

Agenda

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE 2024 SALMON INFORMATION MEETING

**Friday, March 1, 2024
10:00 a.m. ~Virtual Only~**

Welcome –

Opening Comments and Review Agenda

Kandice Morgenstern, CDFW
10:00 a.m.

2023 Central Valley Chinook Spawning Escapement

Audrey Dean, CDFW
10:10 a.m.

2023 Klamath Basin Chinook Spawning Escapement,
Harvest, and Age Composition

Dan Troxel, CDFW
10:30 a.m.

Update on Klamath Dam Removal and Conservation
Measures for Klamath Stocks

Morgan Knechtle, CDFW
10:50 a.m.

BREAK (15 minutes)

11:05 a.m.

NMFS 2024 Ocean Salmon Fishery Guidance

Anthony Siniscal, NMFS
11:20 a.m.

Abundance Forecasts and Harvest Model Results

Dr. Michael O'Farrell, NMFS
11:40 a.m.

Closing Comments

Kandice Morgenstern, CDFW
12:00 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-2024-briefing-book/>

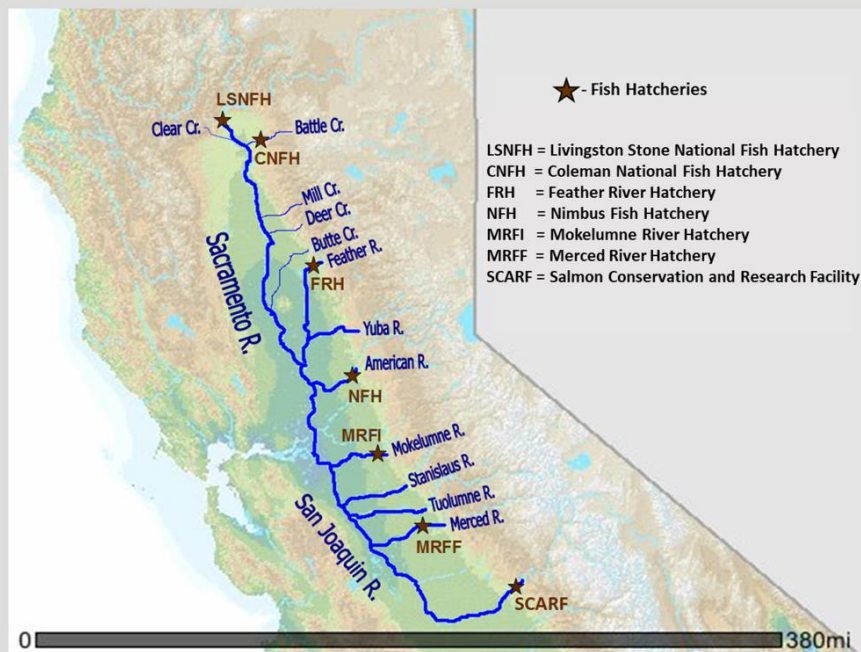


Department of Fish and Wildlife Anadromous Fishes Conservation and Management Program

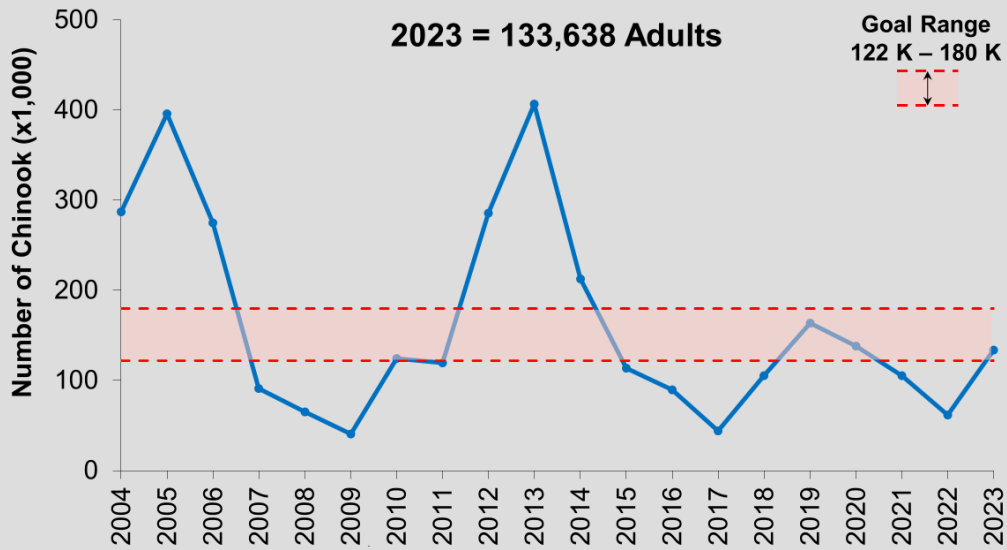
2023 Central Valley Chinook Salmon Spawning Escapement

Presented by
Audrey Dean

The Central Valley

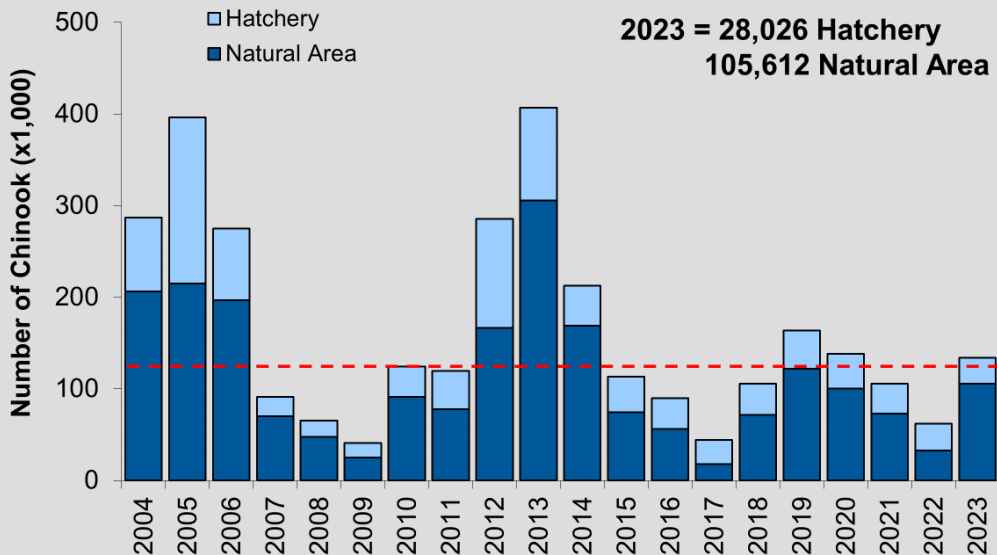


Sacramento River Fall Chinook Adult Spawning Escapement, 2004-2023



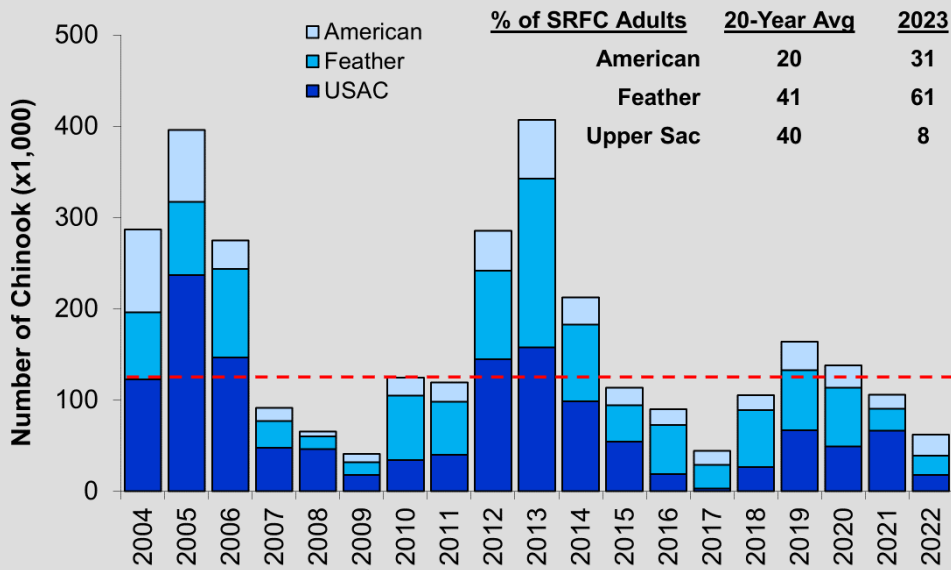
3

Sacramento River Fall Chinook Hatchery & Natural Area Adult Spawning Escapement, 2004-2023



