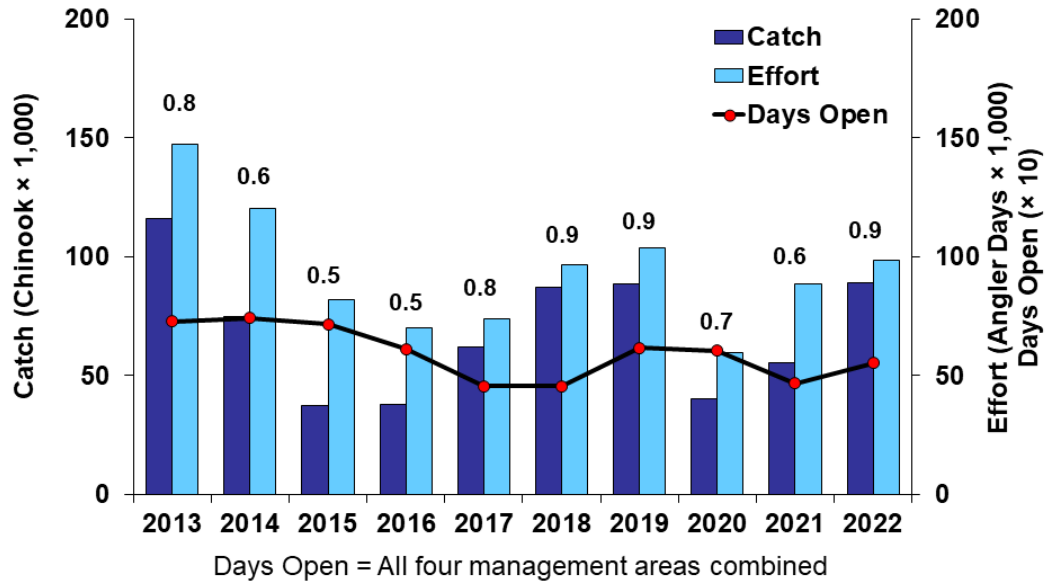


## Sample Design – CPFV Fishery

- Sample  $\geq 20\%$  of all salmon-targeting CPFV trips in each management area and period
  - 15 primary salmon CPFV sample sites
  - 124 CPFVs participated in the 2022 ocean salmon fishery
  - 1,082 salmon-targeting CPFV trips were sampled during the 2022 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

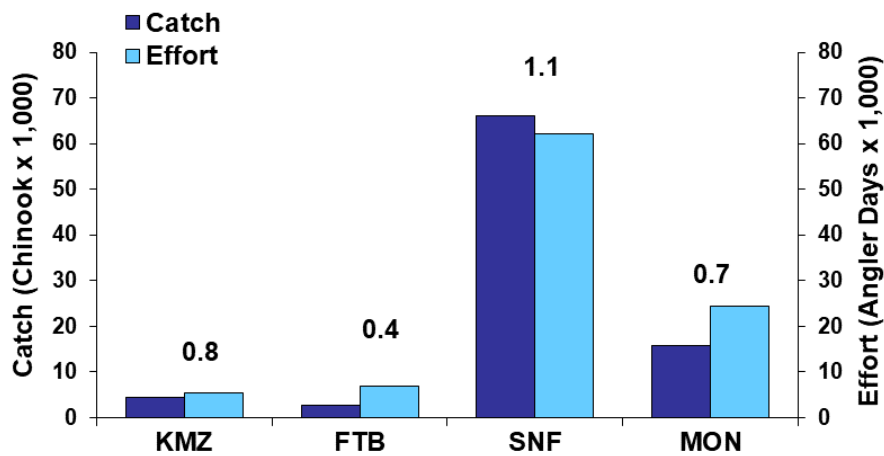


## Recreational Catch and Effort, 2013-2022



7

## 2022 Recreational Catch and Effort by Management Area



<i>Days Open</i>	67	111	191	184	<b>TOTAL</b>	Preseason projection
<i>Total Chinook</i>	4,354	2,642	66,105	15,860	<b>88,961</b>	<b>84,994</b>
<i>Angler Days</i>	5,278	6,754	62,134	24,338	<b>98,504</b>	<b>115,860</b>

8



## 2022 California Commercial Season

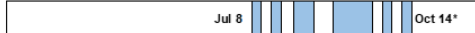
**Klamath Mgmt. Zone:** OR/CA Border to Humboldt S. Jetty (Closed)



**Fort Bragg:** 40° 10' line to Pt. Arena (20 days)



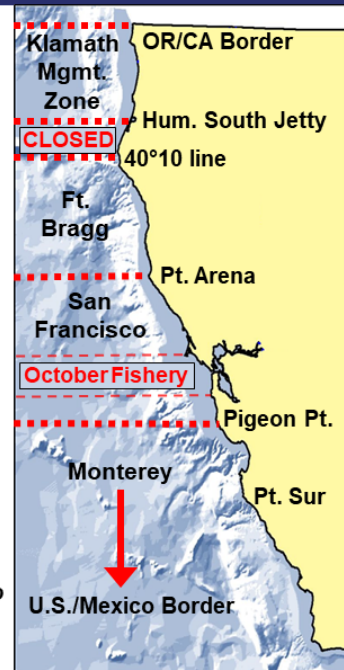
**San Francisco:** Pt. Arena to Pigeon Pt. (60 days)



**Monterey:** Pigeon Pt. to U.S./Mexico Border (48 days)



\* Oct 3-14 fishery: Open Mon-Fri from Pt. Reyes to Pt. San Pedro  
Minimum size 27" in all areas, except 26" in SF after August

