



Agenda Item D.3.f
Supplemental Public Presentation 1
March 2023

PFMC MARCH MEETING SEATTLE 2023:

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Exec. Director – NCGASA.org

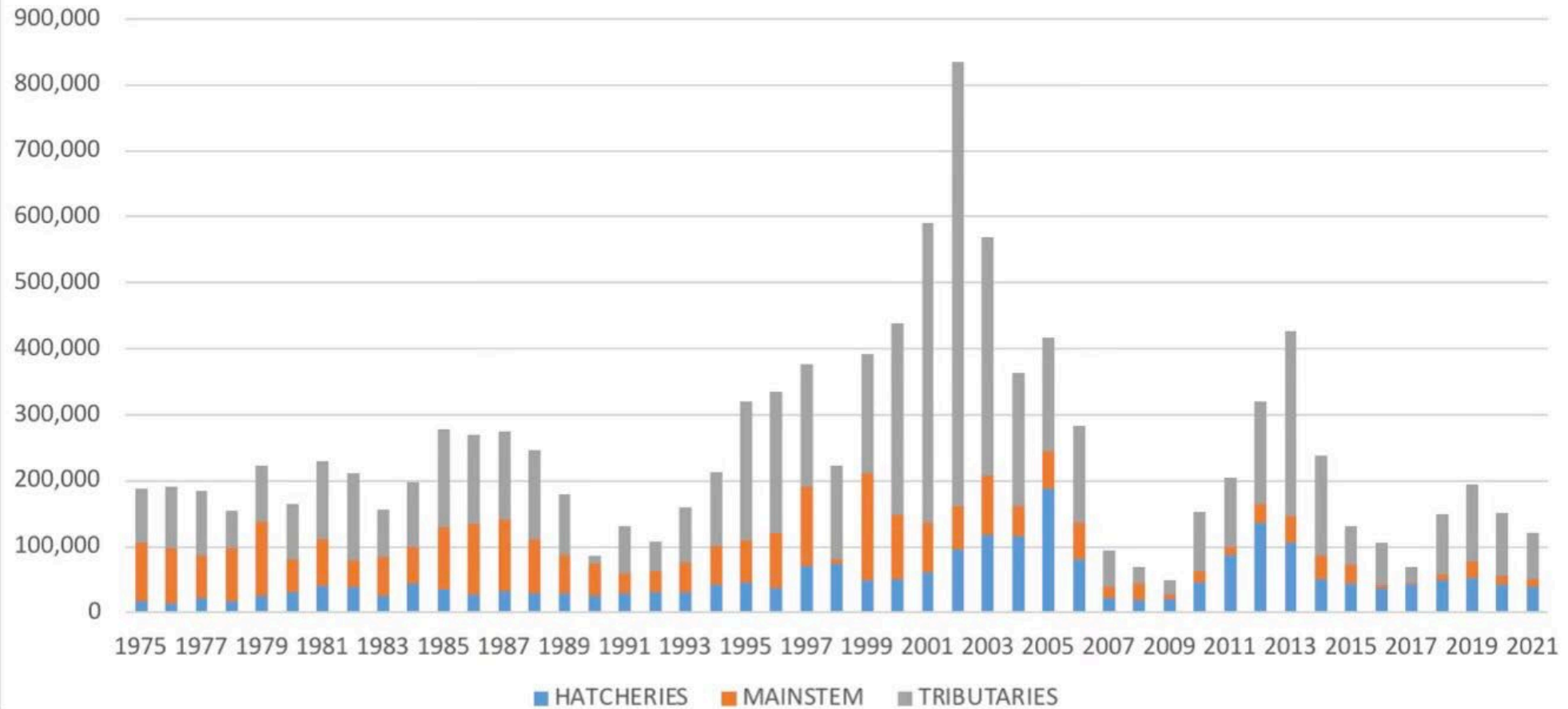
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WHY ARE WE HERE TODAY?

- State of Sac Valley Chinook Fall Run Fishery Collapsed
- Model Data is Bias based on state reporting
- Model Inaccuracy (Forecast, Escapement, & Harvest)
- Natural Spawning Component Collapsed
- Zero Water Allocation for Fall Run/Bad Water Management
- Low Hatchery Production/Survival & Mortality/Adult Returns/Stray Rates
- Exploitation Rate Exceeded 70% Fall Run HARVEST CONTROL RULE in 2022
- Escapement 6/8 years missed 122,000 min escapement
- 2022 returns 61,850 adults **6,996 jacks** (3rd worst jack # in history)
- PFMC Sacramento Floor set in 1984. (122,000-180,000)
- *Sacramento Conservation Objective Should be Raise Floor Escapement in Sac Valley in 2011. Science supports 240k-380k spawners or more.*