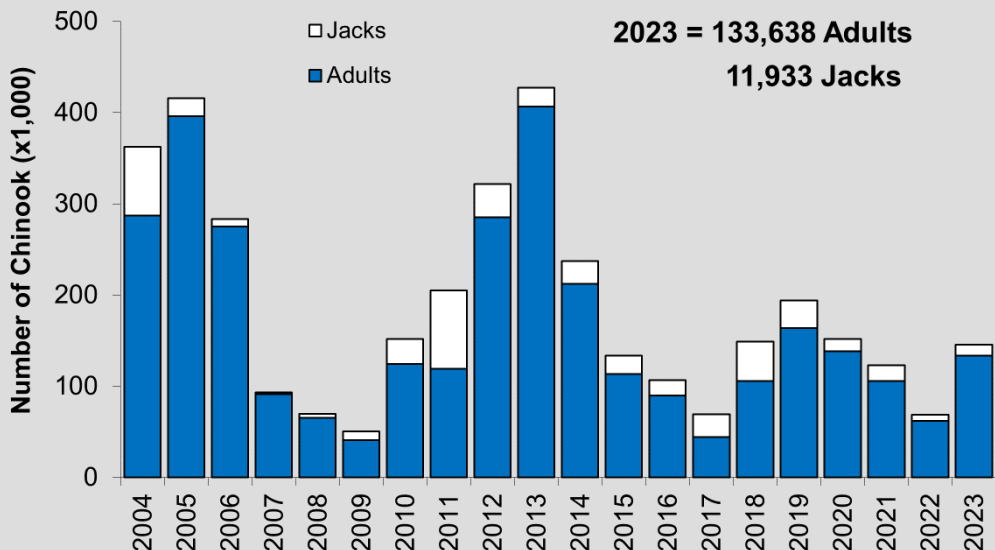
4

Sacramento River Fall Chinook Adult Spawning Escapement By Basin, 2004-2023



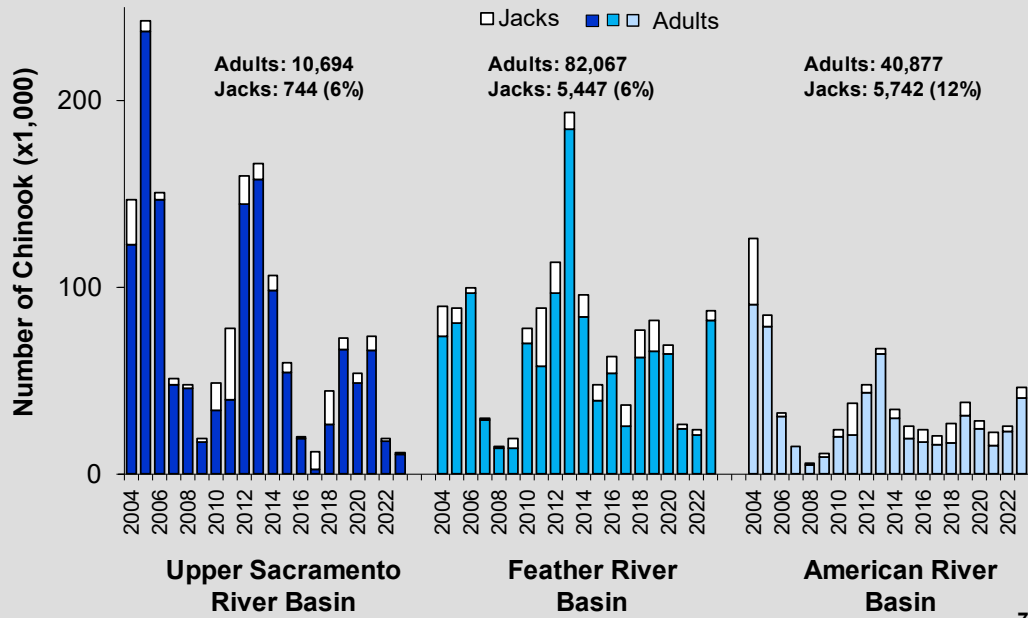
5

Sacramento River Fall Chinook Adult & Jack Spawning Escapement, 2004-2023



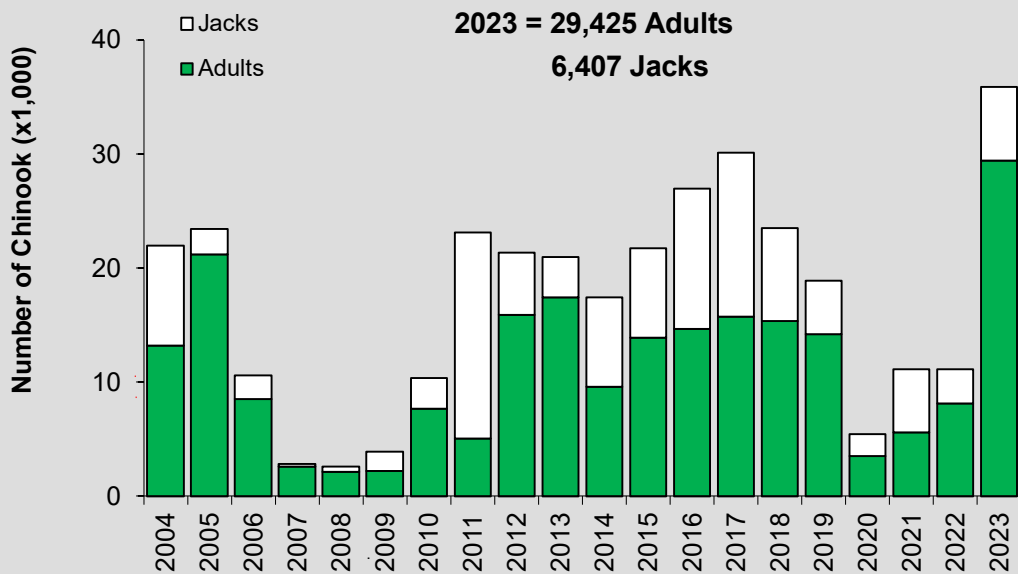
6

Sacramento River Fall Chinook Adult & Jack Spawning Escapement By Basin, 2004 -2023



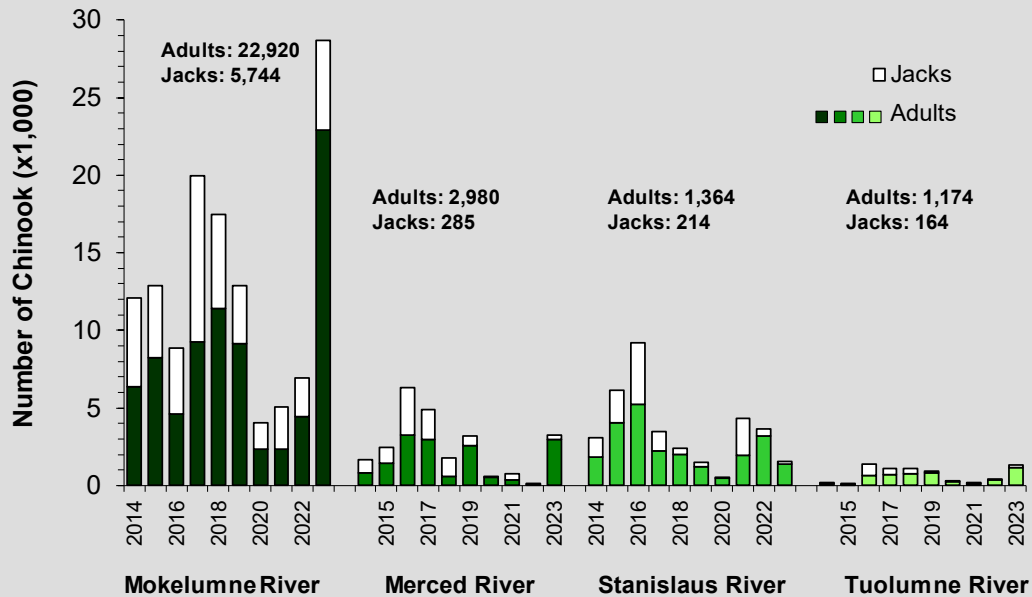
7

San Joaquin Basin Fall Chinook Adult & Jack Spawning Escapement, 2004 -2023



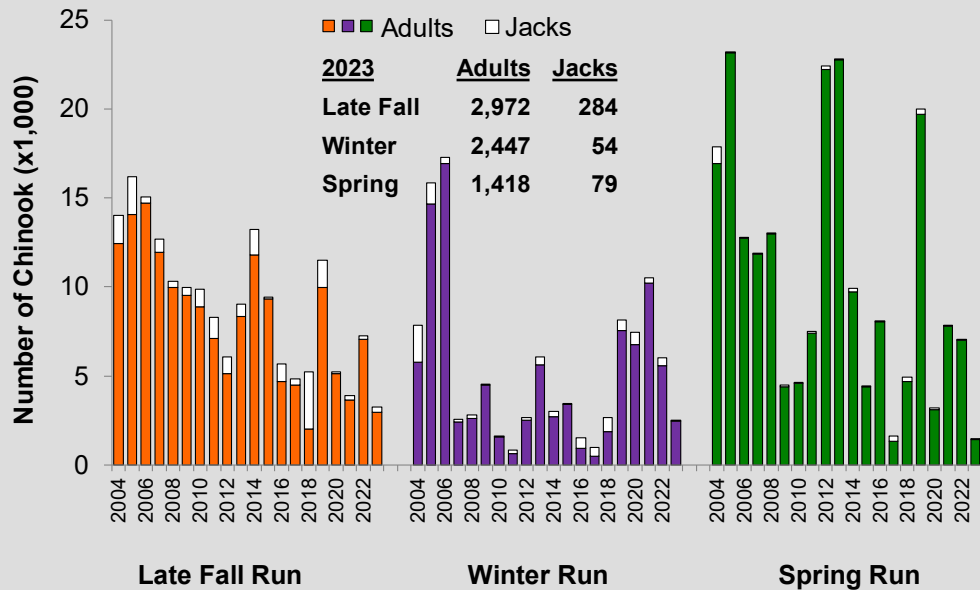
8

San Joaquin River Fall Chinook Adult & Jack Spawning Escapement By Basin, 2014 -2023