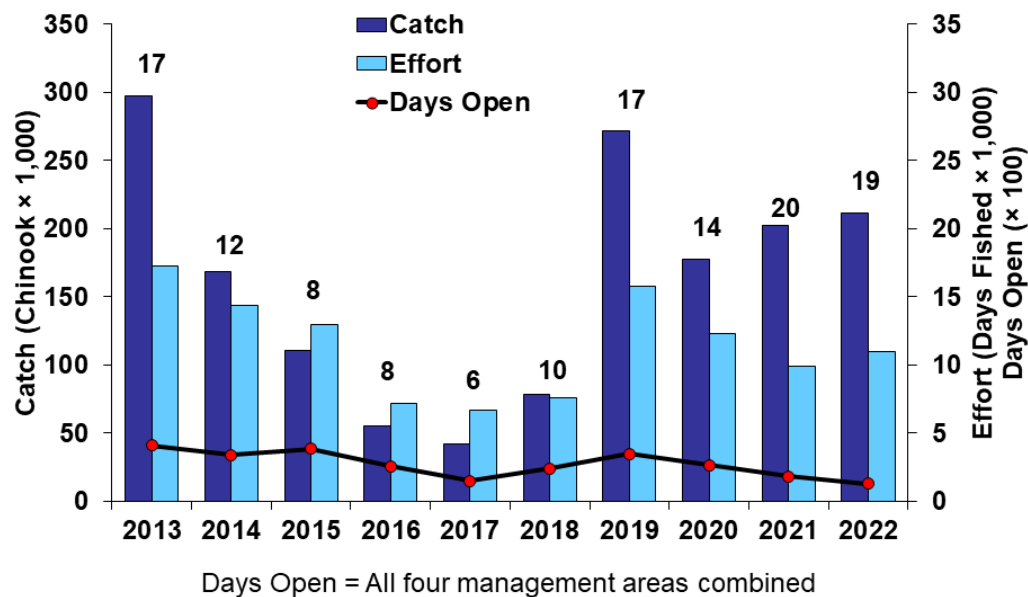


## Sample Design – Commercial Fishery

- Sample  $\geq 20\%$  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

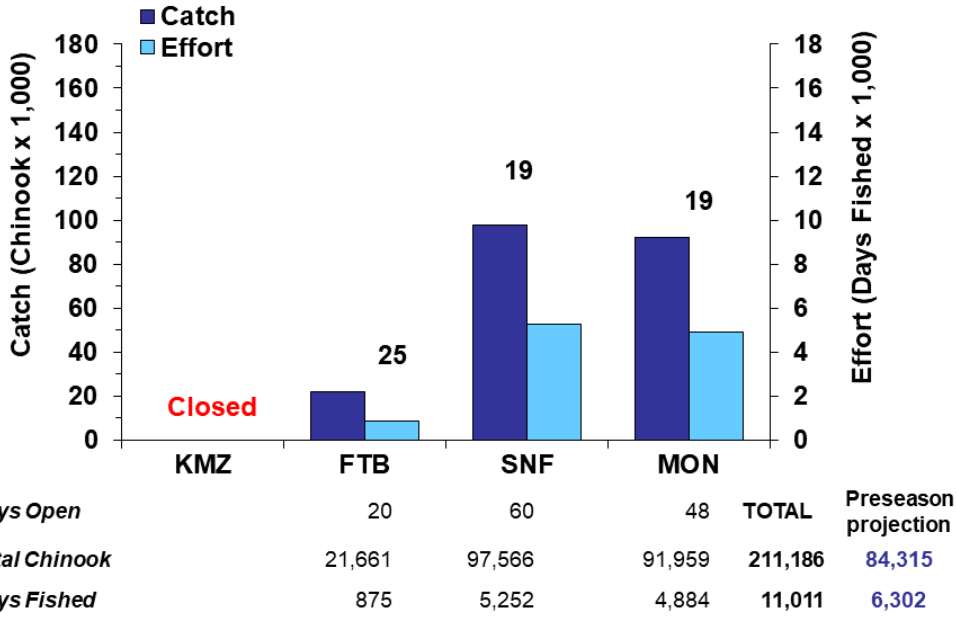


## Commercial Catch and Effort, 2013-2022



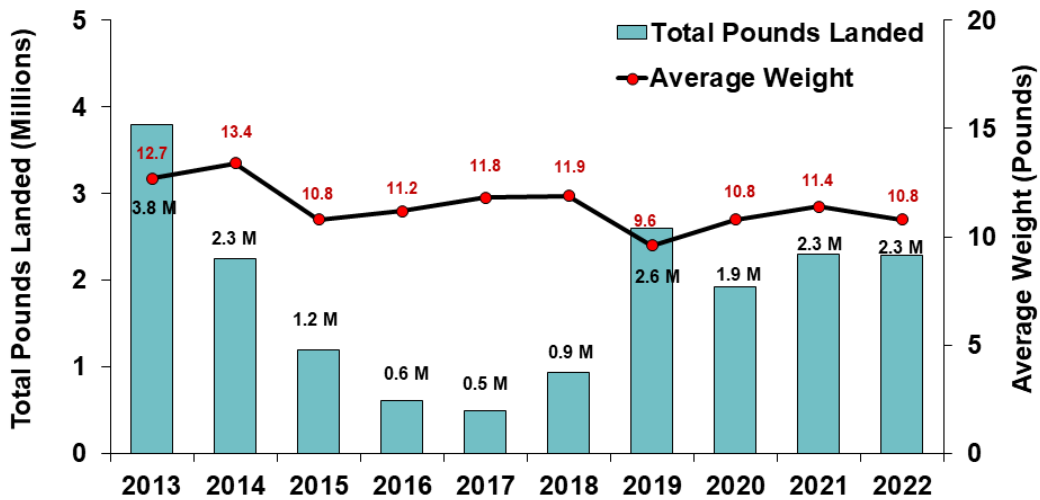
12

## 2022 Commercial Catch and Effort by Management Area



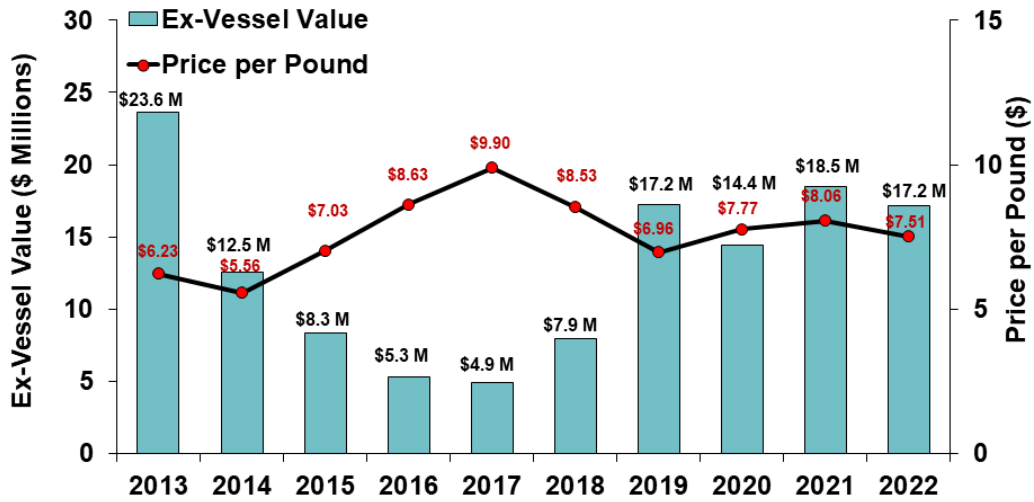
13

## Total Commercial Pounds Landed and Average Weight, 2013-2022



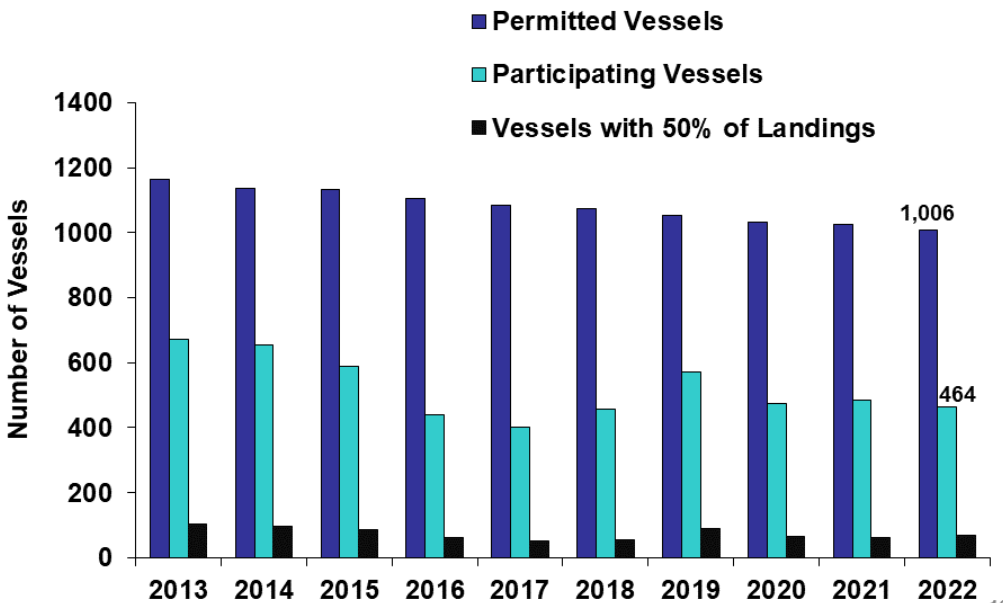
14

## Commercial Ex-Vessel Value and Price per Pound, 2013-2022



15

## Number of Vessels with Landings Compared to Permitted Vessels, 2013-2022



16

## 2022 Age-4 Klamath River Fall Chinook Ocean Harvest

Area	Recreational	Commercial
Northern Oregon	0	556
Coos Bay	48	33
KMZ - Oregon	0	0
KMZ - California	324	0
Fort Bragg	152	2,026
San Francisco	988	8,304
Monterey	53	2,186
<b>Total</b>	<b>1,564</b>	<b>13,104</b>

**Total Harvest of Age-4 Klamath River Fall Chinook  
in 2022 was 14,668, which equates to a 38%  
exploitation rate**



## 2022 Fall Ocean Fisheries Impacts on Age-4 Klamath River Fall Chinook

Area	Recreational	Commercial
Northern Oregon	0	0
Coos Bay	0	0
KMZ - Oregon	0	0
KMZ - California	26	0
Fort Bragg	19	0
San Francisco	24	0
Monterey	0	0
<b>Total</b>	<b>69</b>	<b>0</b>

**0.25% age-4 ocean harvest rate in fall fisheries, which will be  
deducted from the allowable 16% exploitation rate when  
determining the 2023 season structure**

**0.07% Klamath River Fall Chinook harvest rate in fall fisheries,  
which will be deducted from the allowable ocean harvest rate  
when determining the 2023 season structure**



## 2022 Fall Ocean Fisheries Impacts on Sacramento River Fall Chinook

Area	Recreational	Commercial
Northern Oregon	0	5
Coos Bay	22	9
KMZ - Oregon	0	0
KMZ - California	123	0
Fort Bragg	48	0
San Francisco	1503	2,980
Monterey	20	0
Total	1,716	2,994



