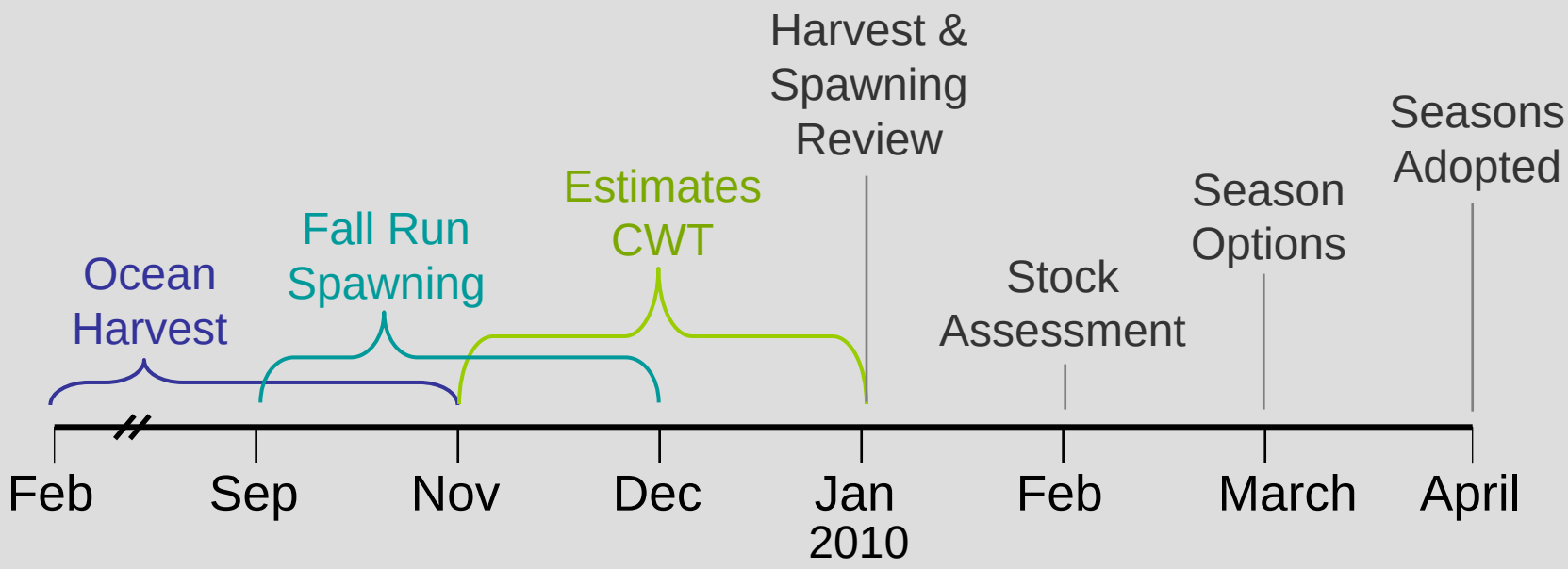
Department of Fish and Game
Marine Region - Ocean Salmon Project

2010 Ocean Salmon Sampler Training

- 2010 Management
- 2009 Ocean Salmon Fishery
- Klamath River Fall Chinook
- Sacramento River Fall Chinook
- 2010 Salmon Sampling Procedures

Presentation to CRFS Samplers
Santa Rosa, CA • Monterey, CA
March 2010

Ocean Salmon Management Timeline



April 3 – Ocean salmon fishing opens south of Horse Mtn.

April 15 – PFMC adopts salmon season effective May 1

April 21 – F&G Commission adopts state water salmon season

Determining Ocean Salmon Fishing Seasons

1. Salmon fishing seasons are determined each year depending on how many fish are caught and how many return to spawn.

2. Age-2 fish (jacks) are used to forecast how many adults are still in the ocean (ocean abundance) and available to fishing.

3. The Salmon Advisory Sub-panel (fishermen!) recommends fishing seasons to the Pacific Fishery Management Council.

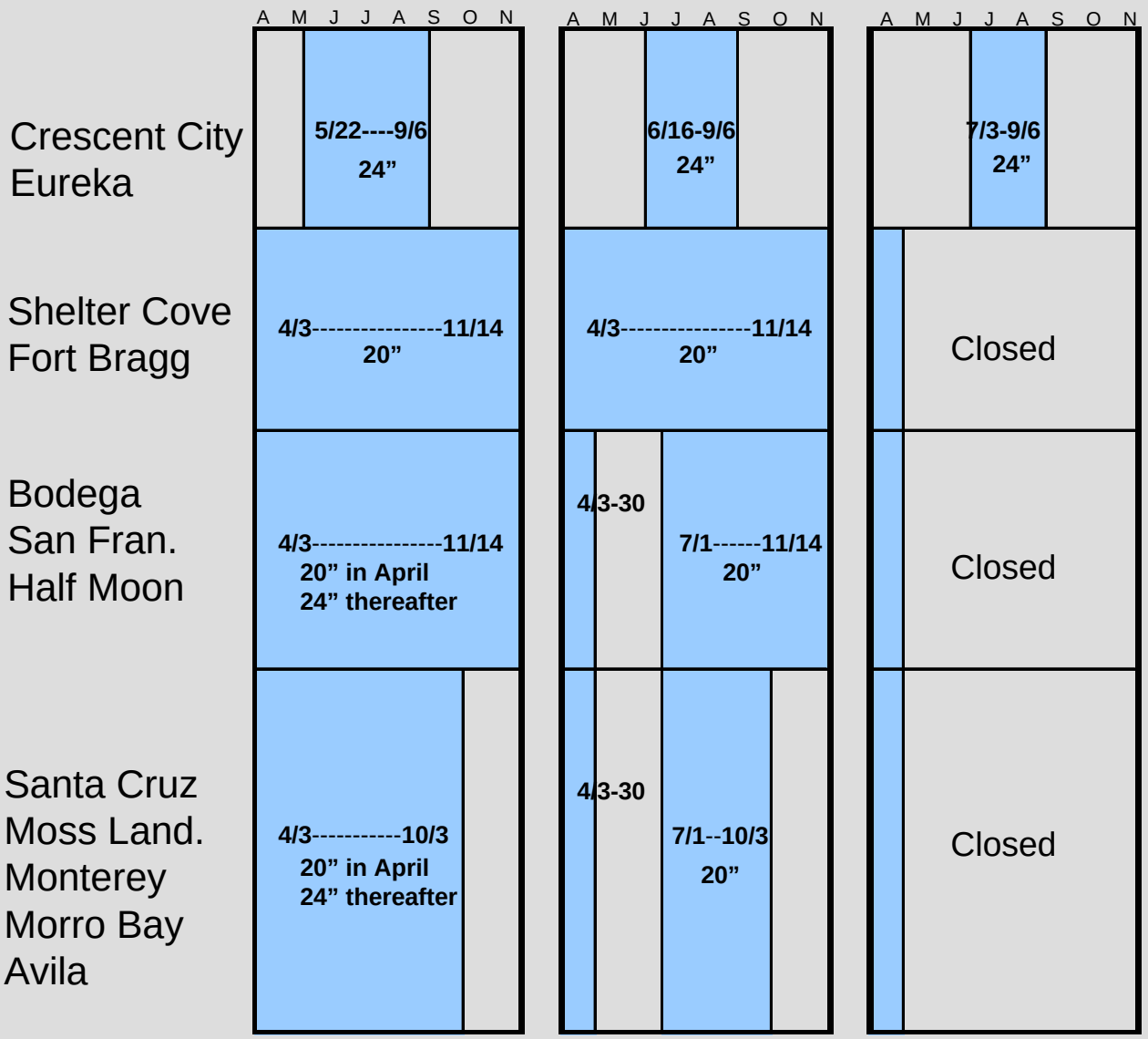
4. The Salmon Technical Team models the proposed seasons to determine if they meet conservation objectives.

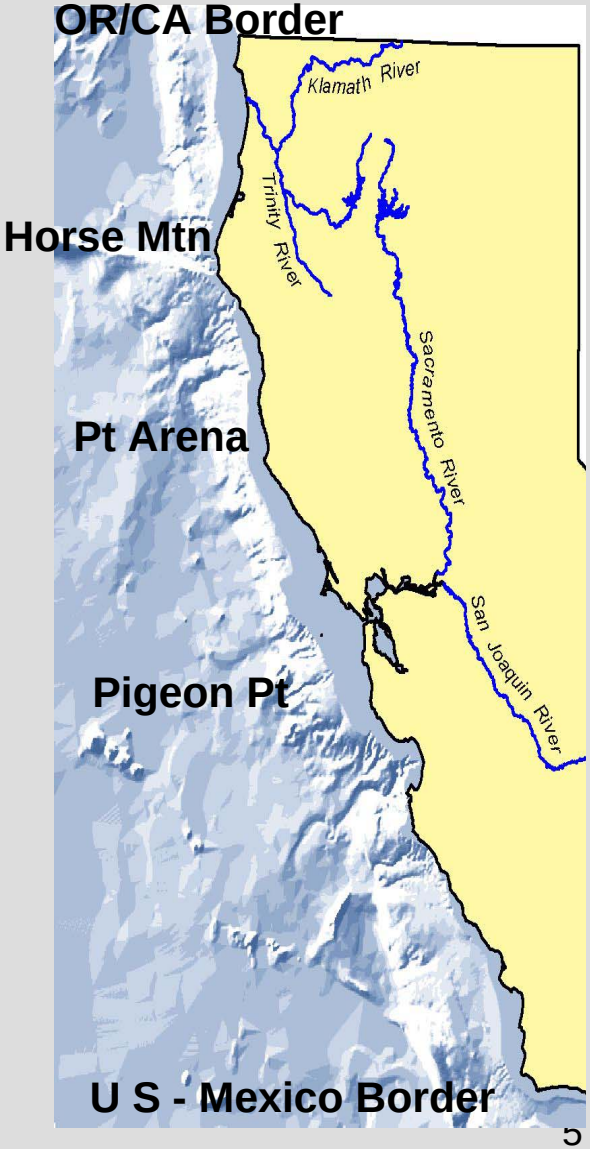
5. The Council chooses a fishing season option effective May 1. The F&G Commission ordinarily chooses the same ocean fishing season for state-waters.