9

Other Sacramento Basin Chinook Stocks Spawning Escapement, 2004-2023



10



Department of Fish and Wildlife Anadromous Fishes Conservation and Management Program



Thank You

Audrey Dean
Sr. Environmental Scientist
(Specialist)
Audrey.Dean@wildlife.ca.gov

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

11

2023 Sacramento River Fall Chinook Hatchery and Natural Area Escapement

		Jacks	Adults	Total	% Jack	% Nat	% SRFC Total
Upper Sacramento River Basin	Hatchery	314	4,534	4,848	6%		3%
	Natural	<u>430</u>	<u>6,160</u>	<u>6,590</u>	<u>7%</u>	58%	<u>5%</u>
		744	10,694	11,438	7%		8%
Feather River Basin (including Yuba River)	Hatchery	1,810	16,989	18,799	10%		13%
	Natural	<u>3,637</u>	<u>65,078</u>	<u>68,715</u>	<u>5%</u>	79%	<u>47%</u>
		5,447	82,067	87,514	6%		60%
American River Basin	Hatchery	2,796	6,503	9,299	30%		6%
	Natural	<u>2,946</u>	<u>34,374</u>	<u>37,320</u>	<u>8%</u>	80%	<u>26%</u>
		5,742	40,877	46,619	12%		32%
Total 2023 SRFC Escapement		11,933	133,638	145,571	8%	77%	100%

2023 Other Central Valley Chinook Stocks Hatchery and Natural Area Escapement

		Jacks	Adults	Total	% Jack	% Nat
Central Valley Late Fall Chinook	Hatchery	224	1,836	2,060	11%	
	Natural	<u>60</u>	<u>1,136</u>	<u>1,196</u>	<u>5%</u>	37%
		284	2,972	3,256	9%	
Sacramento River Winter Chinook		<u>54</u>	<u>2,447</u>	<u>2,501</u>	<u>2%</u>	
		54	2,447	2,501	2%	
Central Valley Spring Chinook	Hatchery	79	1,312	1,391	6%	
	Natural	<u>---</u>	<u>106</u>	<u>106</u>	<u>---</u>	7%
		79	1,418	1,497	---	
San Joaquin Fall Chinook	Hatchery	2,907	7,853	10,760	27%	
	Natural	<u>3,500</u>	<u>21,572</u>	<u>25,072</u>	<u>14%</u>	70%
		6,407	29,425	35,832	18%	

California Department of Fish and Wildlife

Klamath-Trinity Project

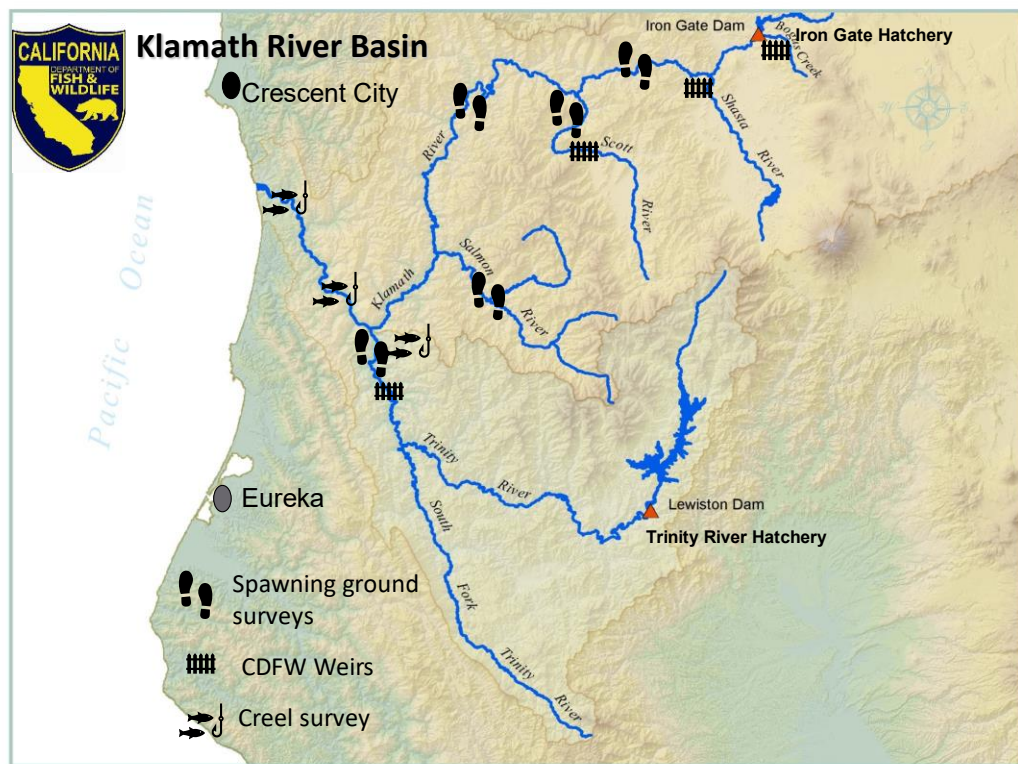
Klamath Basin Chinook Salmon Spawning Escapement, Harvest and Age Composition, 2023 Season