**These fall fishery impacts will be deducted before 2023 fishery planning begins**

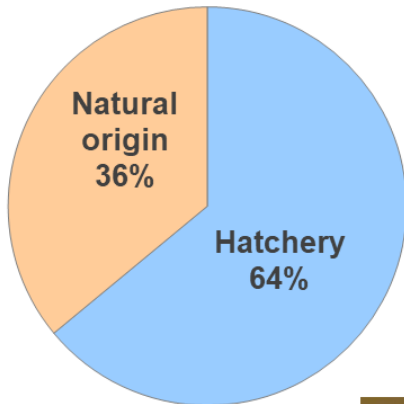


**Hatchery Contribution**



## Hatchery Contribution to 2022 CA Ocean Fisheries

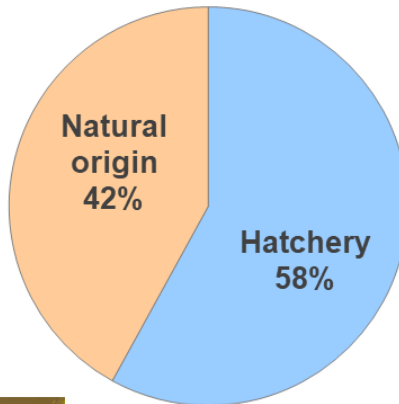
### Recreational



N = 3,721 CWTs



### Commercial

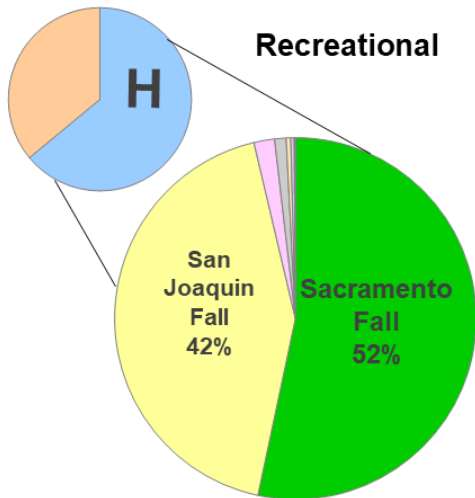


N = 9,732 CWTs

21

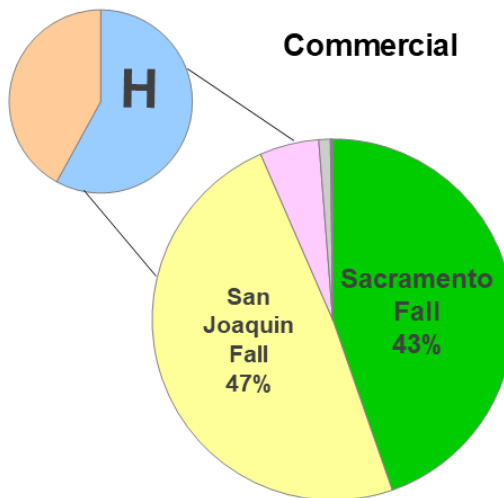
## Hatchery Contribution to 2022 CA Ocean Fisheries

### Recreational



≈4% Other Stocks:  
 CV Late-Fall (1%), CV Spring (0.4%),  
 Klamath River Fall (1.8%),  
 Sacramento Winter (0.3%), Other (0.1%)

### Commercial

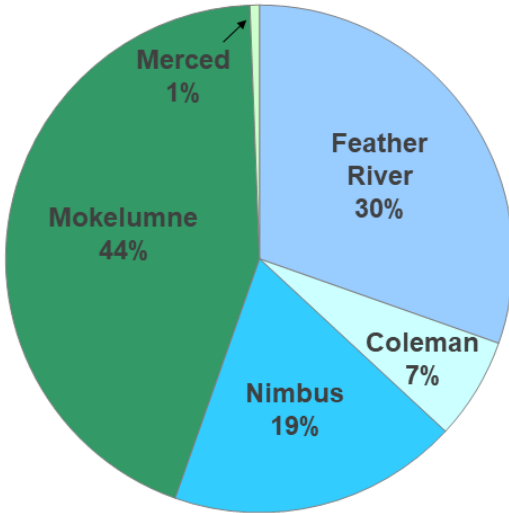


≈6% Other Stocks:  
 CV Late-Fall (1%), Klamath River Fall (5.1%),  
 CV Spring (0.1%),  
 Sacramento Winter (0.0%), Other (0.1%)