Fishery Management Plan Conservation Objectives & 2010 National Marine Fisheries Service Guidance

- **Sacramento River Fall Chinook**
  - Target 150,000 – 180,000 adults*
- **Klamath River Fall Chinook**
  - Target 40,700 adults spawning in natural areas*
  - Restrict fall ocean fishing opportunity (Sep-Dec)*
  - Spawner reduction rate not to exceed 66.7%
- **California Coastal Chinook** (Threatened)
  - KRFC Age-4 harvest rate not to exceed 16%
- **Sacramento River winter Chinook** (Endangered)
  - Season opening and closing dates; minimum size limits
  - 24" size limit – and/or – two consecutive month closure (May-Aug)*
- **Central Coast Coho** (Endangered) **& S. Oregon/N. California Coho** (Threatened) – No retention in California

California Recreational Options for 2010 Season





Department of Fish and Game
Marine Region - Ocean Salmon Project

California's 2009
Ocean Salmon Fishery

Presented by

Marc Heisdorf

Dept of Fish and Game

Ocean Salmon Project Objectives

- **Estimate California's ocean salmon harvest & fishing effort for each fishery by management area & half month periods**
- **Determine coded wire tagged (CWT) salmon contribution**
- **Private Skiffs**
  - Sample 20% or more of all landings in each management area
  - Random stratified sampling program with weekend and weekday strata
  - Sampling unit: 100% of all skiff landings in a day at a sample port
- **Commercial Passenger Fishing Vessel (CPFV)**
  - Sample 20% or more of all landings in each management area
  - Sampling unit: 100% of each CPFV landing

2009 Klamath Management Zone
Aug 29 – Sep 7 Recreational Salmon Fishery

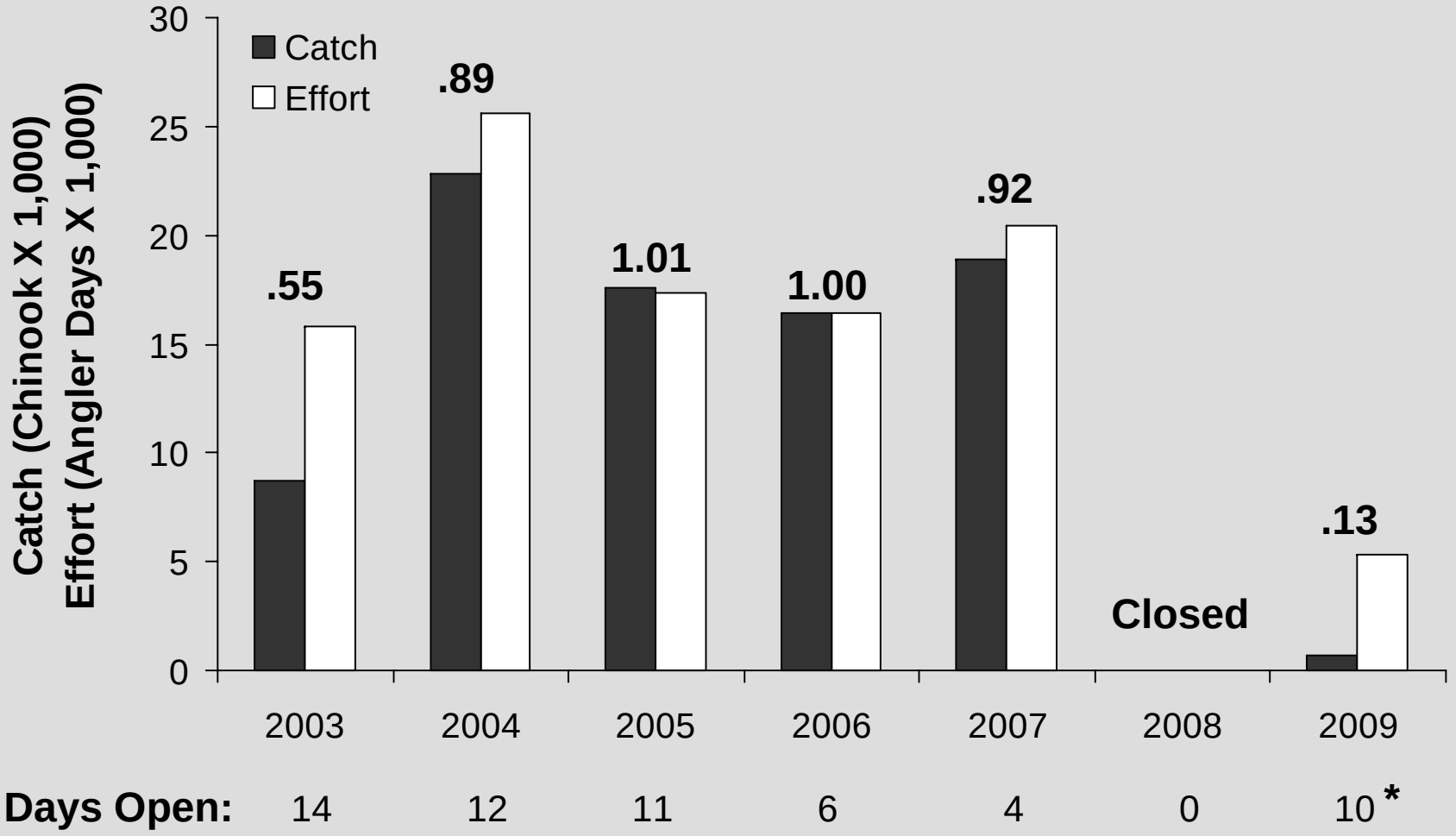
Samplers Observed:

- 1,864 Salmon Anglers
- 251 Landed Chinook
- 38 Adipose Fin Clips

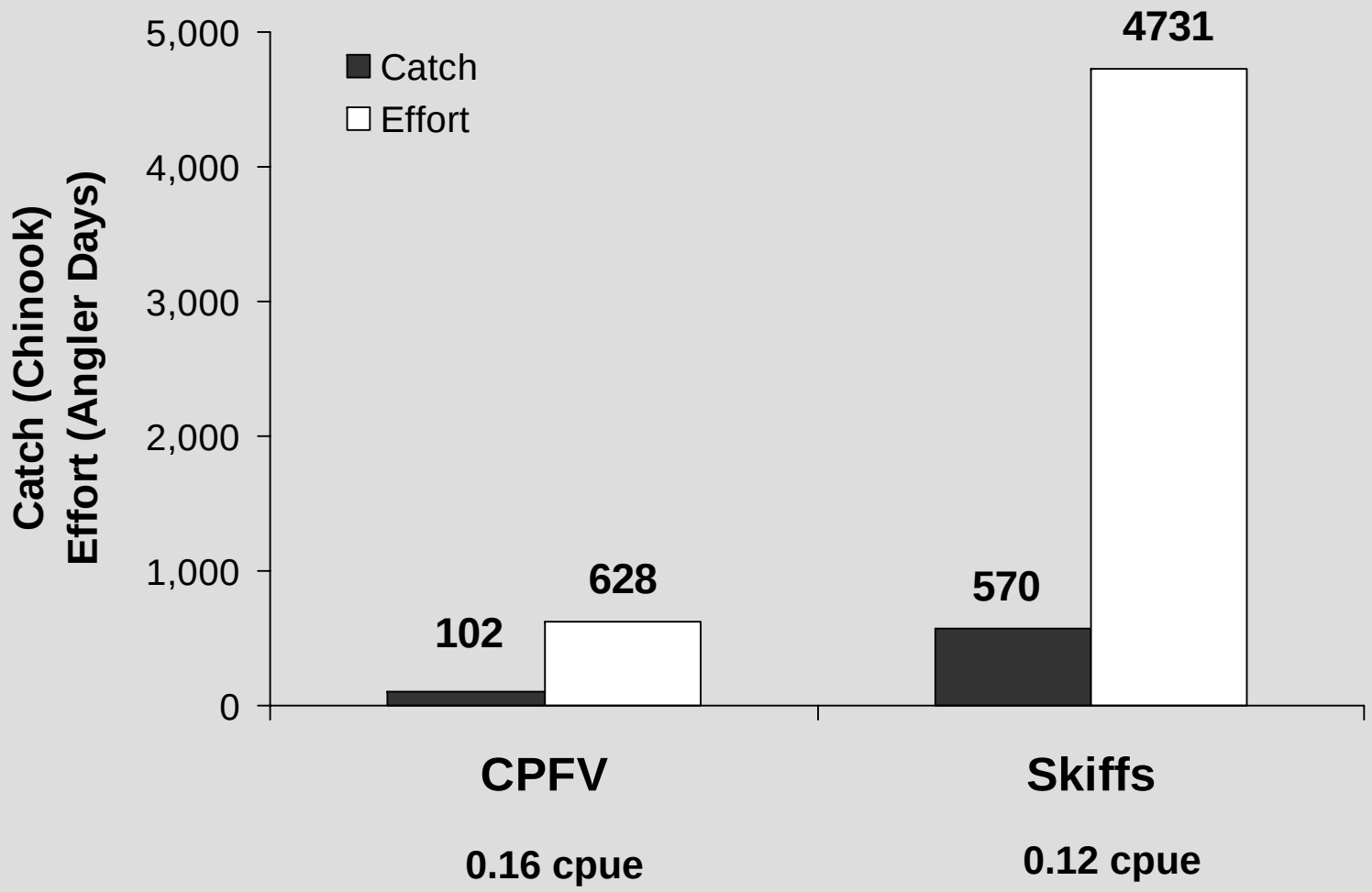
Estimated Catch and Effort:

- 5,359 Salmon Anglers
- 672 Chinook Landed

Comparison of Recreational September KMZ Historical Catch and Effort, 2003 – 2009



2009 KMZ CPFV and Skiff Catch and Effort Comparison



Department of Fish and Game
Marine Region - Ocean Salmon Project

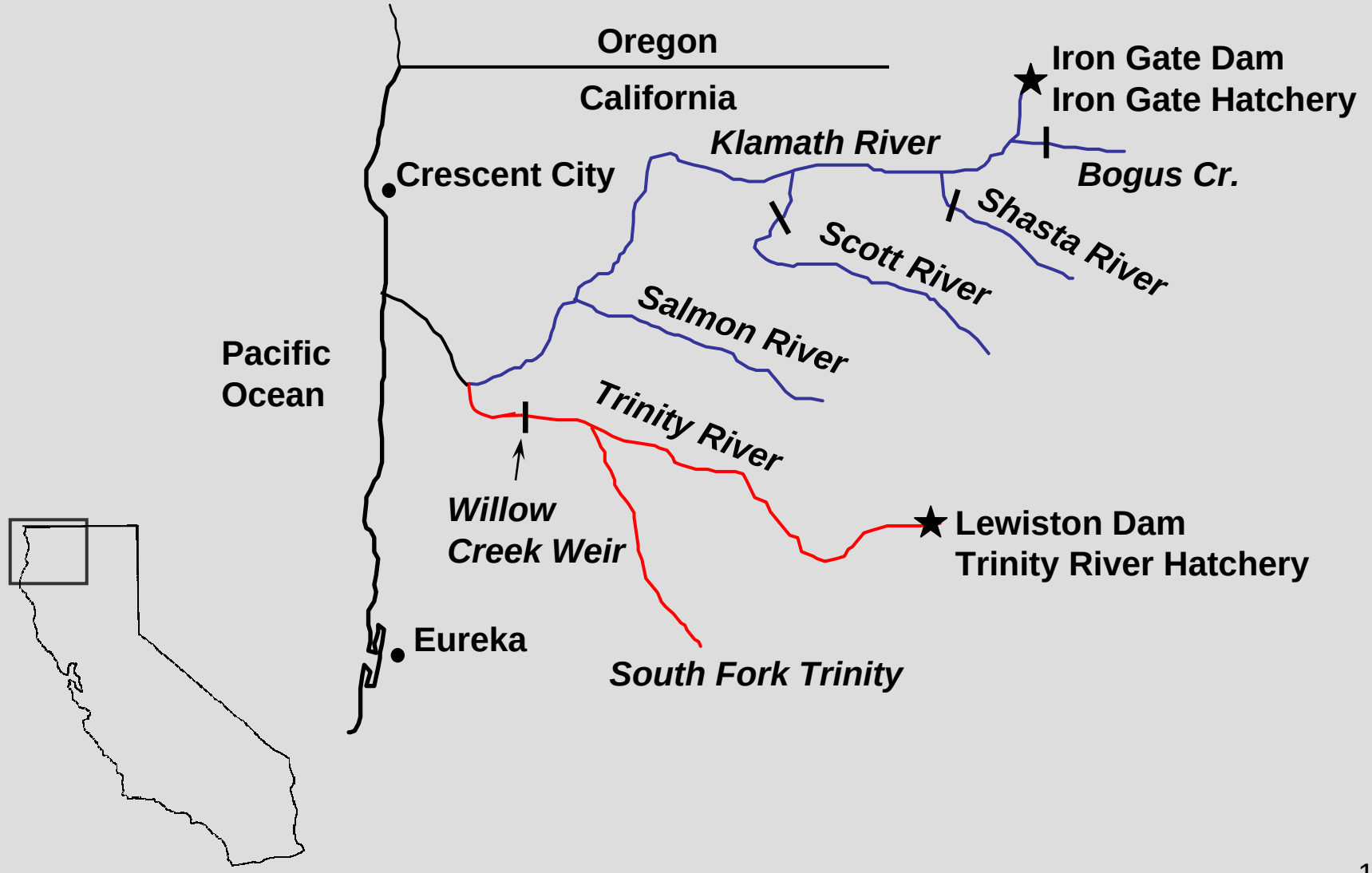
Klamath Basin Chinook Salmon
Spawning Escapement
Age Composition
Ocean Abundance Forecast