Sacramento River Chinook Salmon Fall Run Escapement

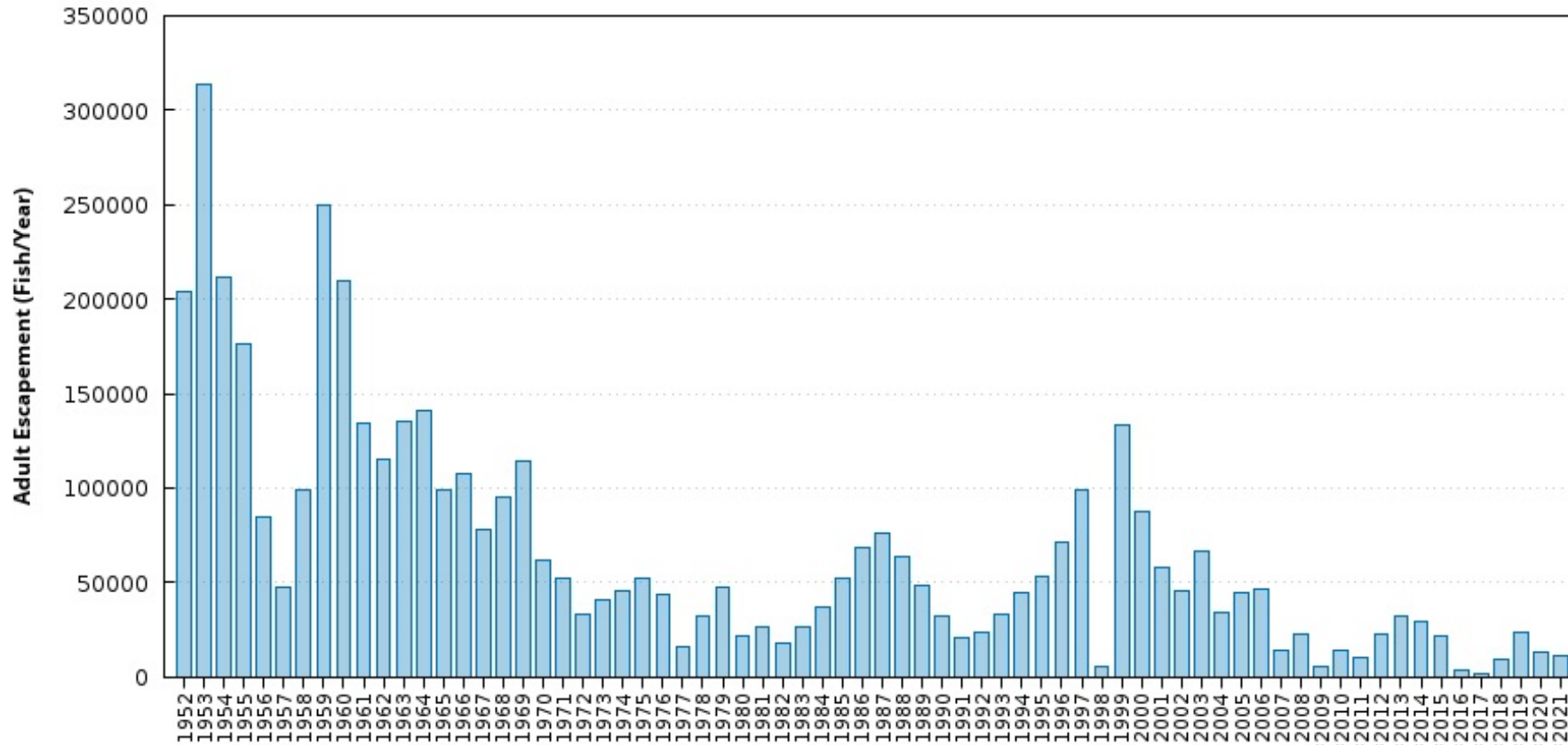


**California Central Valley Chinook Population Database Report CDFW GrandTab Adult Escapement
Mainstem, Keswick Dam to Red Bluff Diversion Dam, Sacramento River System**

In-River Fall Chinook

Spawn Years 1952-2021

2 GrandTab Data Notes exist for dataset



Data Source:

Azat, J. 2019. CDFW GrandTab.