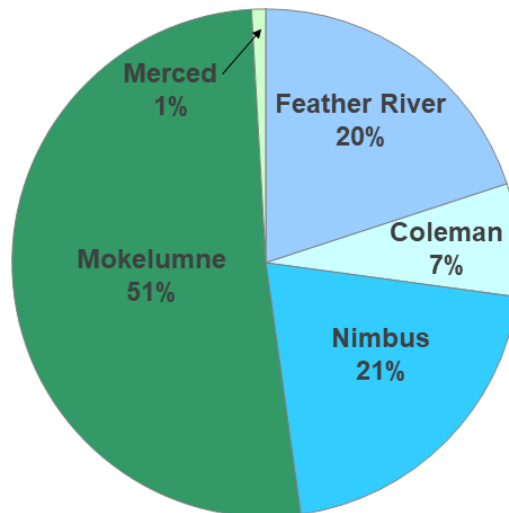
22

# Hatchery Contribution to 2022 CA Ocean Fisheries

Recreational  
Central Valley fall Chinook



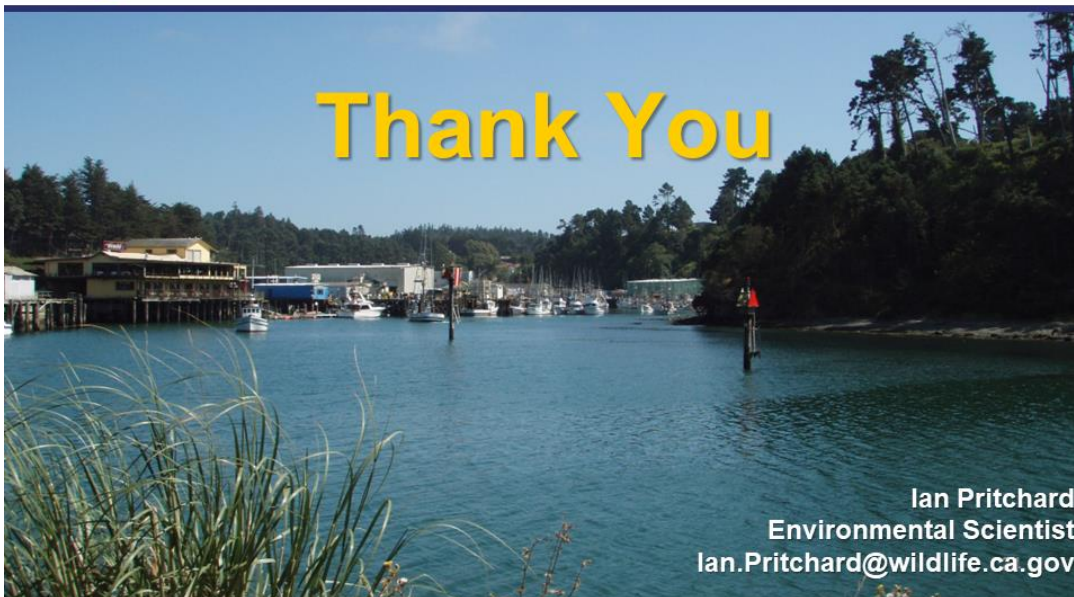
Commercial  
Central Valley fall Chinook



23



## Department of Fish and Wildlife Ocean Salmon Project





**NOAA  
FISHERIES**  
West Coast  
Regional  
Office

# 2023 Ocean Salmon Fishery Information

California Department of Fish and Wildlife  
Salmon Informational Meeting  
March 1, 2023

Jeromy Jording  
Sustainable Fisheries Division  
West Coast Region

## All Guidance Preliminary; final at March Council Meeting

2023 recommendation is to be conservative within the guidelines of the Salmon FMP.  
(forecasts will be covered in Michael O'Farrell's presentation)

### Preliminary Guidance for 2023

Indicator Stock	NMFS Guidance will achieve these escapement levels
Sacramento River fall Chinook	Under development; extraordinary measures will likely be required this year
Klamath River fall Chinook	> 23,614 natural area adult spawners

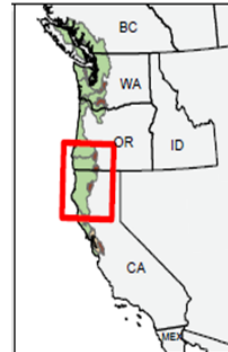


# Endangered Species Act (ESA) Listed Stocks



## Coho Salmon

- Southern Oregon/Northern California Coho
  - ESA – Threatened
  - Recovery plan released September 2014 (79 FR 58750) –
- 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

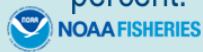


## SONCC coho salmon

- The Council and NMFS engaged in a public process to develop a new HCR for SONCC coho which culminated last cycle (January 21, 2022), resulting in amending the FMP's HCR for SONCC coho.
- NMFS finalized a new opinion in 2022 and adopted the proposed amendment.

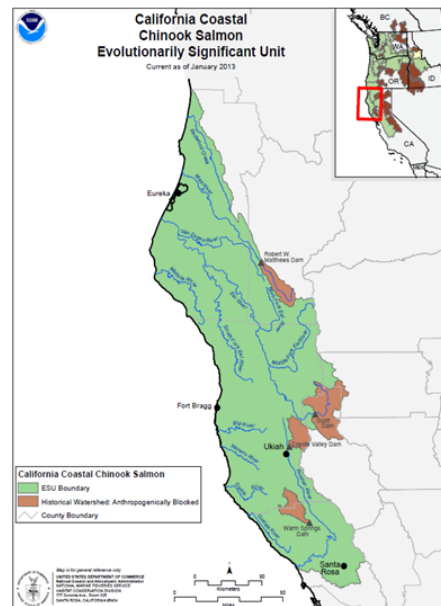
### Preliminary Guidance for 2023

- Continue the prohibition of coho retention and coho-directed fisheries off CA;
- Constrain Council fisheries, when combined with freshwater fisheries, to a total exploitation rate on Rogue/Klamath coho salmon 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)



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## 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 and 2022
  - This was done to try to align the fishery model with observed exceedances to the 16% HR limit (0.16):

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	0.28
2022	0.10	0.38

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## California Coastal Chinook Salmon