Salmon Information Public Meeting

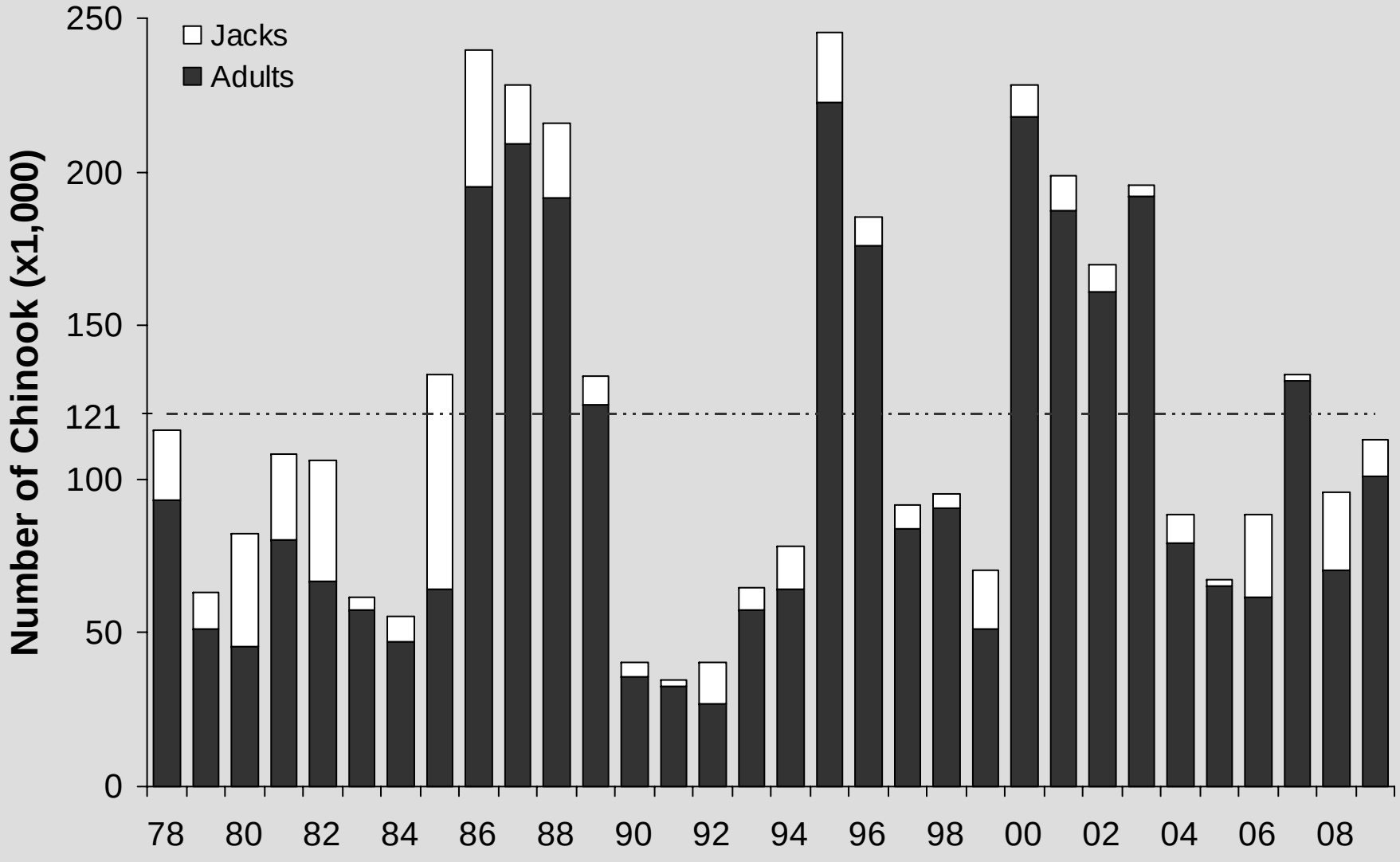
Santa Rosa, CA • February 25, 2010

Jennifer Simon

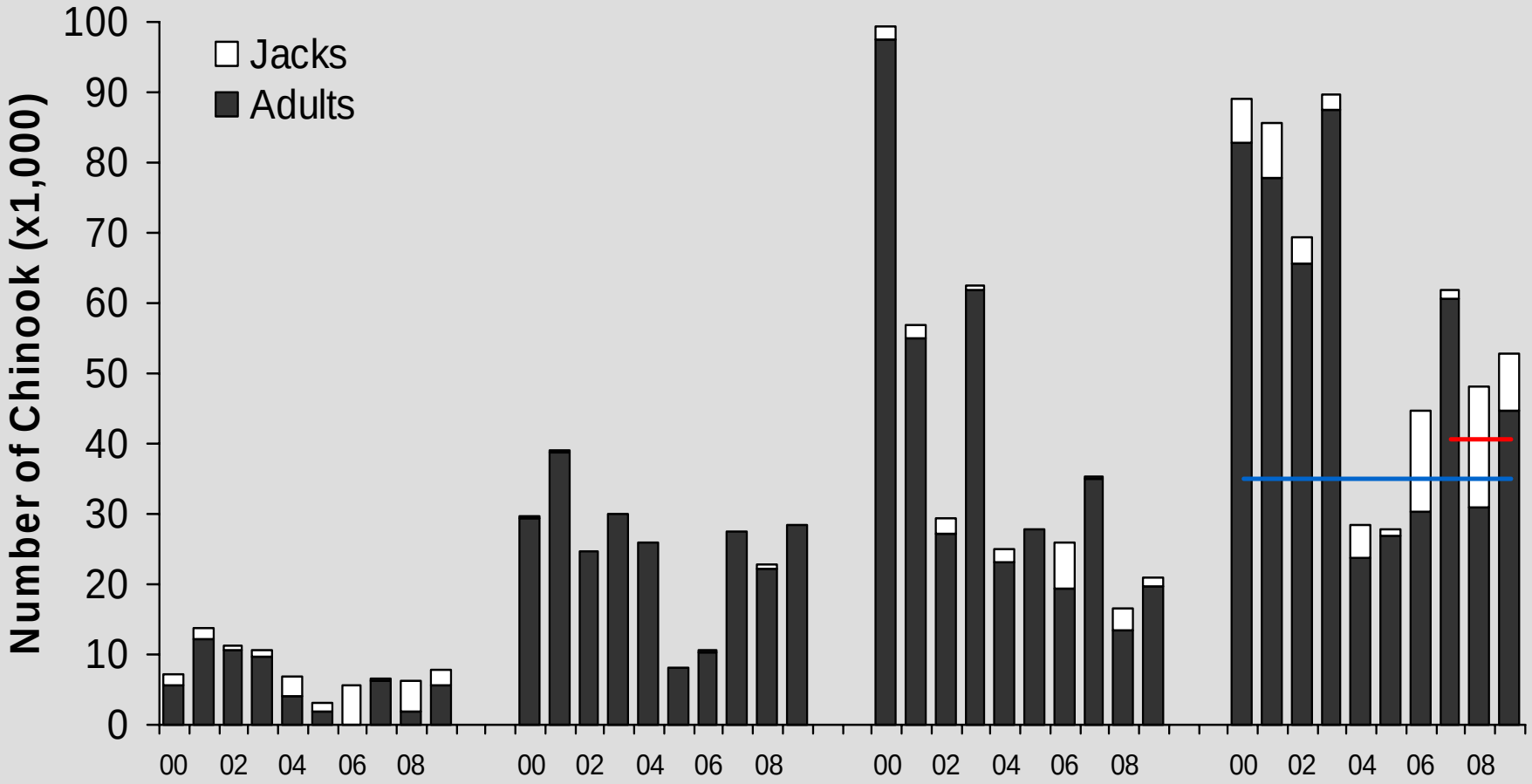
Klamath and Trinity River Basins



Klamath River Fall Chinook
Total Spawning Escapement, 1978-2009



Klamath River Fall Chinook
Harvest & Spawning Escapement, 2000-2009



Sport Harvest
Quota: 30,800 Adults
2009 Adult Harvest: 5,575

Tribal Harvest
Quota: 30,900 Adults
2009 Adult Harvest: 28,387

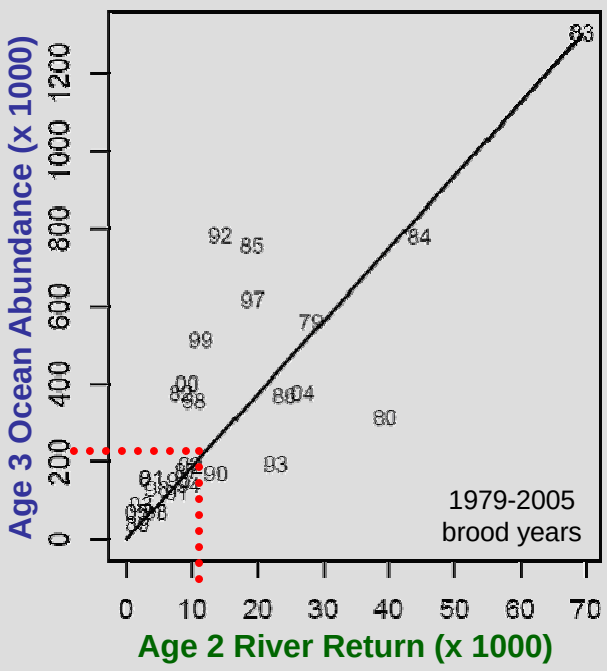
Hatchery Spawners
2009 Adults: 19,614

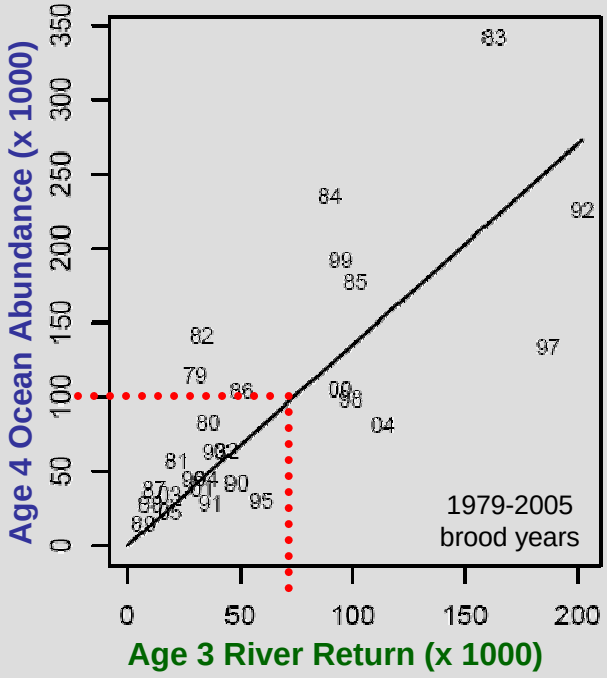
Natural Spawners
2009 Adults: 44,589

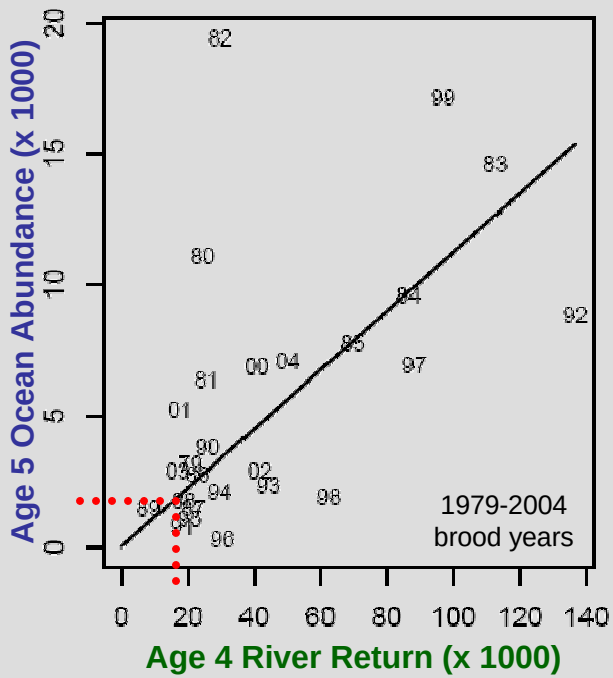
Klamath River Fall Chinook Age Composition, 2009

	Age 2	Age 3	Age 4	Age 5	Total Adults	Total Run
Hatchery Spawners						
Iron Gate Hatchery	1,229	8,982	3,184	97	12,263	13,492
Trinity River Hatchery	143	6,867	444	39	7,351	7,494
Hatchery Spawners subtotal	**1,372**	**15,849**	**3,628**	**136**	**19,614**	**20,986**
					19%	19%
Natural Area Spawners						
Klamath Basin subtotal	1,948	22,842	3,558	1,345	27,743	29,691
Trinity Basin subtotal	6,165	13,724	2,153	969	16,846	23,011
Natural Spawners subtotal	**8,113**	**36,566**	**5,711**	**2,314**	**44,589**	**52,702**
					44%	47%
Recreational Harvest						
Klamath River harvest	2,033	4,050	605	166	4,820	6,853
Trinity River harvest	182	605	91	59	755	937
Recreational Harvest subtotal	**2,215**	**4,655**	**696**	**225**	**5,575**	**7,790**
					6%	7%
Tribal Harvest						
Klamath River harvest	82	16,603	5,142	2,489	24,234	24,316
Trinity River harvest	96	3,217	689	247	4,153	4,249
Tribal Harvest subtotal	**178**	**19,820**	**5,831**	**2,736**	**28,387**	**28,565**
					28%	25%
Klamath Fall Chinook Run	**11,938**	**78,708**	**16,387**	**5,653**	**100,747**	**112,686**
	11%	70%	15%	5%		