2022.07.20

<http://www.calfish.org/ProgramsData/Species/CDFWANadromousResourceAssessment.aspx>

Adult Escapement

* Preliminary Data
www.cbr.washington.edu/sacramento/
27 Jan 2023 08:50:02 PST

TABLE II-5. Performance of Chinook salmon stocks in relation to 2022 preseason conservation objectives (preliminary data).
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System and Stock	2022 Conservation/Management Objective(s)	2022 Achievement
Sacramento River Chinook		
Fall	Minimum escapement of 180,000 natural area and hatchery adults.	Preliminary estimate of 61,850 hatchery and natural area adult fall Chinook is below the 2022 management objective.
Winter (Endangered)	Age-3 impact rate for the area south of Point Arena, CA no greater than 20.0% (NMFS ESA consultation standard).	Preseason projection of 15.2%; no postseason estimate was available at time of printing.
Spring (Threatened)	No management objective	No management objective

2022 ESCAPEMENT GOALS 198,000 adults + 27,720 adults inland harvest so 145,000 PRE/POST DIFFERENCE

2022 BIAS DATA INFLATES 2023 SI FORECAST AGAIN

INLAND FISHERIES RELY ON ESCAPEMENT FISH TO RETURN TO HARVEST

ALL FISHERIES RELY ON ESCAPEMENT FISH TO SPAWN FOR FUTURE FISHERIES.