### Preliminary Guidance for 2023

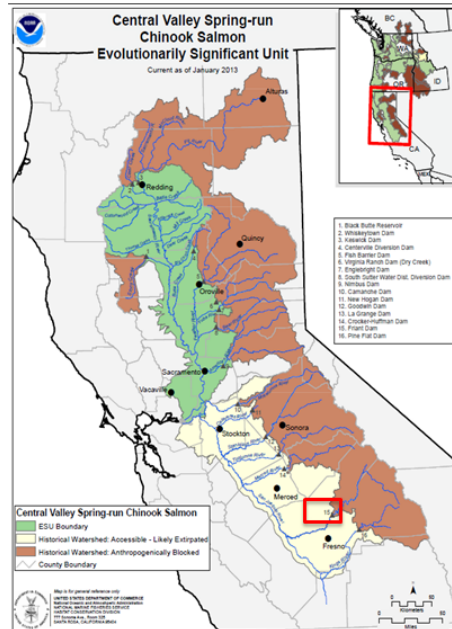
- Given the pattern of post season performance and magnitude of exceedance in recent years, in order to ensure ocean harvest rates do not exceed the 16 percent age-4 KRFC harvest rate consultation standard, 2023 ocean salmon fisheries:
  - should be managed for a buffered pre-season age-4 KRFC rate of 10 percent and;
  - In-season measures will need to be taken to ensure that catch does not exceed preseason expectations.

# Central Valley Spring Chinook Salmon

- ESA-threatened
- Recovery plan adopted July 2014 (79 FR 42504)

## Preliminary Guidance for 2023

- SWRC management framework continues to provide sufficient protection coupled with the significant conservation constraints anticipated in 2023 for other Chinook stocks.



# Sacramento River Winter Chinook Salmon

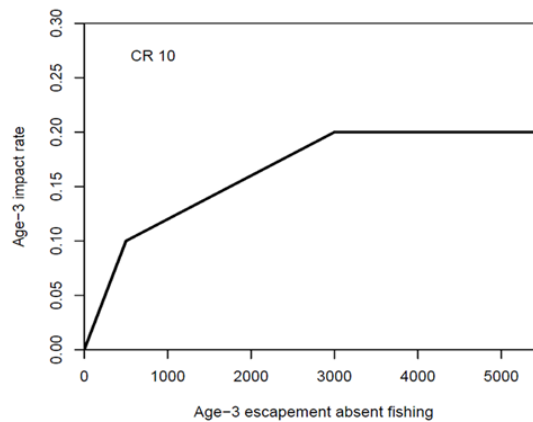
- ESA – Endangered
- Recovery plan adopted July 2014 (79 FR 42504)

## Preliminary Guidance for 2023

- 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
- Follow the current HCR

## Sacramento River Winter Chinook Salmon

- The current HCR:



### Preliminary Guidance for 2023

- Based on the rule NMFS preliminary guidance for an allowable impact rate in 2023 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 an 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.



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## 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.

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## Southern Resident Killer Whales

- Amendment 21 incorporated into the FMP an expectation the method would likely be updated as new data became available and models were updated.
- During the 2022 cycle, the Council followed the process outlined in the FMP, discussing and determining if available updates to both FRAM and the Shelton et. al models were the best scientific information available.
  - After the review, at their November 2022 meeting, the Council accepted the modified the Chinook low abundance threshold adopting it for 2023 and beyond (623,000), using the same methodology adopted by the Council's Ad Hoc Workgroup.

## Southern Resident Killer Whales

### Preliminary Guidance for 2023

- 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), 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.
- 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

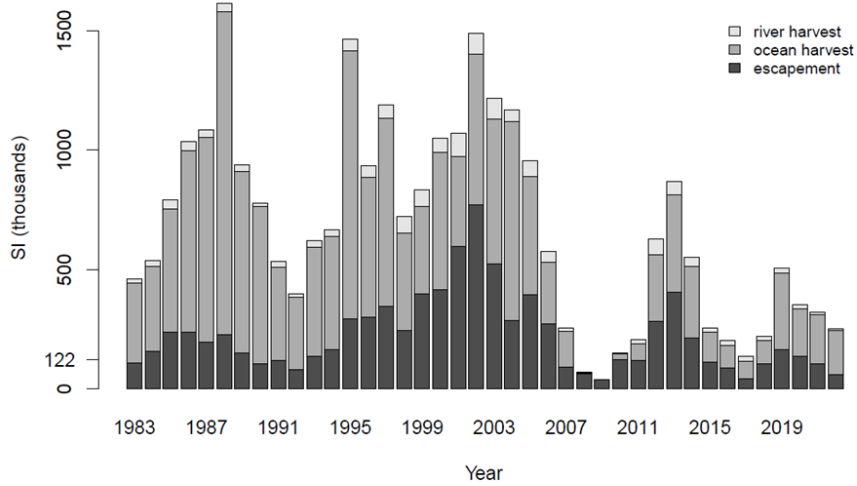
# Thank You

[Jeromy.Jording@noaa.gov](mailto:Jeromy.Jording@noaa.gov)

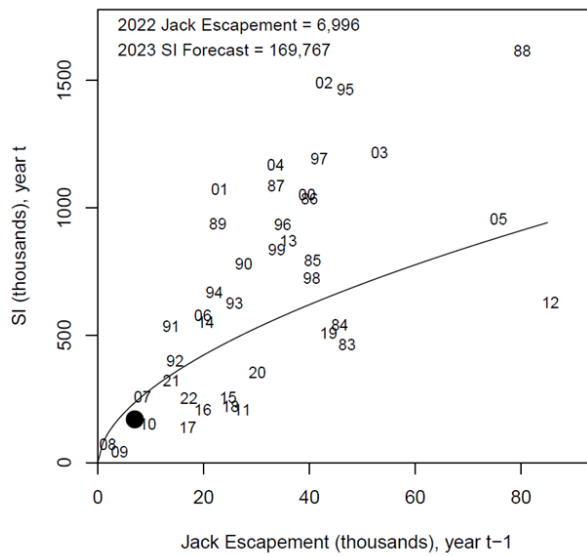
[Susan.Bishop@noaa.gov](mailto:Susan.Bishop@noaa.gov)