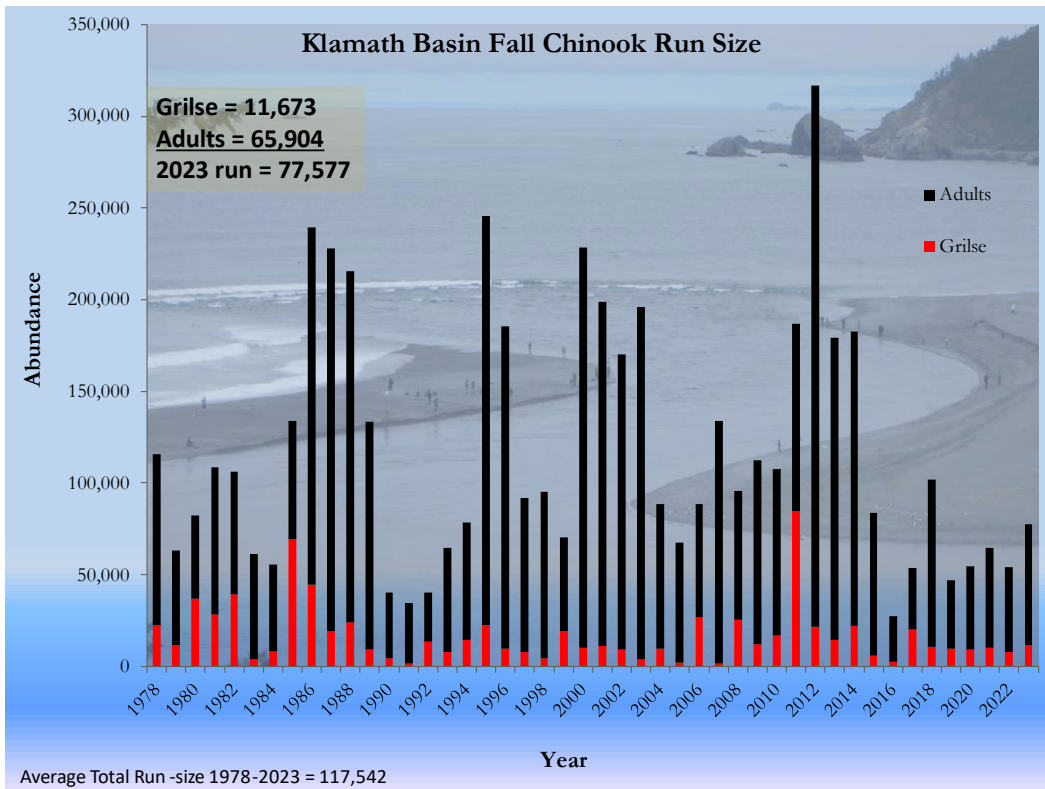


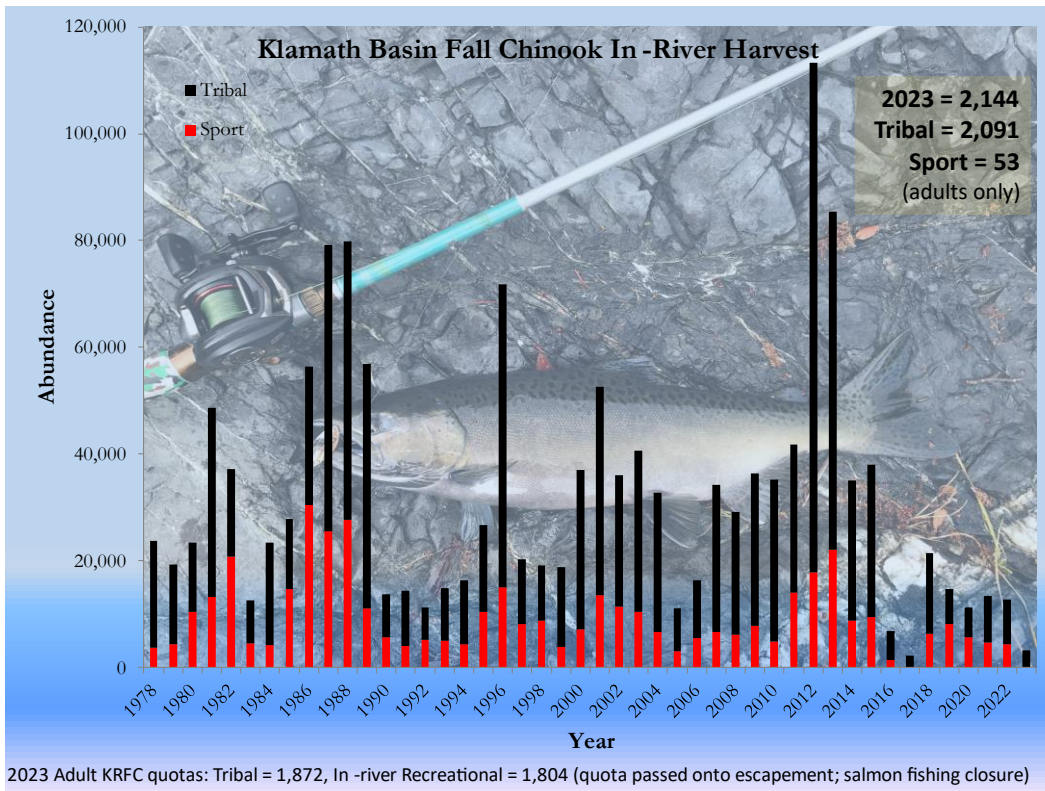
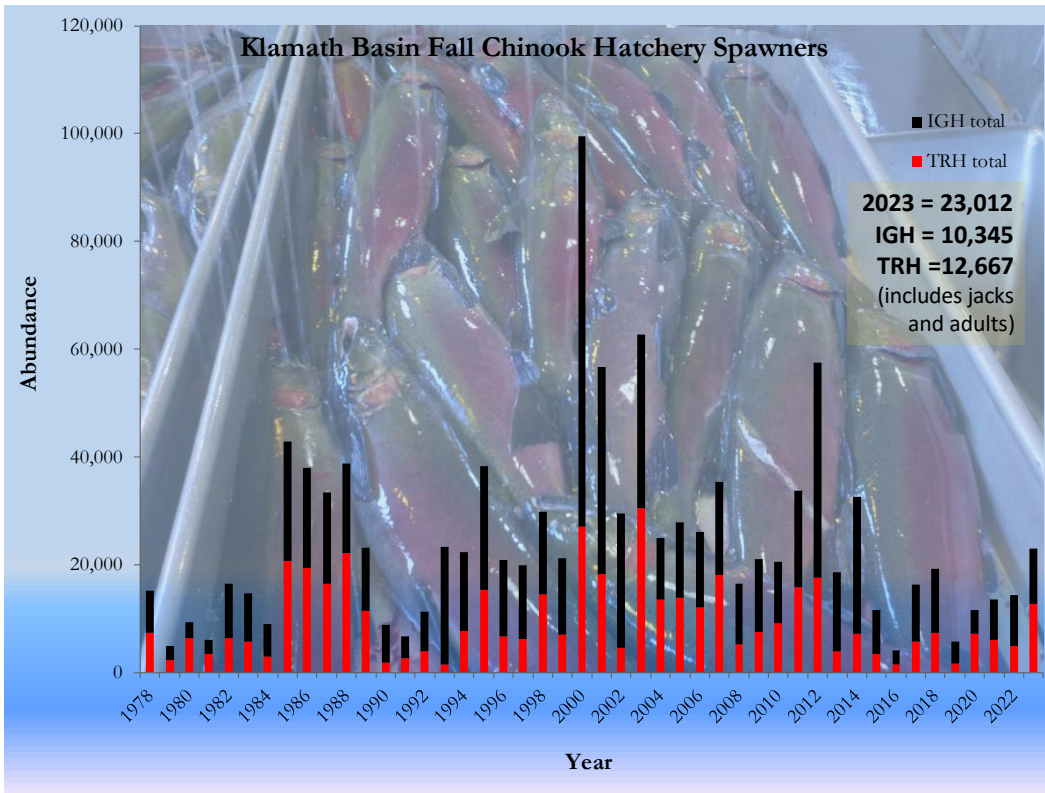
Salmon Information Meeting

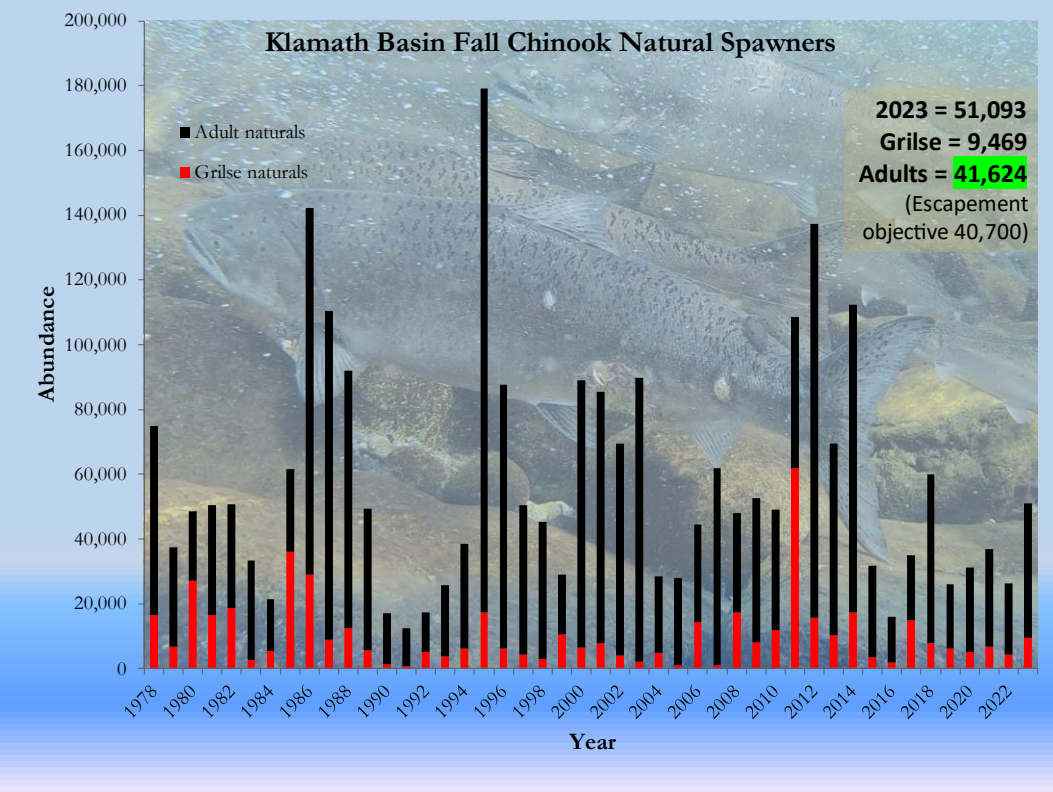
March 1, 2024

Dan Troxel - Environmental Scientist









Age Composition of the 2023 Klamath Basin fall Chinook Salmon run

Escapement & Harvest		AGE				Total Adults	Total Run
		2	3	4	5		
Hatchery Spawners							
	Iron Gate Hatchery	200	4,016	6,017	112	10,145	10,345
	Trinity River Hatchery	848	10,521	1,292	6	11,819	12,667
	subtotal	1,048	14,537	7,309	118	21,964	23,012
						33.3%	29.7%
Natural Spawners							
	Klamath Basin subtotal	1,559	6,636	12,164	677	19,477	21,036
	Trinity Basin subtotal	7,911	17,095	4,962	90	22,147	30,058
	subtotal	9,470	23,731	17,126	69	41,624	51,094
						63.2%	65.9%
Recreational Harvest							
	Klamath River harvest	0	0	0	0	0	0
	Trinity River harvest	9	53	0	0	53	62
	subtotal	9	53	0	0	53	62
						0.1%	0.1%
Tribal Harvest							
	Klamath River harvest	18	61	360	1	422	440
	Trinity River harvest	1,118	1,090	578	0	1,668	2,786
	subtotal	1,136	1,151	938	1	2,090	3,226
						3.2%	4.2%
Dropoff Mortality							
		11	93	79	0	172	183
Klamath River Ich disease testing		0	0	0	0	0	0
						0.3%	0.2%
Total River Run							
		11,674	39,565	25,452	188	65,903	77,577

Source: 2024 KRTT

2023 Preliminary results/findings

The 2023 Klamath Basin fall Chinook run estimate is ~66% of the 46 year long-term average (16th lowest total run size).