Klamath River Fall Chinook
2010 Ocean Abundance Forecast





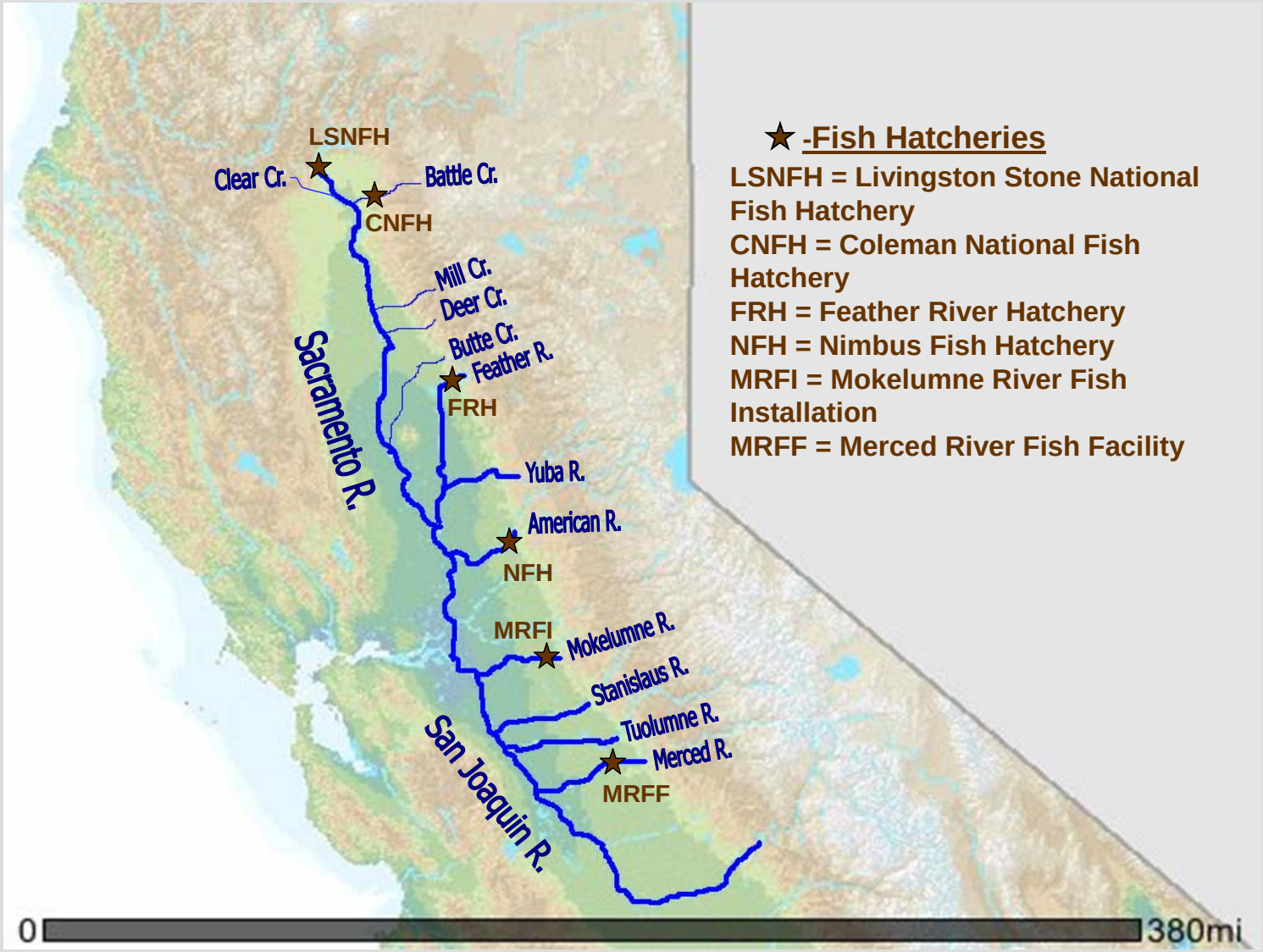


River Return		Ocean Abundance		
Age	Number	Regression	Ocean Age	Forecast
2	**11,938**	Age-2 * 18.71	3	**223,400**
3	**78,708**	Age-3 * 1.350	4	**106,300**
4	**16,387**	Age-4 * 0.113	5	**1,800**
			Total	**331,500**

2009 Central Valley Chinook Escapement Estimates

Presented by
Joseph Duran

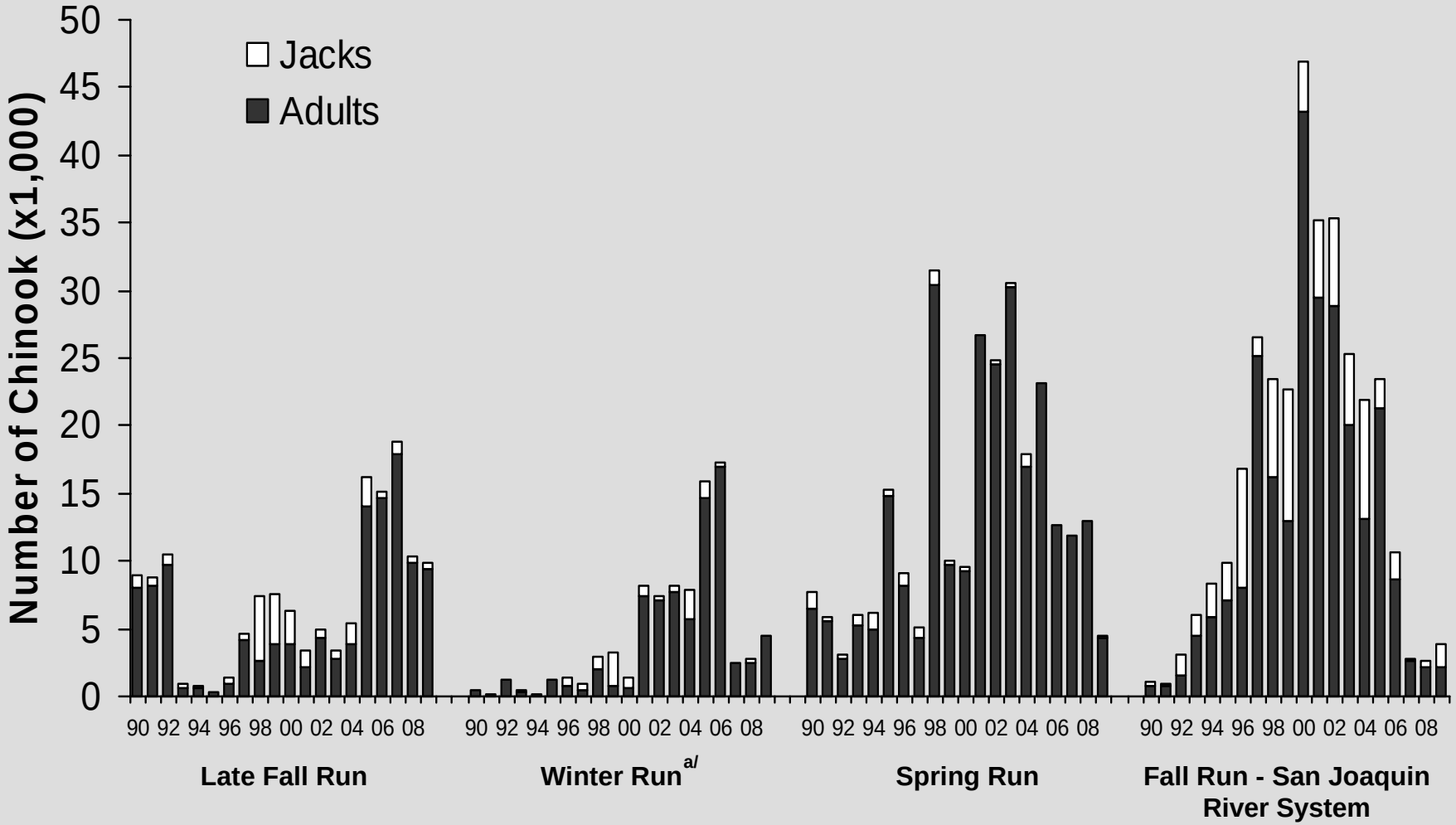
The Central Valley



★ -Fish Hatcheries

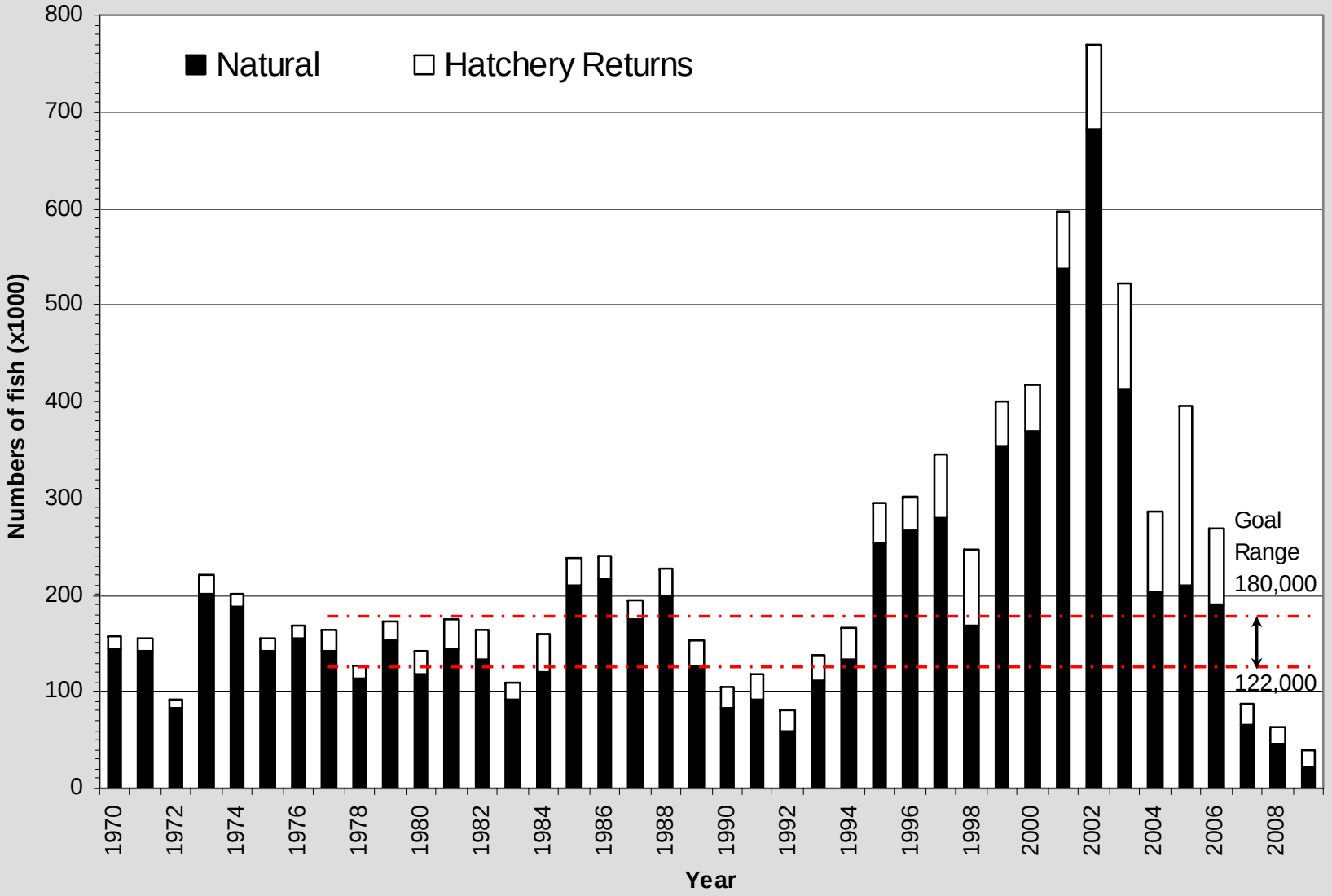
LSNFH = Livingston Stone National Fish Hatchery
CNFH = Coleman National Fish Hatchery
FRH = Feather River Hatchery
NFH = Nimbus Fish Hatchery
MRFI = Mokelumne River Fish Installation
MRFF = Merced River Fish Facility