Special thanks to:  
Michael O'Farrell SWFSC

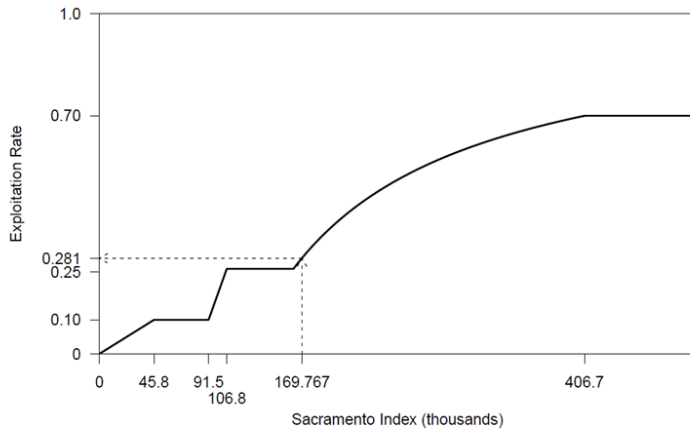
## 2022 Sacramento Index (SI) = 251,191



## 2023 SI forecast = 169,767

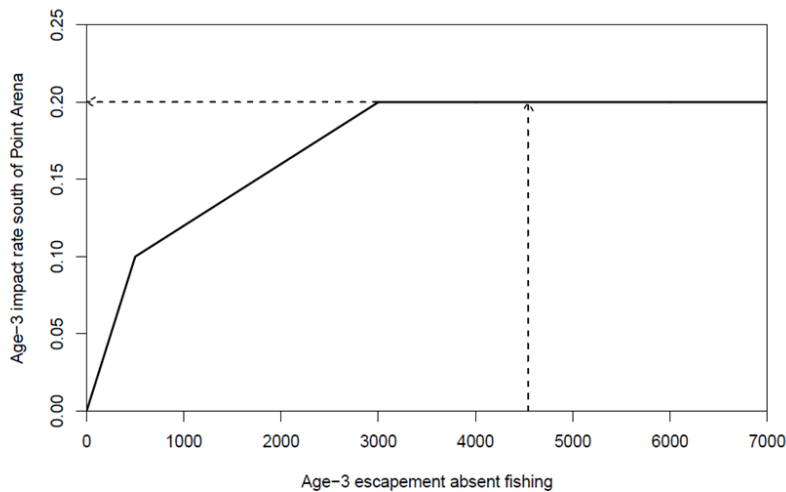


## 2023 SRFC management



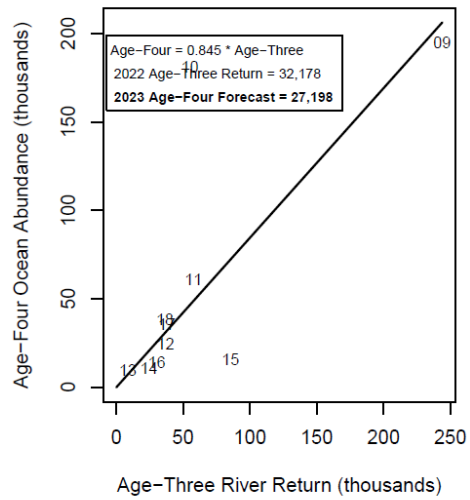
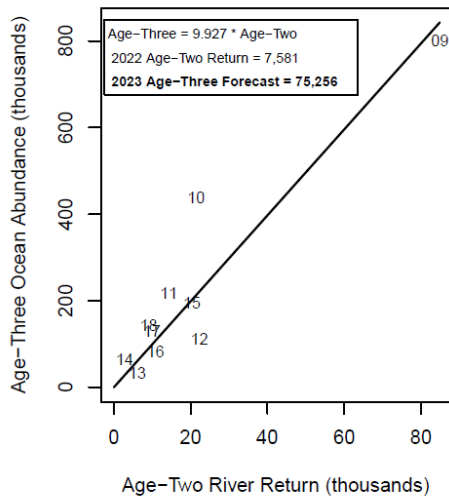
- 2023 forecast lower than 2022
- Must target an escapement of at least 122,000 (max 28.1% exploitation rate)
- 2022 regs:
  - Escapement: 84,750
  - Exploitation Rate: 50.1%
- Likely to constrain 2023 fisheries

## 2023 winter Chinook management



- Abundance forecast: 4540 (lower than 2022)
- Maximum allowable age-3 impact rate: 20%
- 2022 regs: preliminary impact rate of 15.9%
- Unlikely to constrain fisheries south of Point Arena

## 2023 Klamath abundance forecast

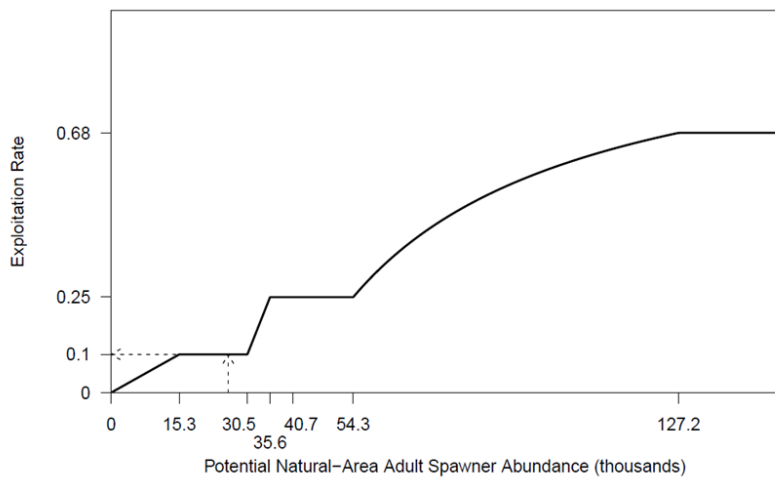


Age-3:  
75,256

Age-4:  
27,198

Age-5:  
1,339

## 2023 Klamath fall Chinook management



- Potential spawner abundance: 26,238
- Max exploitation rate: 10%
- Minimum escapement: 23,614