The number of 2 year-old fish (11,673) is ~66% of the long-term average.

The adult Chinook returns to the basin were ~183% percent of the projected forecast (~36,000 pre vs. ~65,900 post).

The adult fall Chinook natural escapement objective was 40,700 (41,624 returned in 2023) was met.

The geometric mean of adult natural escapement for the past three years is ~31,300.

In 2024, a natural area escapement of ~73,500 adults is necessary to “rebuild” the stock (achieve 3-year geometric mean of 40,700).



Questions?



Follow up questions?

Dan Troxel – Klamath River Project (Arcata, CA)

Email: dan.troxel@wildlife.ca.gov

Phone: (707) 822-0330

OR

Morgan Knechtle – Klamath/Trinity Supervisor (Yreka, CA)

Email: morgan.knechtle@wildlife.ca.gov

Phone: (530) 598-1743

Photo credits in this presentation: CDFW, MKWC, USFS



Update on Klamath Dam Removal and Conservation Measures for Klamath Stocks

- **2024 Salmon Information Meeting**
Morgan Knechtle, Klamath-Trinity Supervisor
Northern Region, Coastal Fisheries



Presentation Overview

- Project Background
- Project and Dam Removal Timeline
- Project updates
- Inland sportfishing regulations
- PFMC Klamath Fall Chinook Ad Hoc Workgroup

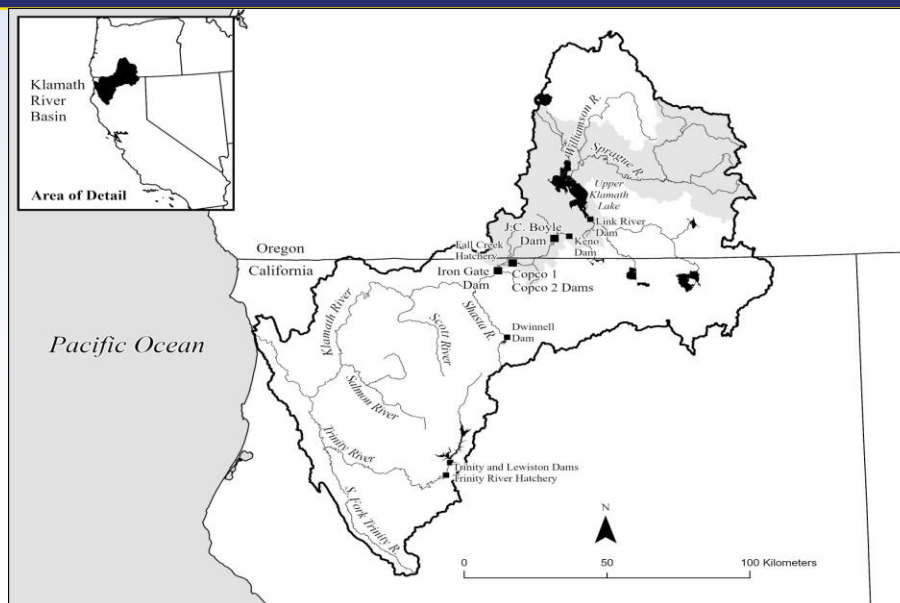


Project Background

- Klamath Dam Removal Project will restore anadromy to approximately 400 miles of river and stream habitat above the current dams (Iron Gate, Copco 1 and 2, J.C. Boyle)
- Habitat restoration will occur above and directly below the current dams
- New and modified regulations are needed for the new habitat and to facilitate re-population and recovery for native fish populations of trout, steelhead, and salmon
- Anadromous fish passage is expected in the fall of 2024



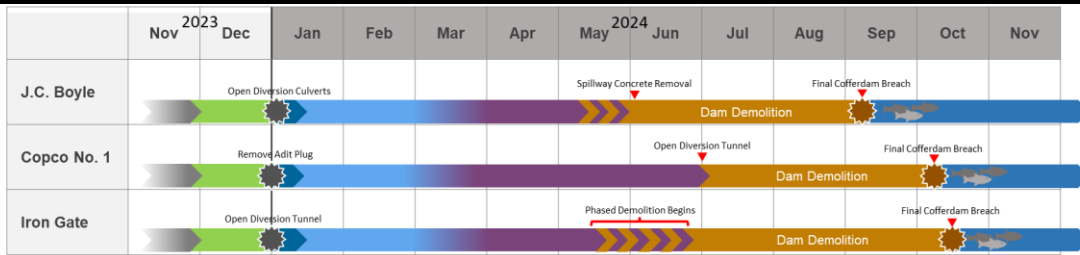
Project Background



Map Credit:
ODFW



Reservoir Drawdown and Dam Removal Timeline



1. Operational Drawdown:

Lowering reservoir to its minimum operating level

2. Initial Drawdown:

Reservoir water evacuation below the Operational Drawdown limits

3. Reservoir Refilling and Releasing Period:

Inflows exceed outflow capacity periodically, causing reservoir levels to rise and fall

4. Dam Demolition:

Reservoir water elevation remains at the top of the historic cofferdam while dam concrete and embankments are removed

5. Klamath River Reconnection:

Breaching of the historic cofferdam, allowing the river to permanently flow in a riverine condition

KRRC



Iron Gate





Copco



Fall Creek Hatchery





Inland Sportfishing Regulation Timeline

- Fish and Game Commission Public Hearings
 - Request to go to Notice - August 2023
 - Discussion hearing - December 2023
 - Adoption hearing – February 2024
- New regulations intended to take effect this spring