Other Central Valley Chinook Stocks Escapement Estimates, 1990 – 2009

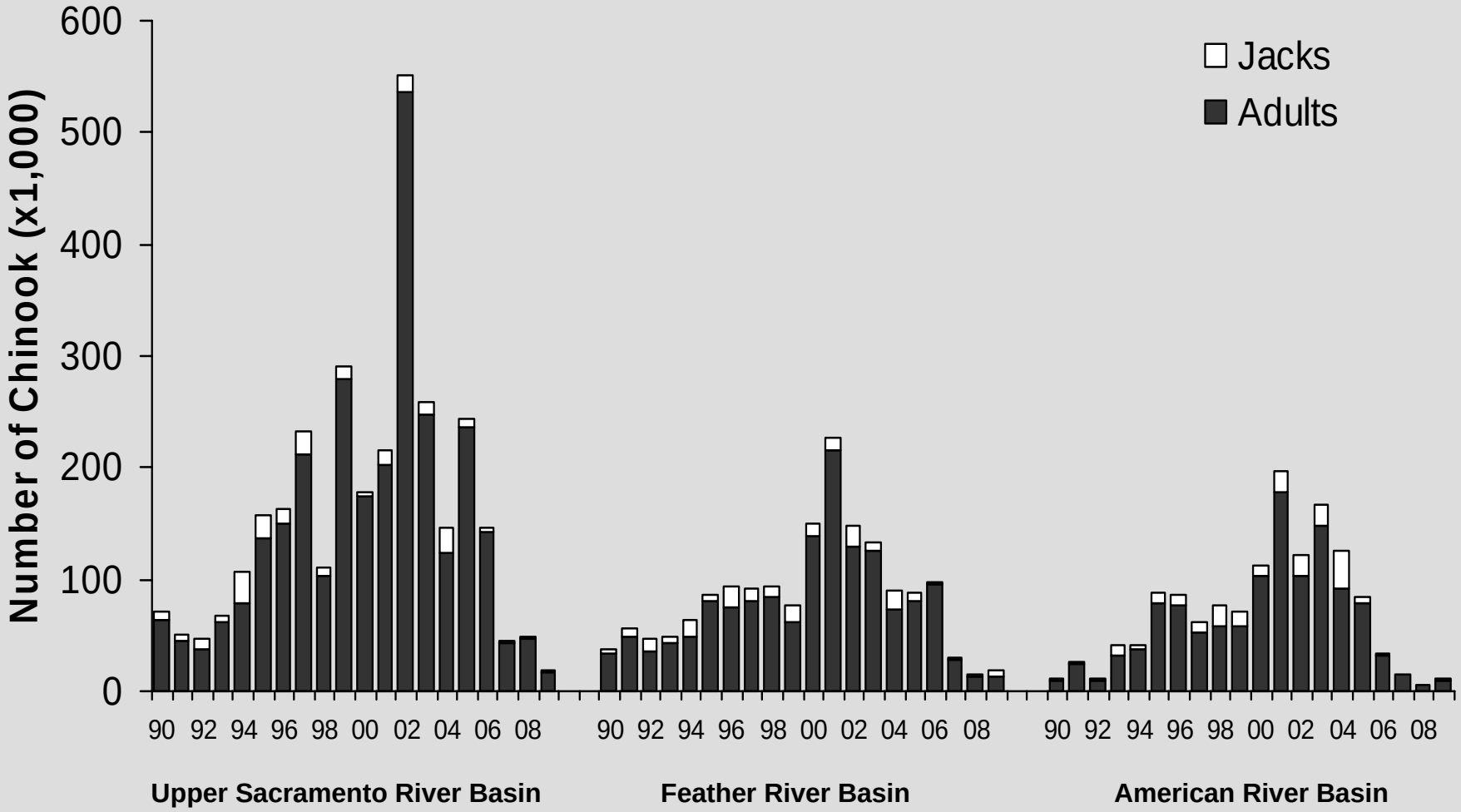


a/ Change in methodology from RBDD counts to carcass survey in 2001.

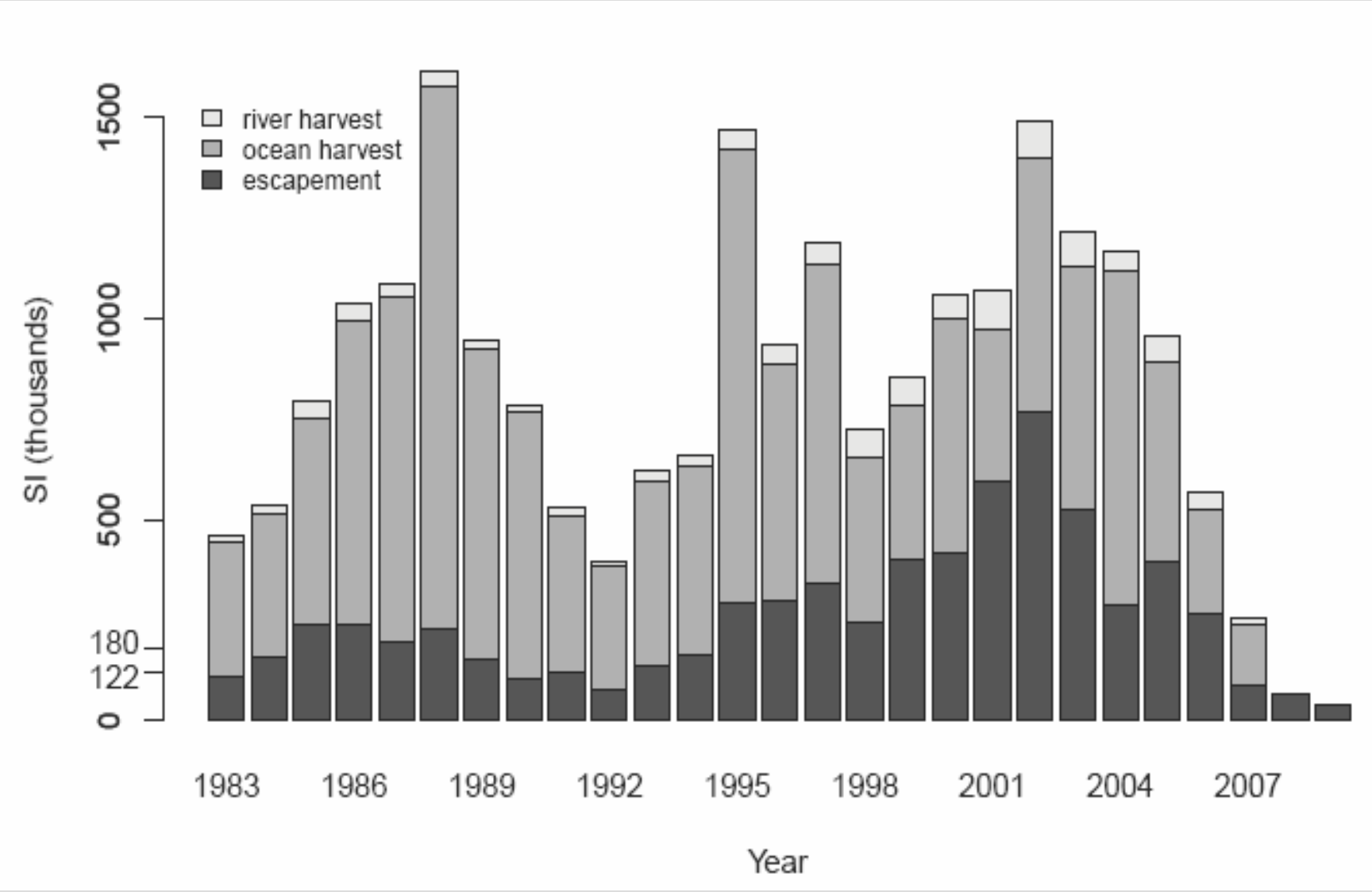
Sacramento River Fall Chinook
Adult Spawning Escapement, 1970-2009