2023 SI forecast = 169,767

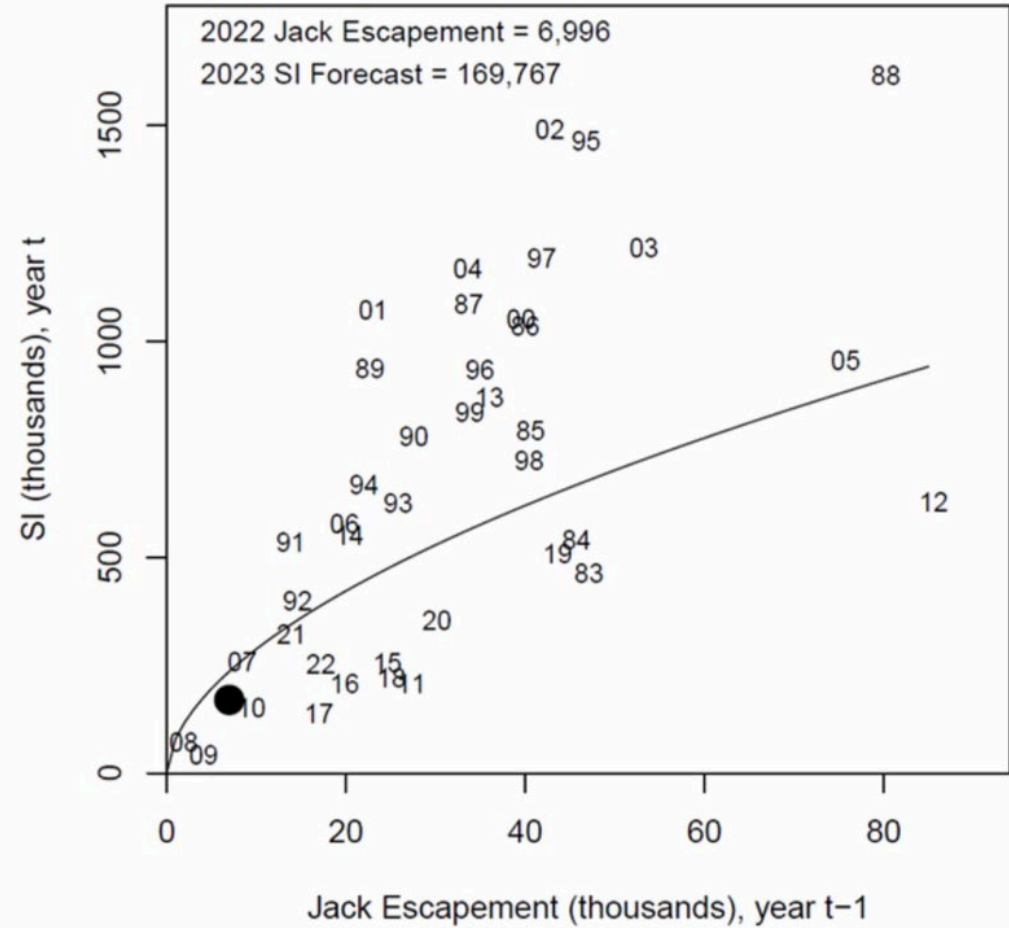