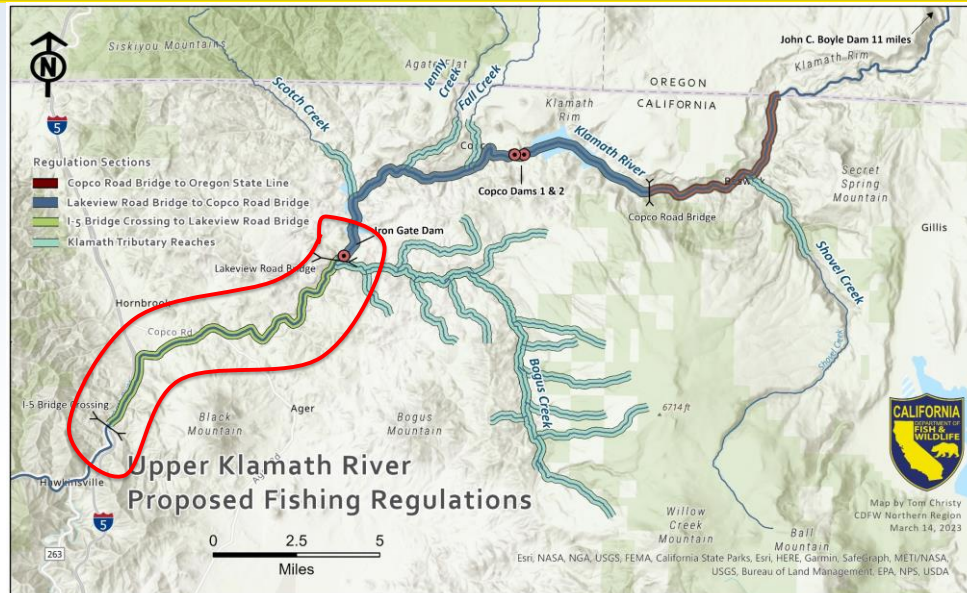


2024 Regulatory Options





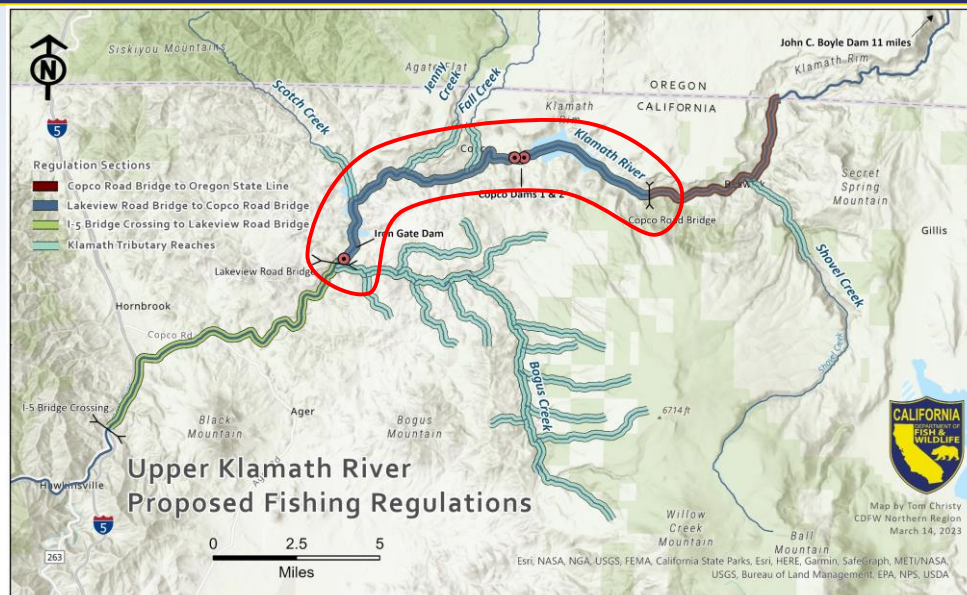
I-5 Bridge to Lakeview Road Bridge



11



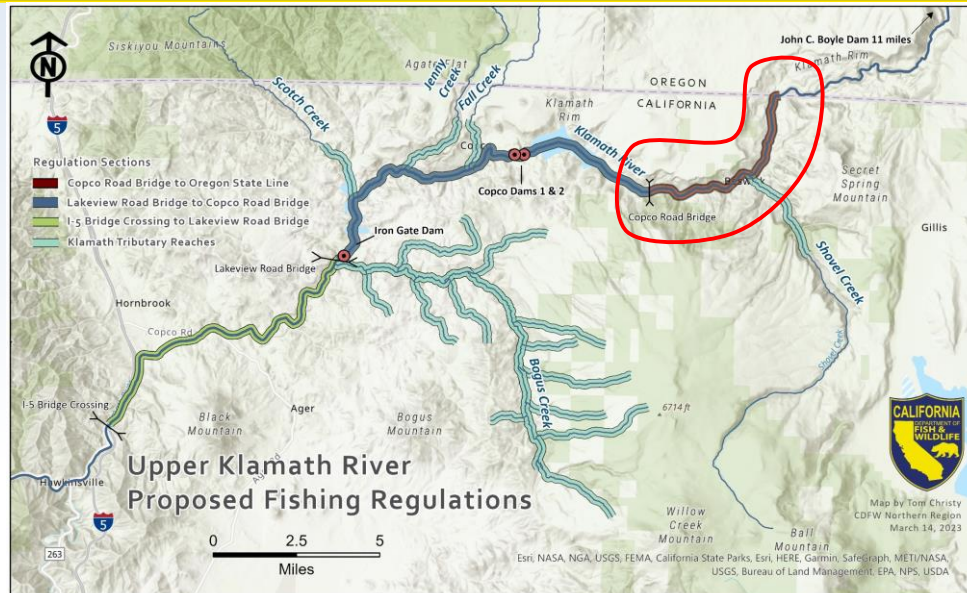
Lakeview Road Bridge to Copco Road Bridge



12



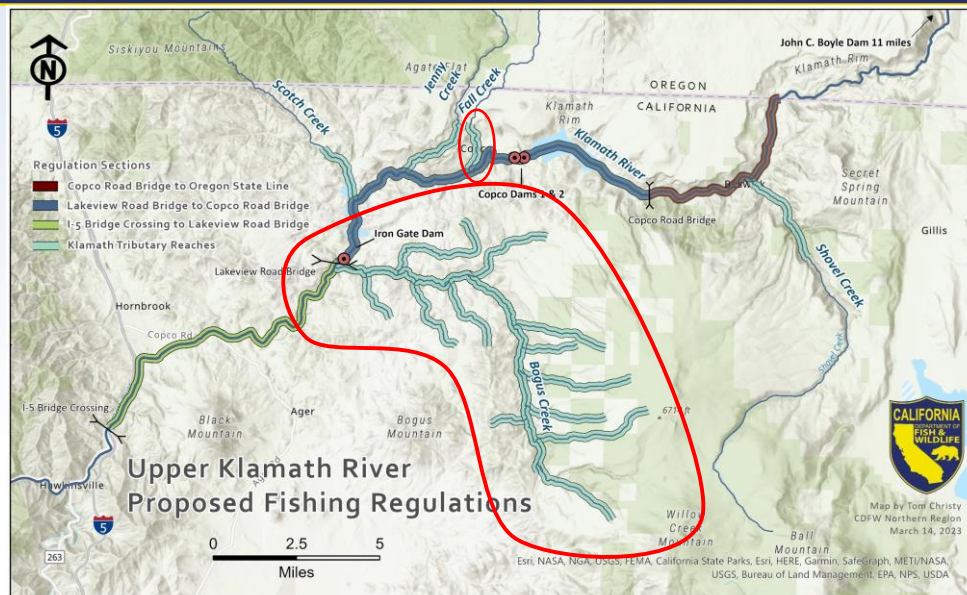
Copco Road Bridge to OR/CA Border



13



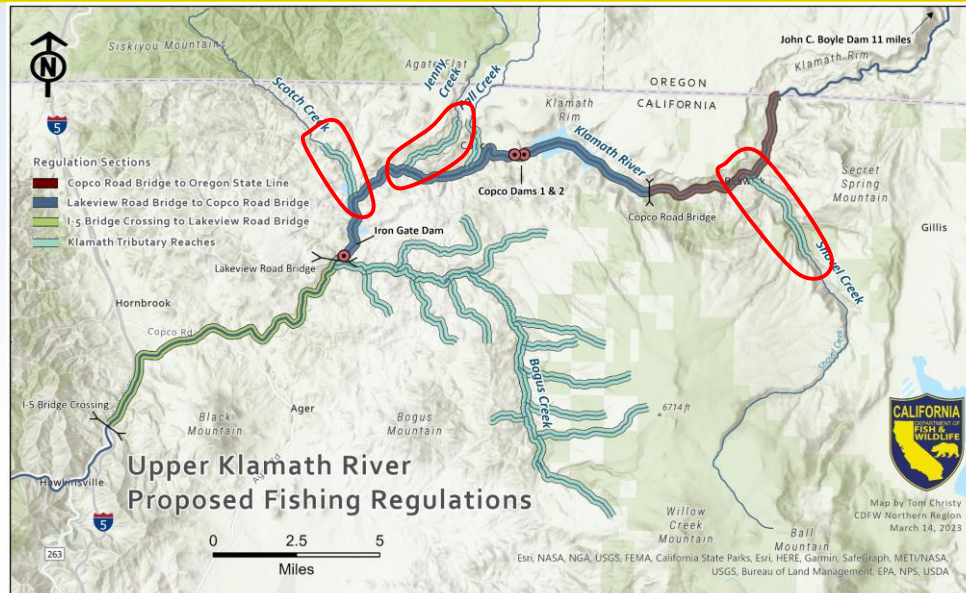
Bogus Creek and Anadromous Fall Creek



14



Anadromous Jenny, Shovel, and Scotch Creeks



15



Regulatory Context

- Expectation for habitat response includes some uncertainty – precaution warranted.
- Expectation for fish population response includes some uncertainty – precaution warranted.
- Much will be learned by managers as the restoration project unfolds and responses progress.
- **Initial regulations are expected to be temporary and will be subject to annual revision.**
- **Adaptive Management will be critical and ongoing.**

16



PFMC KRFC Ad Hoc Workgroup

- June 2023 Council adopted Draft Terms of Reference
 - Assist in the development of interim management measures associated with Dam Removal and stock rebuilding in 2024 and potentially beyond.

17



PFMC KRFC Ad Hoc Workgroup

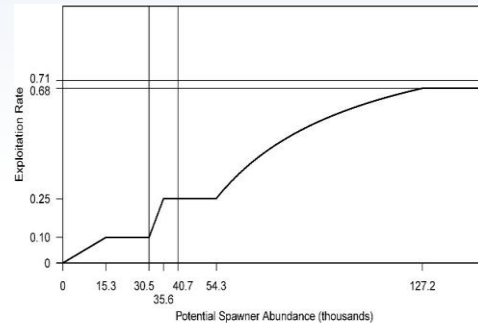
- Justification of need:
 - Overfished status since 2018
 - Increased conservation may be warranted
 - Recruits are needed to repopulate new habitat
 - Maximize opportunity for successful restoration project
 - Speeds recovery and increases future fishing opportunity

18



PFMC KRFC Ad Hoc Workgroup

- “KRFC Interim Management Measures for Ocean Salmon Fisheries”
 - Updated stock-recruit analysis (reduced productivity)
 - Provides 8 alternative Harvest Control Rules for consideration



19



PFMC KRFC Ad Hoc Workgroup

- Potential Future work:
 - New Stock-Recruit analysis after habitat stabilizes and new data is collected (8-12 years).
 - Design new or update existing forecast methods
 - Updates to Klamath Ocean Harvest Model (KOHM)
 - Investigate and develop alternative management approaches that are more sophisticated than interim HCR's

20



Questions ♦ Thank You

Morgan Knechtle

Klamath-Trinity Supervisor

Northern Region

(530) 598-1743

Morgan.knechtle@wildlife.ca.gov





**NOAA
FISHERIES**

2024 Ocean Salmon Fishery Guidance

CDFW Salmon Information Meeting
March 1, 2024

Tony Siniscal
Sustainable Fisheries Division
NMFS West Coast Region

2024 NMFS Guidance

- Preliminary Guidance
 - Final guidance provided in NMFS guidance letter
- Non-Listed Stocks
 - Salmon Fisheries Management Plan (FMP)
 - Harvest Control Rules
 - Conservative Management
- Stock Listed Under the Endangered Species Act
 - Biological Opinions
 - NMFS Guidance Letter
- Forecasts: Next Presentation by Dr. O'Farrell