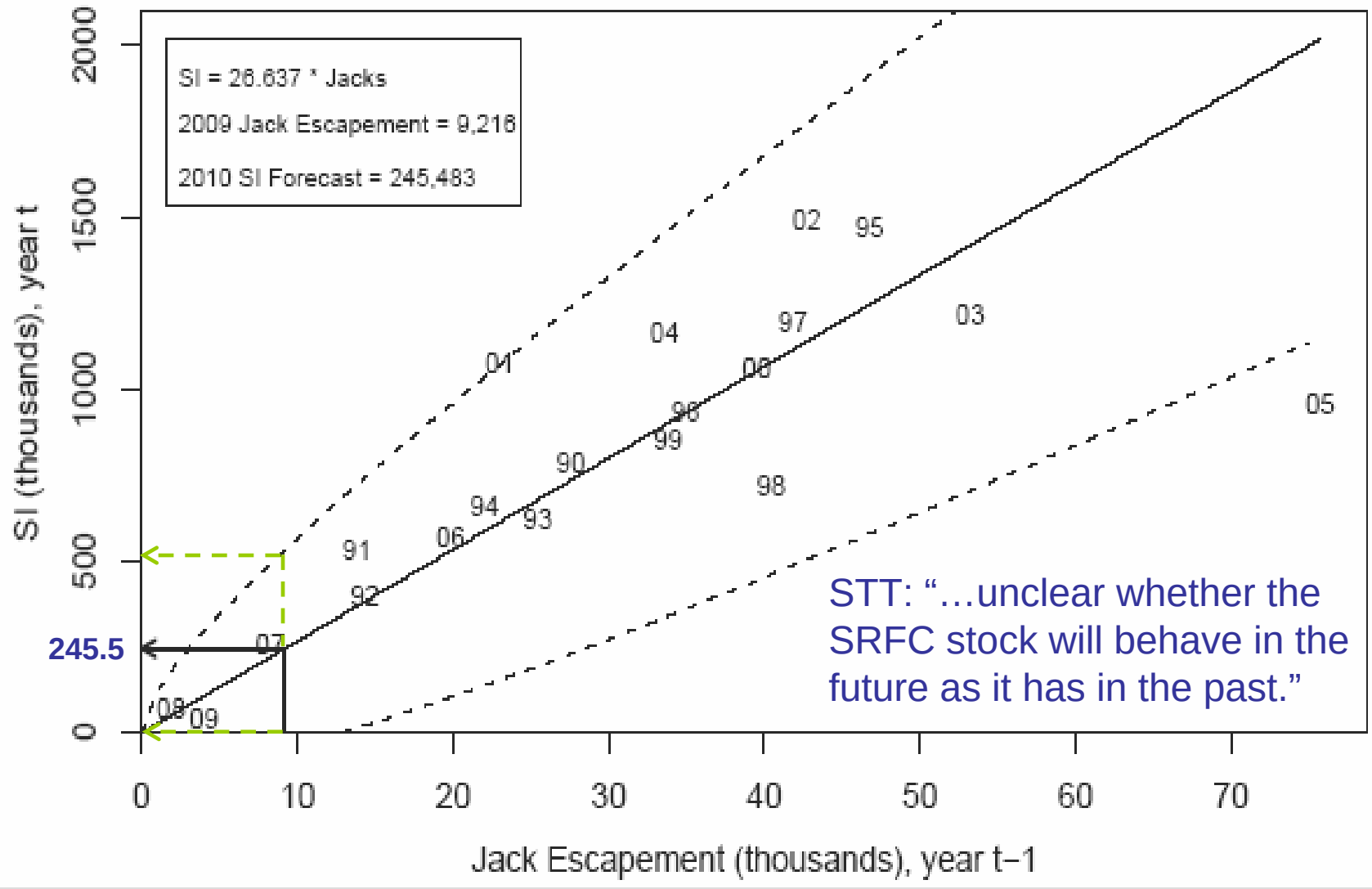
Sacramento River Fall Chinook Escapement Estimates, 1990 - 2009



Sacramento Index = Harvest + Escapement

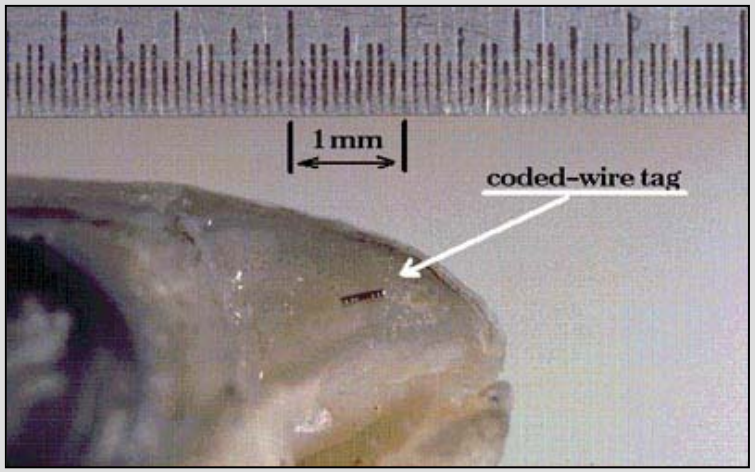


Sacramento River Fall Chinook
2010 Index of Ocean Abundance



Constant Fractional Marking
California's Chinook Salmon
- Implications for CRFS Sampling -

What is a Coded-Wire Tag?



What is Constant Fractional Marking?

- 25% hatchery reared fall Chinook are ad-clipped and coded-wire tagged
- AutoFish System can mark and tag 350,000 salmon per day
- California hatcheries release over 42 million fall Chinook each year

CFM allows biologists to:

- track fishery harvest rates
- calculate hatchery-natural proportions

How will CFM effect sampling?

- Expect to see more adipose fin clipped salmon
- Expect to collect more salmon heads

OSP samplers will help CRFS samplers collect salmon heads!

Primary Private and Rental Sampling Procedures

PR1 Form – Header Information

2008 PR1 FORM - CALIFORNIA RECREATIONAL FISHERY SURVEY (CRFS) Page ____ of ____ COUNTS

If you miss a boat, tally as missed boats with your current sampled boat. If interview refused also place 'R' in the missed column.

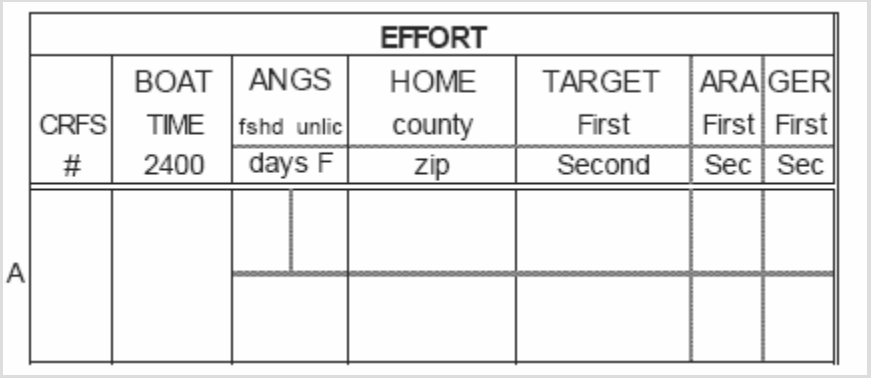
ASSN ID	DATE	CNTY	SITE	OSP port	SAMPLER NAME	SAMPLER #		onsite	offsite
							START		
							STOP		

- **Fill out on each page**
- **Page numbers**
  - Please fill out as you go: especially important with double-sided sheets
- **Start and stop trailer counts**
  - First arriving sampler: Count the number of on-site trailers you believe are fishing
  - Last departing sampler: Count the remaining fishing trailers – if boats' activities are known, please note
  - Offsite trailer counts:

PR1 Sample Site	Off-Site Trailer Count
Noyo LR Fort Bragg (FTB)	S. Harbor (Coast Guard)
Westside LR Bodega (BOD)	Doran LR
Berkeley Marina (BER)	Emeryville LR
Moss Landing LR (MOS)	Woodward LR

PR1 Form – Effort Data

- **CRFS #'s are unique and sequential**
  - NF boats do not get a CRFS #
- **Time is recorded uniquely**
- **Number of anglers is a 2-part question:**
  - How many people were fishing?
  - Unlicensed anglers are a subset of total number of anglers
- **Record the number of days spent fishing**
- **Home county and zip code**



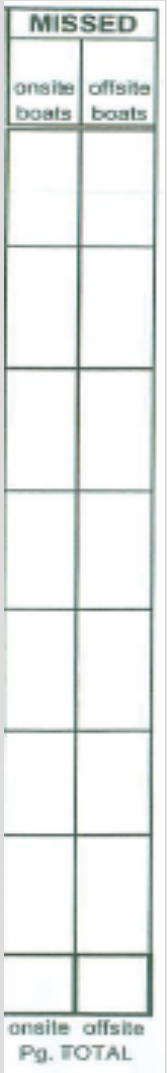
	EFFORT						
	CRFS #	BOAT TIME 2400	ANGS fshd unlic days F	HOME county zip	TARGET First Second	ARA First Sec	GER First Sec
A							

- **Target species**
  - Use SALCK for salmon target
  - Please record any shellfish targets
- **Area spent most time fishing for target species**
  - May not have caught fish in this area
- **Gear used for target species**
  - Salmon gear: **T**roll, **M**ooch, **B**oth mooch and troll

PR1 Form – Effort Data

- **Missed boats**
  - Onsite: Count the number of boats missed
  - Record “R” for refusals
  - Select Offsite Locations: Count the number of fishing boats going to offsite marinas

PR1 Sample Site	Off-site Missed
Fields Landing (FLD)	King Salmon
Noyo LR Fort Bragg (FTB)	Dolphin Isl.
Westside LR Bodega (BOD)	Bodega Bay Marinas
Berkeley Marina (BER)	Berkeley Marina
Santa Cruz (SCR)	Upper Harbor
Moss Landing LR (MOS)	Moss Landing Marina