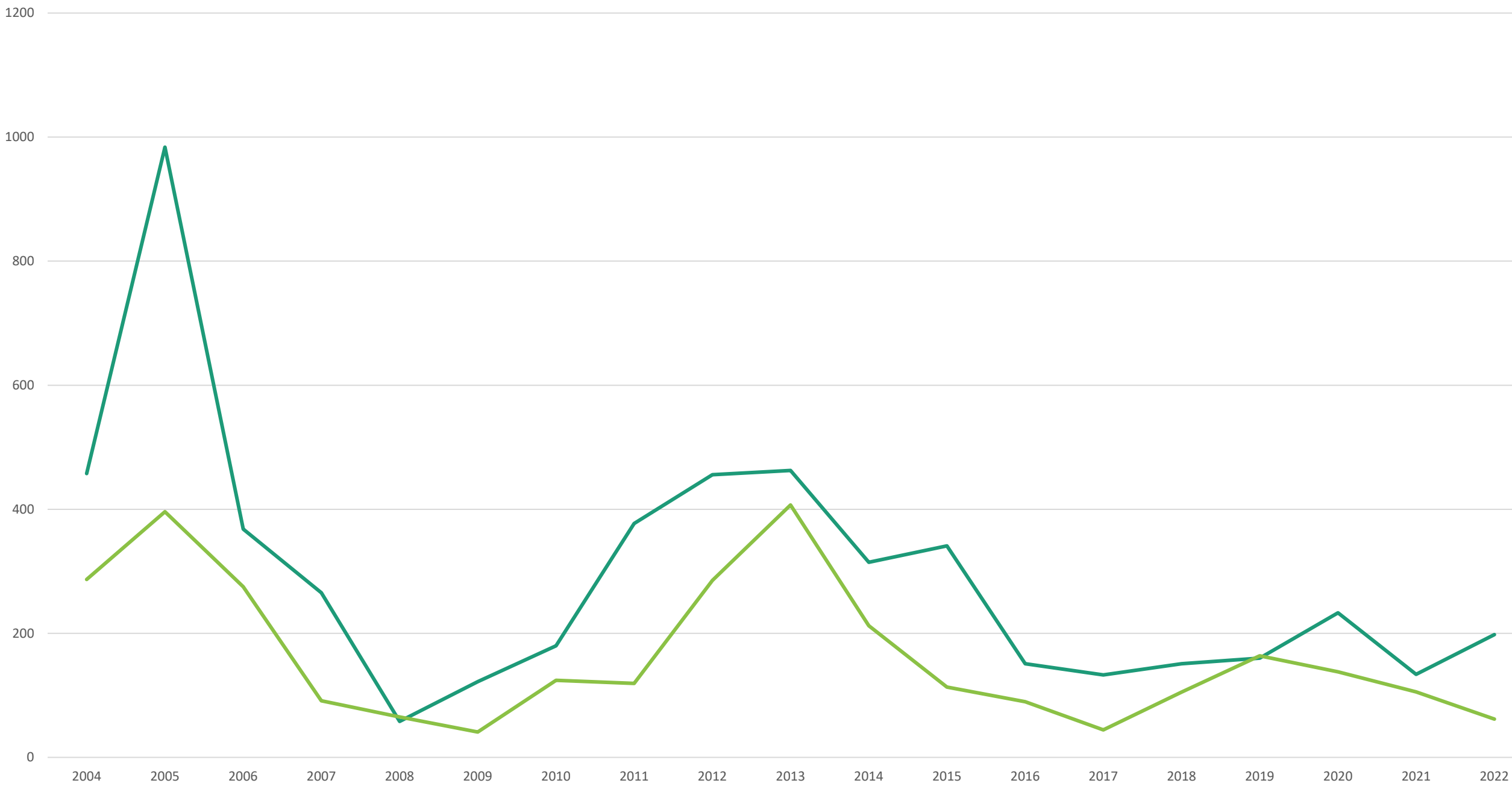