**NOAA
FISHERIES**

Non-ESA-Listed Stocks



Sacramento River Fall Chinook (SRFC)

- Indicator stock for Central Valley Fall Chinook stock complex
- Not listed under the ESA
- Conservation Objective: 122,000 – 180,000 adult spawners
- Harvest Control Rule
- Preliminary Guidance Under Development



Klamath River Fall Chinook (KRFC)

- Indicator stock: Chinook from Southern Oregon Northern California coasts, Klamath and Trinity Rivers
- Not listed under the ESA
- Overfished status
- Conservation Objective: 40,700 spawners
- Harvest Control Rule
- Preliminary Guidance Under Development

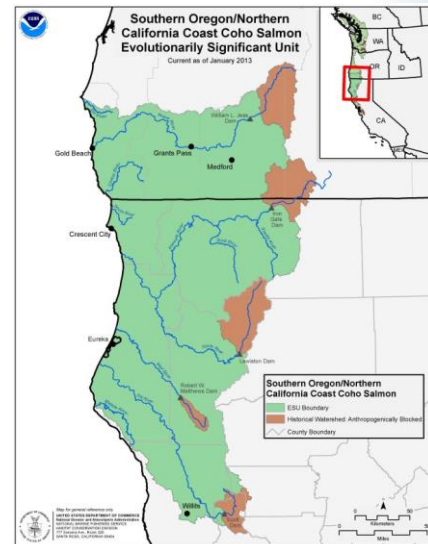


Stocks Listed Under the Endangered Species Act (ESA)



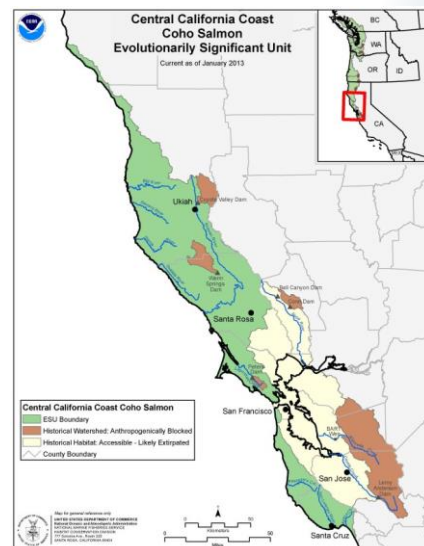
SONCC Coho Salmon

- ESA Listed: Threatened
- Recovery Plan: 2014 (79 FR 58750)
- Harvest Control Rule and Amendment 23 in 2022
- Biological Opinion: 2022
- Guidance
 - Continue to prohibit coho retention and coho-directed fisheries off CA
 - Total (ocean and freshwater) ER limit:
 - ≤ 16% for Trinity population unit
 - ≤ 15% for all other SONCC populations



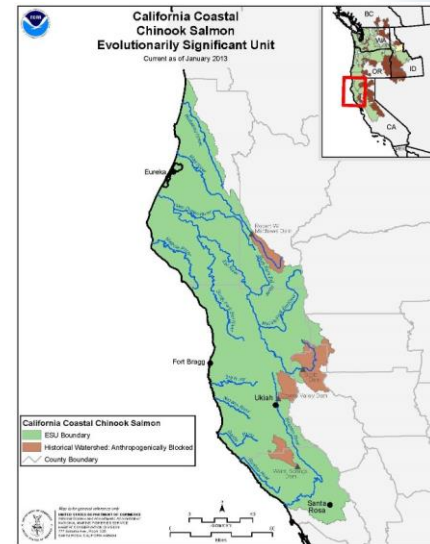
Central California Coast Coho

- ESA Listed: Endangered
- Recovery Plan: 2012 (77 FR 54565)
- Background
 - Species in the Spotlight designation with NOAA Fisheries
 - CDFW Priority Action Coho Team to assemble State and Federal recovery plan priorities and actions
- Guidance
 - Continue to prohibit coho retention and coho-directed fisheries off CA



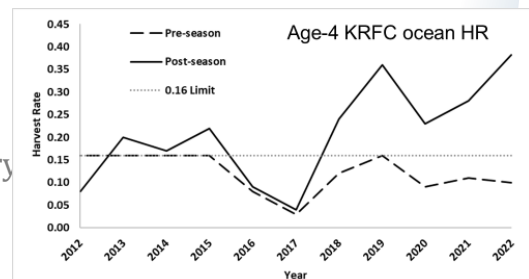
California Coastal (CC) Chinook Salmon

- ESA Listed: Threatened
- Recovery Plan: 2016 (81 FR 750666)
- Biological Opinion: 2024
- Consultation Standard:
 - Indicator: Klamath River Fall Chinook (KRFC)
 - Metric: Age-4 KRFC Ocean Harvest Rate
 - Limit: $\leq 16\%$



CC Chinook Salmon (Continued)

- Management response needed
 - HR exceeding pre-season projection
 - HR exceeding 16% limit
 - High contact rates in commercial fishery
 - KOHM updates in 2021 and 2022
 - Buffered HR in 2022: 10% vs 38%



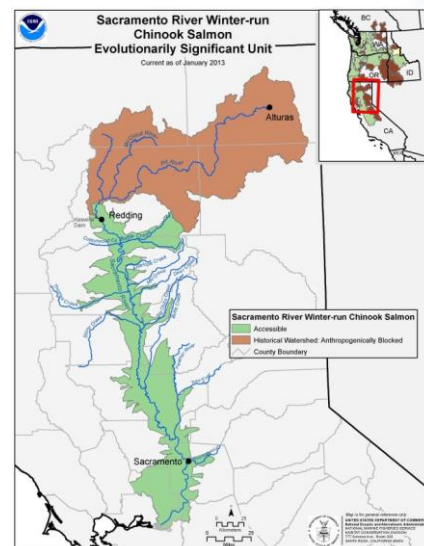
- Management Framework: Adopted Nov 2023
 - Buffer pre-season HR based on 5 -year percent error
 - Landing and possession limits
 - In-season management
 - Quick reporting requirements

CC Chinook Salmon (Continued)

- Guidance
 - Buffer pre-season HR based on 5-year percent error
- Commercial fishery:
 - Allowable harvest limit
 - Weekly landing and possession
 - In-season management to ensure fisheries remain under the conservation objective
 - 24-hr catch reporting

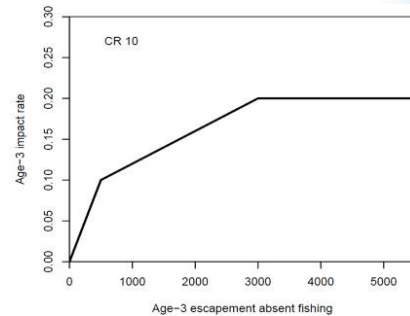
Sacramento River Winter (SRW) Chinook

- ESA Listed: Endangered
- Recovery Plan: 2014 (79 FR 42504)
- Biological Opinion 2018
- Background
 - Management framework
 - Harvest control rule 10
 - Minimum size limits and seasonal fishing windows



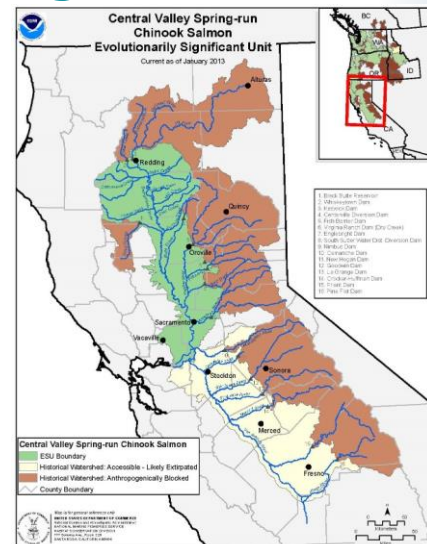
Sacramento Winter Chinook (Cont'd)

- Harvest Control Rule
- Guidance
 - Continue minimum size limits and seasonal fishing windows specified in the salmon FMP
 - Age-3 impact rate South of Point Arena: $\leq 12.3\%$



Central Valley (CV) Spring Chinook

- ESA Listed: Threatened
- Recovery Plan: 2014 (79 FR 42504)
- Biological Opinion: 2000
- SRFC/KRFC/SRW/CC Chinook constraints will likely provide sufficient protection for CV Spring Chinook
- Guidance
 - Manage fisheries consistent with HCR for SRW Chinook
 - Conservative management shape early season fisheries to provide additional protections for CV spring Chinook



Southern Resident Killer Whales (SRKW)

- ESA Listed: Endangered
- Recovery Plan: 2008 (73 FR 4176)
- Salmon FMP Amendment 21
- Biological Opinion: 2021
- Background
 - Since 2009, the population has declined to a near historic low of 75
 - Amendment 21:
 - Chinook salmon low abundance threshold
 - Under Threshold = Implementation of Management Actions



Southern Resident Killer Whales (Cont'd)

- Threshold: Arithmetic mean of the seven lowest years of October 1 projections of Chinook salmon abundance prior to fisheries during 1992 -2016
- Management measures for California salmon fisheries if below threshold:
 - Close the Klamath Management Zone (KMZ) from October 1 through March 31
 - Close Klamath River Control Zone and expand area from September 1 through March 31
 - Close fisheries in the Monterey management area from October 1 through March 31 of the following year.