## **2023 KRFC management, contd.**

- 2022 regs applied to 2023 abundance
  - Tribal allocation: 50% of total harvest
  - River recreational allocation: 22.5% of non-tribal harvest
  - Natural-area adult spawner prediction: 17,792
  - Exploitation rate: 32.2%
  - Will constrain 2023 fisheries

## **2023 California Coastal Chinook**

- Max allowable KRFC age-4 ocean harvest rate of 16%
- 2022 fisheries: preliminary prediction of 12.3%
- Could constrain 2023 fisheries



## Initial CDFW Recommendations for 2023 Ocean Salmon Fisheries

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- Manage California ocean fisheries in-season to keep catch within projections
- Close fisheries on attainment to prevent overages
- For commercial fisheries, use vessel-based trip limits
- For recreational fisheries, ability to reduce bag limits

Link to briefing book:

<https://www.pcouncil.org/briefing-book/march-2023-briefing-book/>

## **2023 California Ocean Salmon Preseason Process: Calendar of Events**

### **March 5-10, 2023 - Pacific Fishery Management Council March Meeting Seattle, WA**

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 10.

*Preseason Report II: Proposed Alternatives and Environmental Assessment Part 2 for 2023 Ocean Salmon Fishery Regulations* will be available online in late March at: [www.pcouncil.org](http://www.pcouncil.org).

### **March 21, 2023 - Pacific Fishery Management Council Public Hearing Santa Rosa, 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](http://www.pcouncil.org).

### **April 1-7, 2023 - Pacific Fishery Management Council April Meeting Foster City, CA**

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 7.

*Preseason Report III: Council-Adopted Management Measures and Environmental Assessment Part 3 for 2023 Ocean Salmon Fishery Regulations* will be available online in late April at: [www.pcouncil.org](http://www.pcouncil.org).

### **April 19-20, 2023 - California Fish and Game Commission Meeting Fresno/Bakersfield area, CA**

The Commission will receive an update on ocean salmon sport fishery regulations in effect in 2023. 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](http://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	Hoop Valley Tribal Fisheries PO Box 1348 Hoop Valley, CA 95546	Telephone: (530) 625-4267 Email: <a href="mailto:jalvarez@hoopa-nsn.gov">jalvarez@hoopa-nsn.gov</a>
George Bradshaw California Troll	F/V Swan PO Box 1565 Crescent City, CA 95531	Telephone: (707) 954-9339 Email: <a href="mailto:GeorgeBradshaw707@gmail.com">GeorgeBradshaw707@gmail.com</a>
Jim Yarnall CA Sport Fisheries	California Sport Fisheries 6308 Eggert Road Eureka, CA 95503	Telephone: (707) 443-2496 Email: <a href="mailto:jimyarnall@gmail.com">jimyarnall@gmail.com</a>
James Stone CA Sport Fisheries	Nor-Cal Guides & Sportsmen's Association PO Box 111 Sutter, CA 95982	Telephone: (530) 923-9440 Email: <a href="mailto:jstone@ncgasa.org">jstone@ncgasa.org</a>
John Atkinson CA Charter Boat	Golden Gate Fishermen's Association 42 Seawolf Passage Corte Madera, CA 94925	Telephone: (415) 924-6851 Email: <a href="mailto:newrayann@comcast.net">newrayann@comcast.net</a>

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 2022 Ocean Salmon Fisheries*

Available online at: <https://www.pcouncil.org/salmon-management-documents/>

*Preseason Report I: Stock Abundance Analysis for 2023 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>



## 2022 Ocean Salmon Commercial Regulations

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

Closed

### 40°10' Line to Point Arena (Fort Bragg):

July 8-12, 21-25, August 3-12

- 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):

July 8-12, 21-25, August 3-12, 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 3-7, 10-14

- 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 1-5, 10-15, 20-24, June 1-12, July 8-12, 21-25, August 3-12

- Minimum size limit: 27 inches total length
- All salmon caught in this area in the month of May must be landed within 24 hours of any closure of the fishery.
- During the months of May and June, all salmon caught in this area must be landed south of Point Arena.

### 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<sup>1</sup> required when fishing with bait and fishing by any means other than trolling<sup>2</sup>**
  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 for West Coast Salmon Fisheries per 86 FR 26425





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



## 2022 Ocean Salmon Sport Regulations

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

May 1-31, August 1-September 5

- Minimum size limit: 20 inches total length

### 40°10' Line to Point Arena (Fort Bragg):

May 1-July 4, July 22-September 5

- Minimum size limit: 20 inches total length

### Point Arena to Pigeon Point (San Francisco):

April 2-May 31, June 23-October 31

- Minimum size limit: 24 inches total length through May 15 and 20 inches total length thereafter

### Pigeon Point to the U.S./Mexico Border (Monterey and south):

April 2-October 2

- 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, §27.65(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)).
- **Special Salmon Closures: (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
- **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<sup>1</sup>, no more than two single-point, single-shank barbless CIRCLE HOOKS<sup>2</sup> 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).

## OCEAN SALMON REGULATION HOTLINES

NATIONAL MARINE FISHERIES SERVICE: (800) 662-9825

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