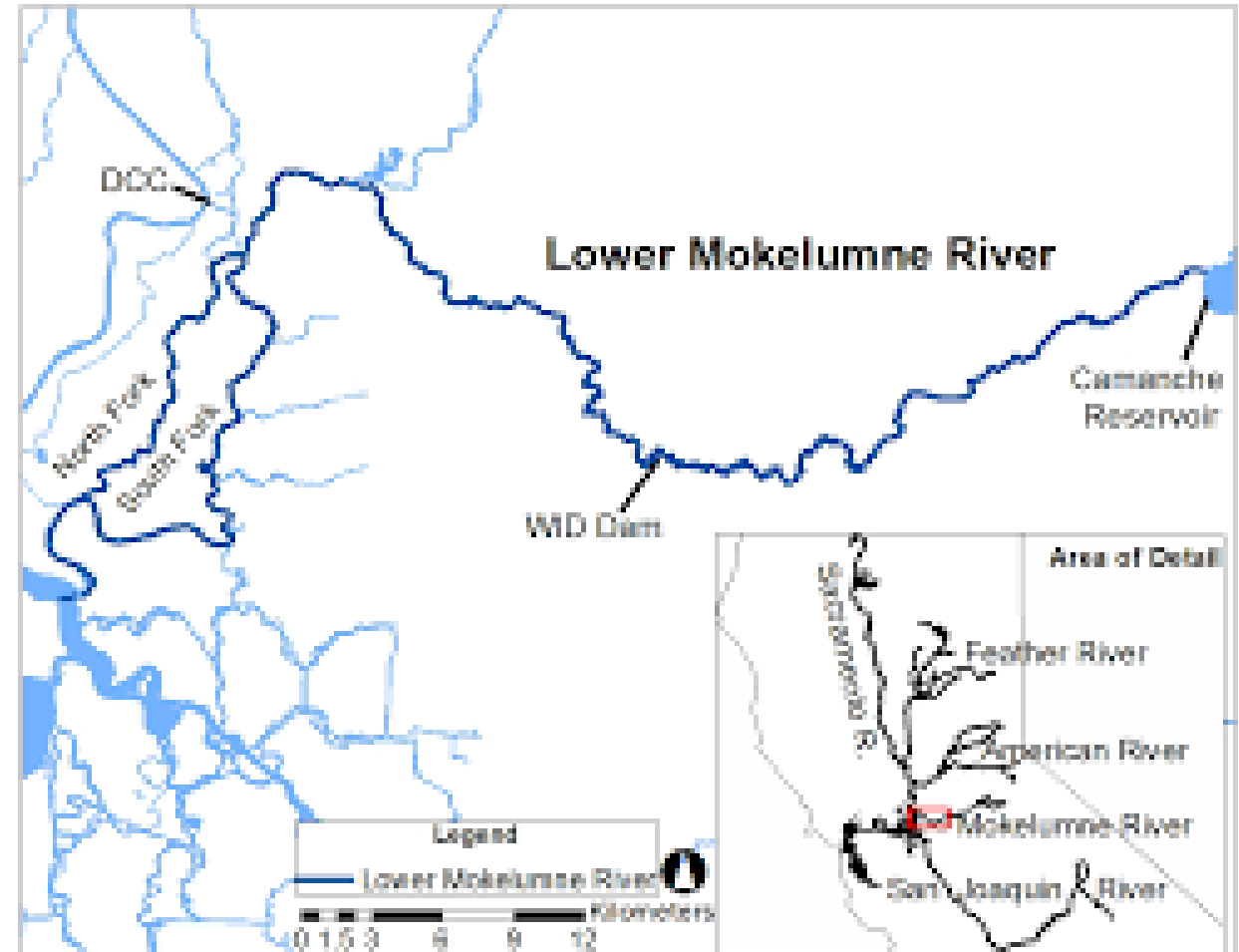
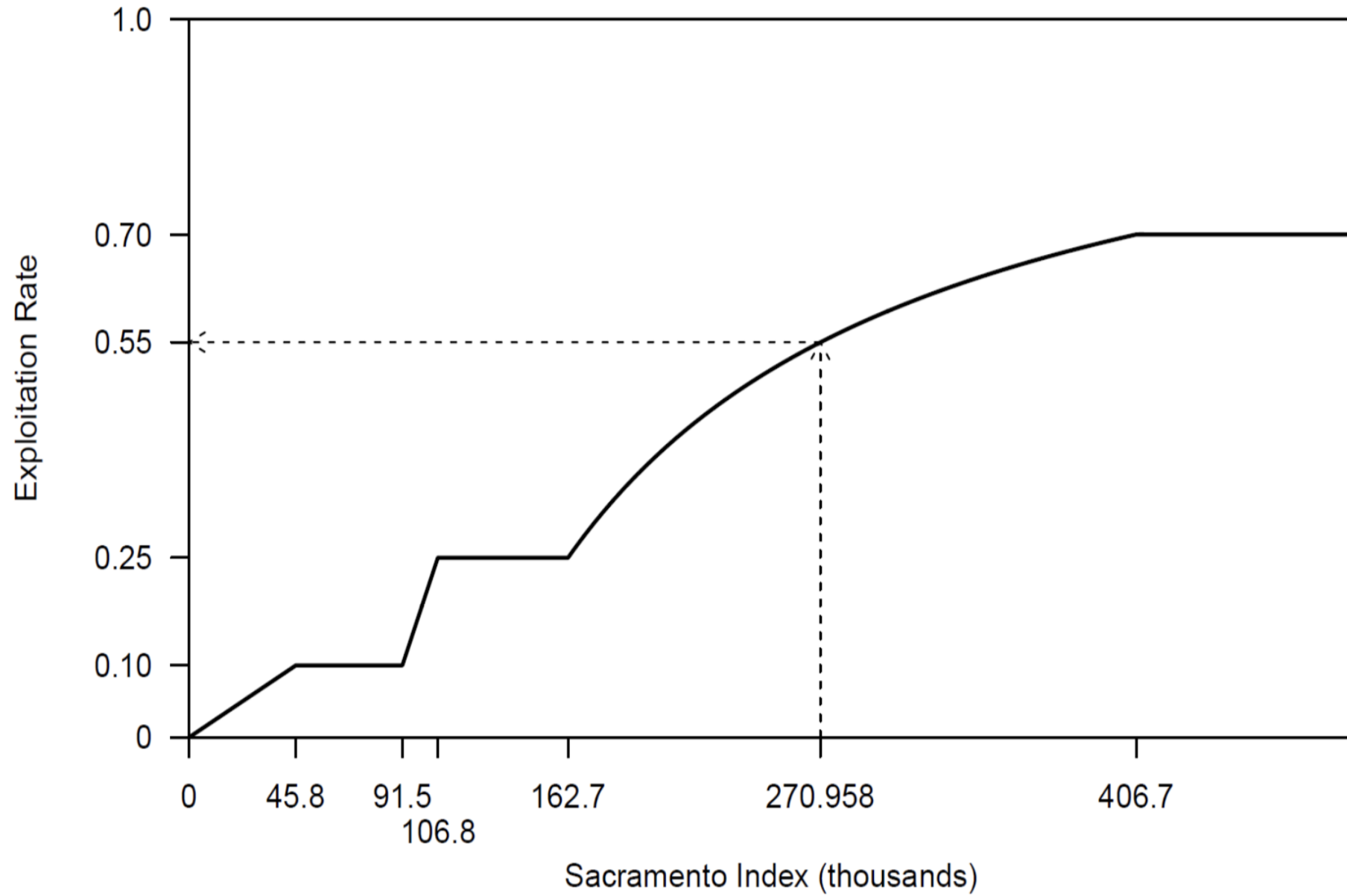