Southern Resident Killer Whales (Cont'd)

- Guidance

- Follow process outlined in Amendment 21
- Compare 2024 Chinook salmon abundance to the low abundance
- If Chinook abundance is below threshold implement management measures described in Amendment 21

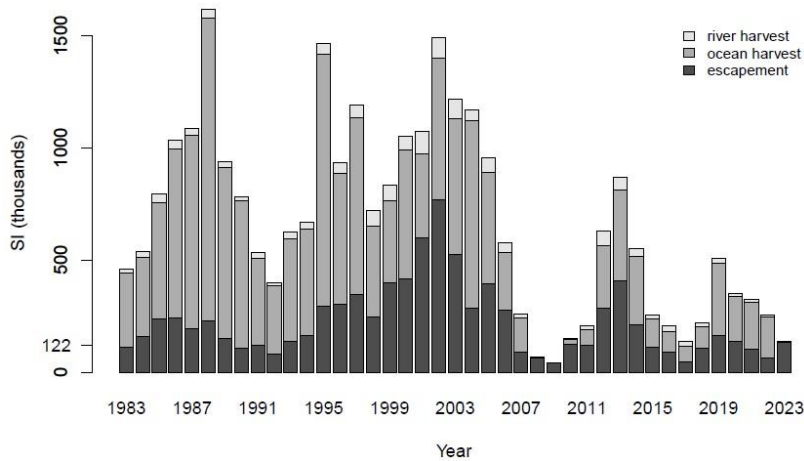
Thank you

anthony.siniscal@noaa.gov

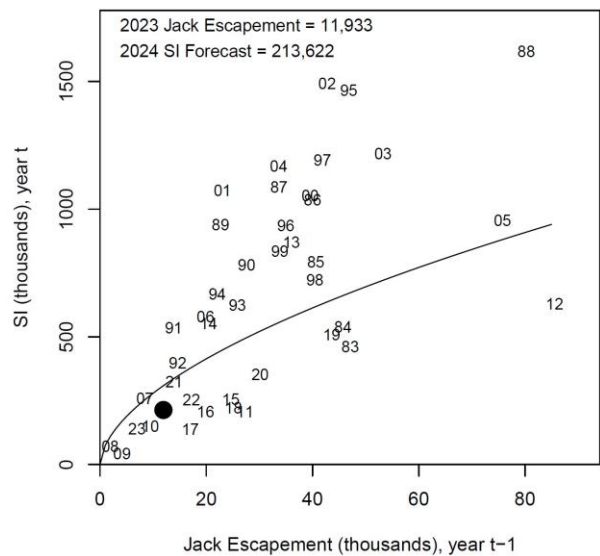
Susan.Bishop@noaa.gov

Special thanks to:
Michael O'Farrell SWFSC

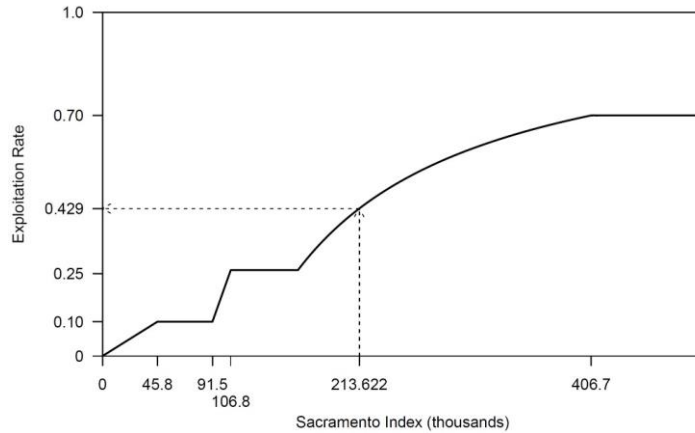
2023 Sacramento Index (SI) = 139,487



2024 SI forecast = 213,622

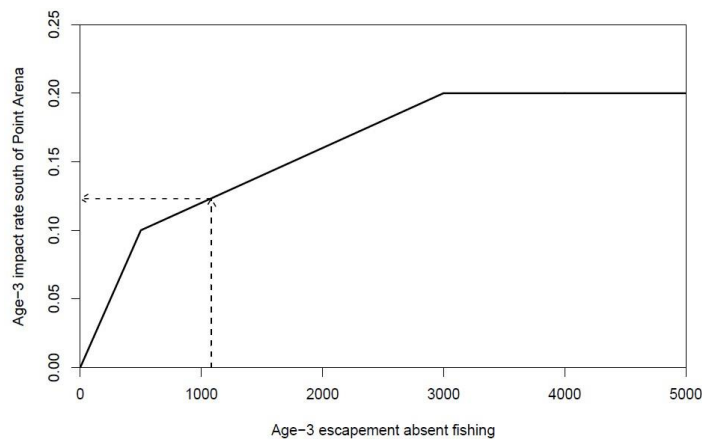


2024 SRFC management



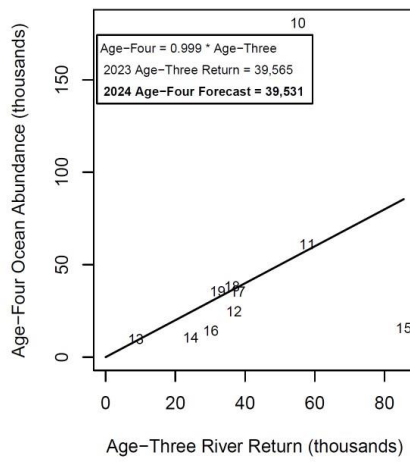
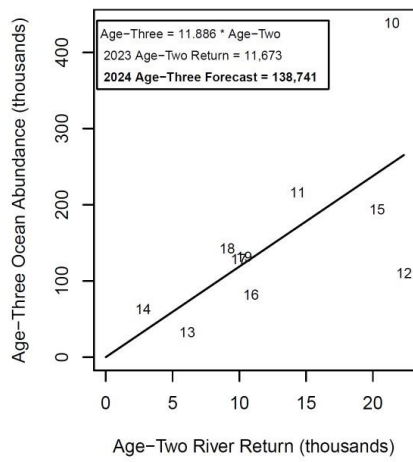
- 2024 forecast higher than 2023
- Must target an escapement of at least 122,000 (max 42.9% exploitation rate)
- 2023 regs:
 - Escapement: 213,352
 - Exploitation Rate: 0.1%
- Could constrain 2024 fisheries

2024 winter Chinook management



- Abundance forecast: 1,081 (lower than 2023)
- Maximum allowable age-3 impact rate: 12.3%
- 2023 regs: impact rate of 0.0
- May constrain fisheries south of Point Arena

2024 Klamath abundance forecast

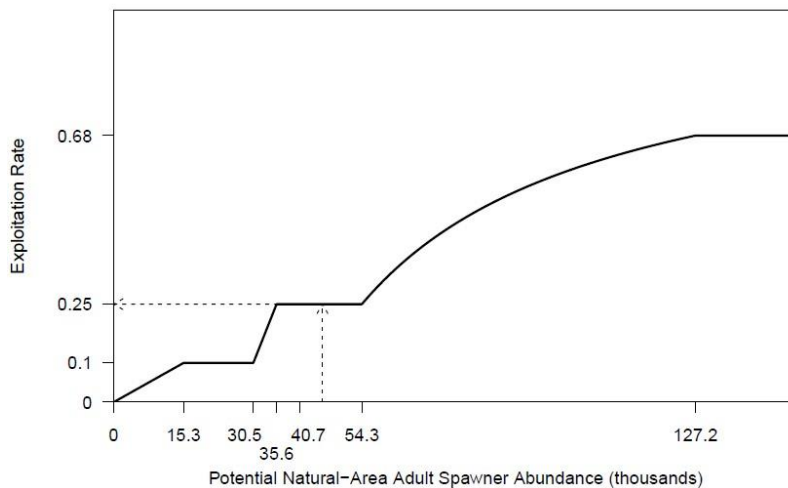


Age-3:
138,741

Age-4:
39,531

Age-5:
2,409

2024 Klamath fall Chinook management



- Potential spawner abundance: 45,639
- Max exploitation rate: 25%
- Minimum escapement: 34,229

2024 KRFC management, contd.

- 2023 regs applied to 2024 abundance
 - Natural-area adult spawner prediction: 42,932
 - Exploitation rate: 5.9%
 - Could constrain 2024 fisheries

2024 California Coastal Chinook

- Max allowable KRFC age -4 ocean harvest rate of 16%
- 2023 fisheries: preliminary prediction of 0.1%
- Could constrain 2024 fisheries