Chart Title



- MOKELUMNE RIVER STRAYS COMPONENT 35%-60%
- MOKELUMNE STRAY DUE TO LITTLE RETURNING WATER & AMERICAN RIVER WATER THRU THE DCC. (Delta Cross Channel & Snodgrass Slough)
- THEREFORE, ESCAPEMENT AND JACK DATA IS COMPROMISED AND HAS BEEN FOR PAST 8 YEARS
- 2022 Estimates of 50% returning fish into American River were MOK
- (11,000 Adults, 1500+ Jacks)
- USED THESE BIAS NUMBERS TO PREDICT 2023 OCEAN ABUNDANCE & HARVEST.
- SACRAMENTO RIVER NATURAL COMPONENT IS NOT FORECASTING ACCURATLY WITH HARVEST MODEL
- SAC VALLEY ERROR RATE IN COUNTING JACKS and ADULTS ESCAPEMENT





Sacramento Conservation Objective- PFMC- 1984 Sacramento Floor set 122,000-180,000 adult Fall Run Salmon

Cohort reconstruction – Help with the harvest model issues . (Age Based Modeling)

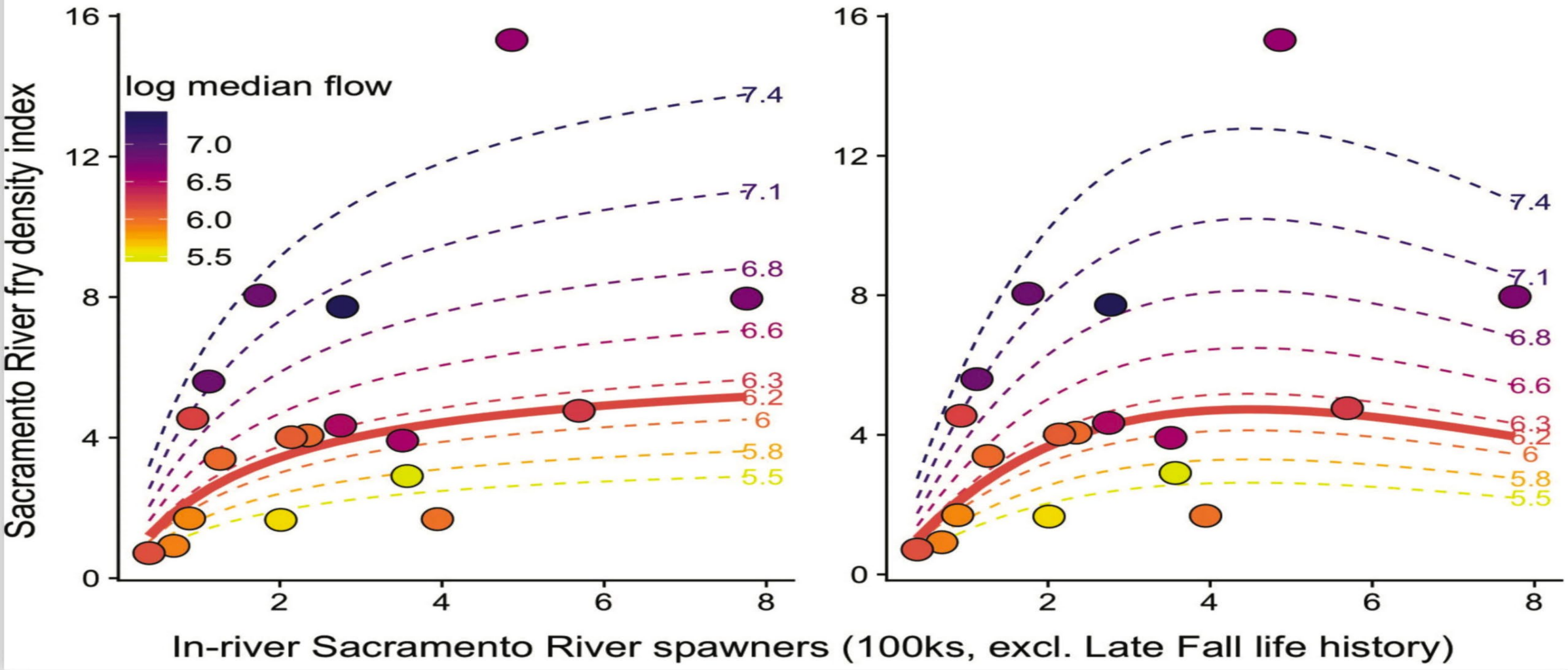
Natural Production & Hatchery Production (Klamath)

Sac Valley Escapement Floor 122-180k from 1984

Forecast Abundance on release hatchery group cohorts

Stock Recruit Curve- Adjust ocean pre-season abundance based on natural spawner/recruit chart.

Abundance forecast based on environmental flows could help accuracy of model.

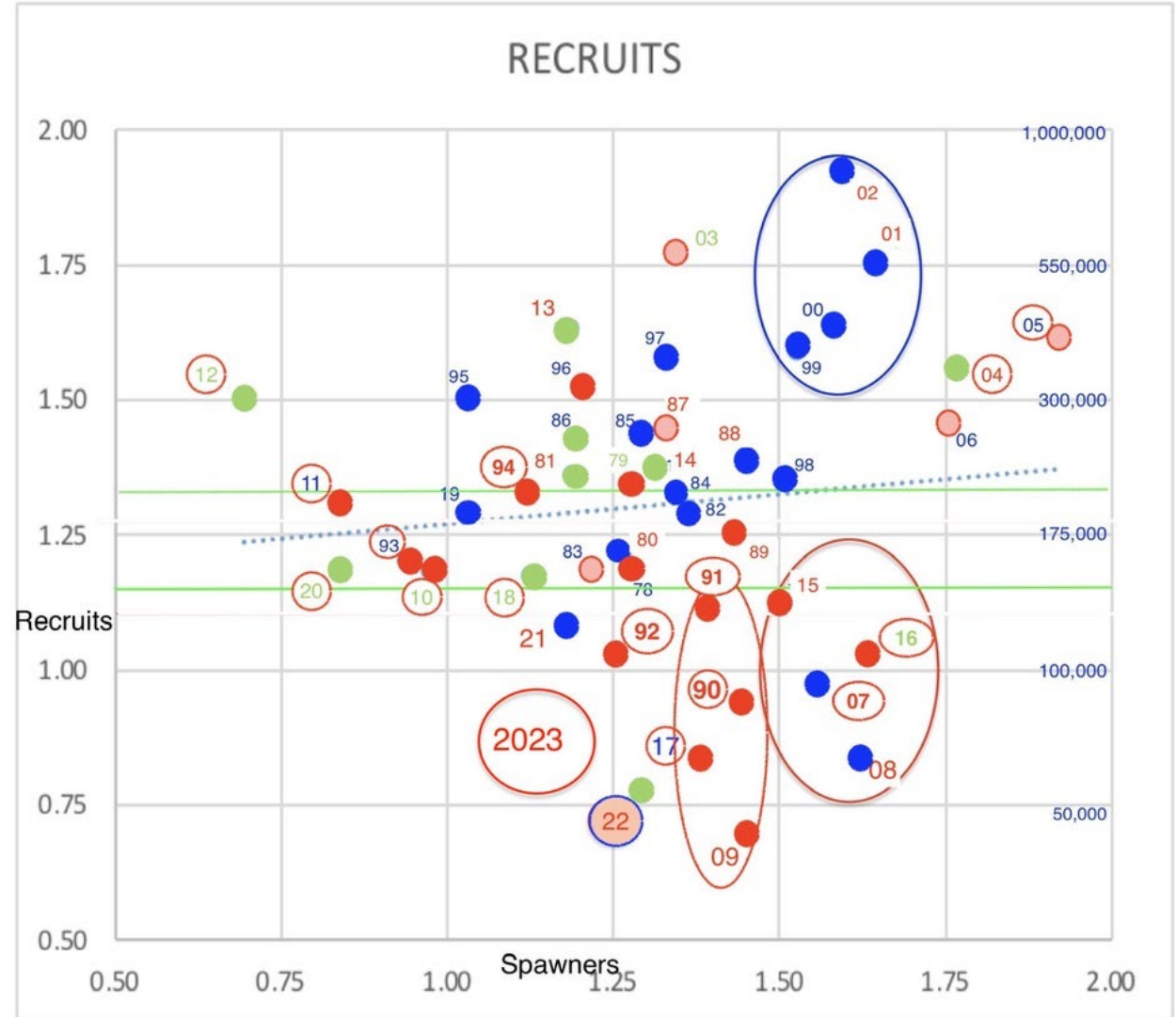


fruit relationship estimated for 1954-1963 was used because it appears to be the analysis that yielded the FMP. The low end of the PFMC (1984) objective after updating it based on new goals for hatcheries escapements from Azat (2021) for the years specified in PFMC (1984) is shaded because the conditions it may no longer apply (see main text).

goals based on unstated or ambiguous criteria				max. production	maximize yield
adults - hat. & nat.	spawners - hat. & nat.	adults - natural	spawners - natural	spawners - natural	spawners - natural
122,000		84,000-100,000			
180,000		160,000			
	<i>148,000</i>		<i>126,000</i>		
	299,000- 339,000		277,000-316,000		
	245,000		169,000-200,000		
		235,000- 298,000	272,000-344,000		
				223,000	163,000
				359,000	283,000
				371,000	293,000

Spawner-Recruit Relationship 1978-2022

- *Chart 5. Spawner-Recruit relationship for Sacramento River Fall Run Chinook Salmon. Numbers are total recruits from Grandtab transformed $\log_{10}-4$. Right axis shows untransformed number in log scale. Spawners are recruit numbers from three years prior. Red and Blue circles represent comparison of recruits for drier years (red circle) versus wet years (blue circle) when spawners are at MSY (300-500 thousand). Green lines are 122-180 thousand target adult recruits adjusted for jack numbers. Circled 22 is preliminary 2022 escapement (recruits on Y-axis).*



YEAR	SRFC.PRE	SRFC.POST	% OFF	MODELS	YEAR			% OFF			% OFF	YEAR			% OFF	YE
2004	457.5	286.885	63%													
2005	983.6	396.005	40%													
2006	368	275.03	75%	CFM												
2007	265.5	91.374	34%													
2008	58.2	65.364	112%	CLOSURE		SI ABUNDANCE			OCEAN	HARVEST			INLAND	HARVEST		
2009	122.05	40.873	33%	CLOSURE												
2010	180	124.276	69%			41% off			PFMC Preseason	Table II-1	24% OFF YRS		PFMC	ACTUAL #	42% off 5 yrs	
2011	377	119.342	32%	HCR's							46% OVER YRS		PRE-SEASON		30% off 9 yrs	
2012	455.8	285.429	63%		Year	Forecast-Mean	Postseason		Pre	Actual						Ye
2013	462.6	406.846	88%													
2014	314.7	212.476	68%	AUTO COOR	2014	634,650	551,183	87%	275,892	303,000	110%	2014	44,058	35,700	81%	
2015	341	113.468	33%		2015	651,985	254,949	39%	263,245	124,600	47%	2015	47,740	16,900	35%	
2016	151.1	89.699	59%		2016	299,609	205,317	69%	127,355	91,800	72%	2016	21,154	23,900	113%	
2017	133.2	44.329	33%		2017	230,700	137,063	59%	78,852	70,700	90%	2017	18,648	22,100	119%	
2018	151	105.466	70%		2018	229,432	220,366	96%	57,292	98,600	172%	2018	21,140	16,300	77%	
2019	160.2	163.767	102%		2019	379,632	507,052	134%	197,004	323,000	164%	2019	22,428	20,300	91%	
2020	233.2	138.091	59%		2020	473,183	352,410	74%	207,335	199,400	96%	2020	32,648	14,900	46%	
2021	133.9	105.584	79%		2021	270,958	322,137	119%	118,312	206,900	175%	2021	18,746	10,800	58%	
2022	198	61.85	31%		2022	396,458	251,200	63%	170,738	188,550	110%	2022	27,720	4850	17%	
AVERAG	291.9237	164.5344	56%										28,254	18,417	65%	
GEO ME	238.1283	132.0271	55%													
2023	180,000				2023	169,767	100,000	59%				2023				

NCGASA IS ASKING THE PFMC COUNCIL
TO DO THE FOLLOWING ASAP:

- 1.** Support Proper Salmon Species Management by using Non-bias Data (corrupted) for Modeling.
- 2.** Request PFMC Council for IMMEDIATE implementation of RAISED SI FLOOR ESCAPEMENT by Adopting NEW Sacramento Conservation Objective & Cohort Reconstruction
- 3.** Discussion of model reconstruction using other external modeled factors.
- 4.** Support ALL Fisheries equally for all user groups and people of CA.

THANK YOU