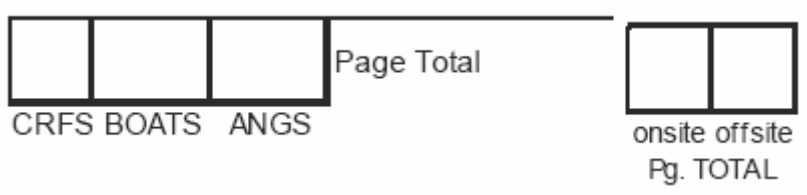
PR1 Form – Catch Data

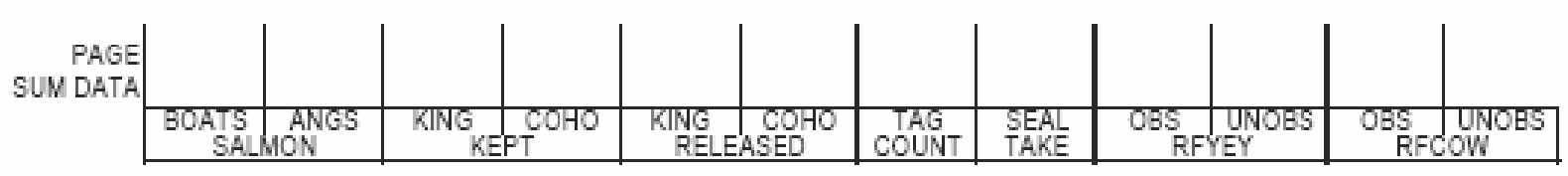
CATCH						SIZE				
SPECIES	KEPT obsvd unobs	RELS alive dead	seal take	SPECIES LOC *of effort if no catch* Block-box Lat / Lon	BOTM Depth (ft)	Fork lengths (mm) Wgt (decimal kg) or head tag # 1	2	3	4	5

- **Catch Species**
  - Please note unusual or prohibited catch
  - All salmon onboard should be observed – please note unobserved salmon
- **Species Location**
  - Record location of catch or location of effort if no catch
  - 1 block per line; 3 boxes per block
- **Bottom Depth (ft)**
- **Fork Length (mm)**
  - Please note if fish is outside normal size range or sub-legal
- **Headtag number of adipose fin clipped salmon (circled)**

PR1 Form – Page Summary

- **These are <u>page</u> subtotals**
- **This data will be used for the summary at the bottom of the ASF**





Salmon Head Recovery and Headtags

- **Inspect all salmon for adipose fin clip**
  - Each salmon with an adipose fin-clip is issued a uniquely numbered headtag
- **Record the headtag number and fork length**
  - Circle headtag number
- **Attach the headtag to the lower jaw – remove the head**
  - Cut 1” behind the eyes
  - Try not to remove flesh or gills
- **Place head in a zip-top bag**
  - Headtag faces outward

Please use your own headtags in order

Salmon Head Refusal

- **Each adipose fin clipped salmon is issued a headtag!**

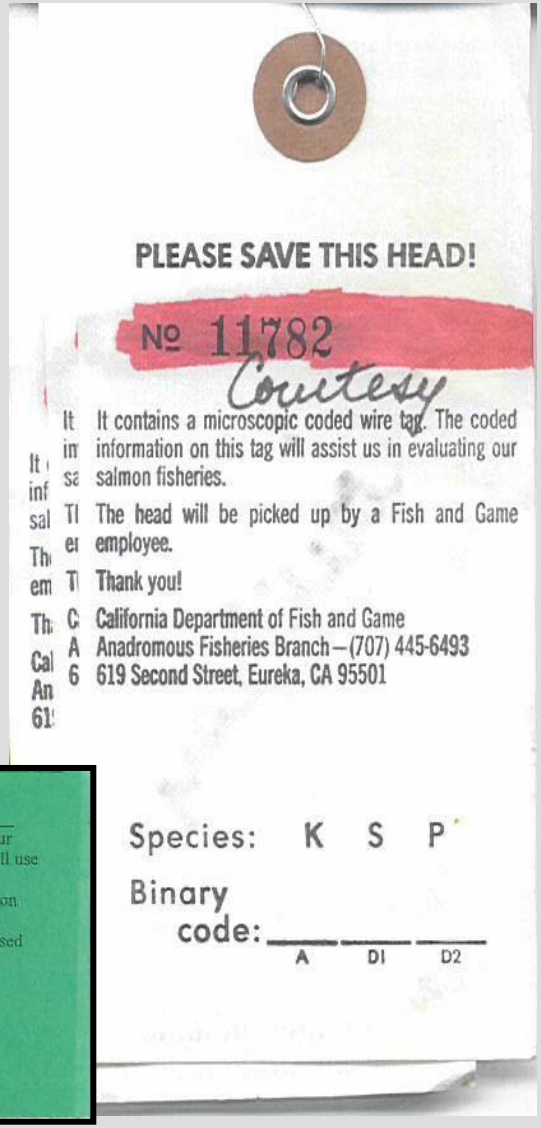
- **What should I do if the angler won't let me take the head?**
  - Educate the angler about the scientific importance of collecting CWTs to salmon management.
  - Offer to provide information back to the angler for this fish through the courtesy program.
  - Remind the angler that Section 8226 requires him/her to turn over the head of an adipose fin clipped salmon to a department representative.

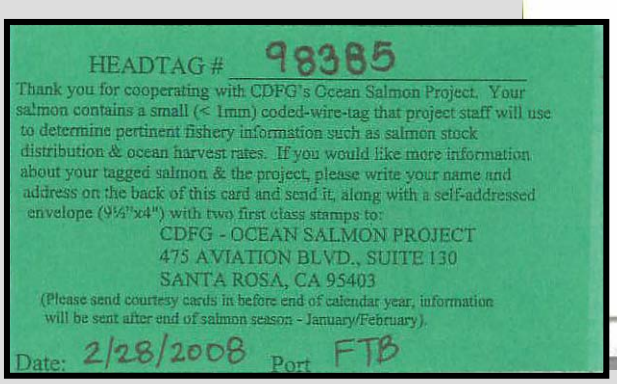
- **Still refuses to give you the head?**
  - Attach the headtag to the fish if possible – point out the address and phone number on the tag
  - Record "NRS" (Non-Recovered Species) next to the headtag number on your datasheet
  - Write NRS on the back of the headtag, place in a zip-top bag, and store it with the other heads

- **Please comment on NRS**

Courtesy Headtags

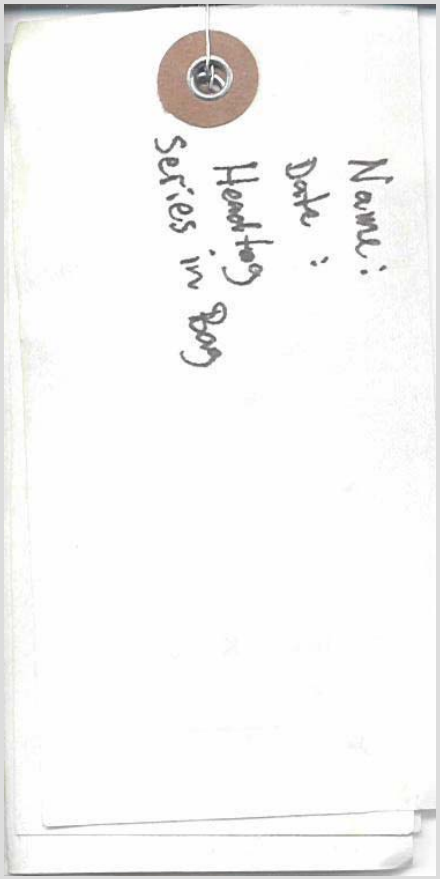
- **If you are approached with an adipose fin clipped salmon or head that is outside your sample:**
  - Assign a courtesy tag to the head
  - Record this number on a “green card” and give it to the angler
- **The green card has instructions to mail it to OSP Santa Rosa**
  - The angler will receive information about the fish at the end of the year

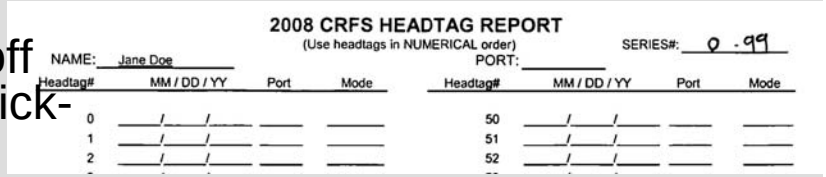




Inventory and Freeze Salmon Heads

- **Check that the heads you have match what you have recorded on your datasheet**
- **Record the series of headtags used that day on your ASF and Headtag Report Sheet**
  - Include any NRS tags recorded as well
- **After inventorying heads, place them in large bag**
  - Record name, date, and headtags in the bag on an inventory tag; Securely tie inventory tag to the large bag – OR –
  - Keep a running tally of heads in the bag on a waterproof piece of paper instead of using the inventory tag
- **Store the heads in a freezer**
  - See your CRFS manual for drop-off locations or store at home
  - Please notify your supervisor when drop-off freezers are half full. OSP will arrange a pick-up.




2008 CRFS HEADTAG REPORT
(Use headtags in NUMERICAL order)
NAME: Jane Doe
PORT:
SERIES#: 0 - 99

Headtag#	MM / DD / YY	Port	Mode	Headtag#	MM / DD / YY	Port	Mode
0	___/___/___	____	_____	50	___/___/___	____	_____
1	___/___/___	____	_____	51	___/___/___	____	_____
2	___/___/___	____	_____	52	___/___/___	____	_____

CRFS and Salmon Sampler Coordination

- **Salmon samplers will be assigned to <u>assist</u> CRFS samplers**
  - Salmon samplers will only be responsible for collecting heads from adipose fin clipped fish during PR1 samples
  - Salmon samplers may help with other duties as time allows
- **Salmon samplers will record on a separate form if needed**
  - Salmon samplers will ask you for the CRFS boat number - It is crucial that this number is correct!
  - Any headtag data recorded on salmon forms will be transcribed to the PR1 form - All data is to be recorded on the PR1 form

OCEAN SALMON SPORT FISHING DATA

Ocean Salmon Project - CDFG Marine Region

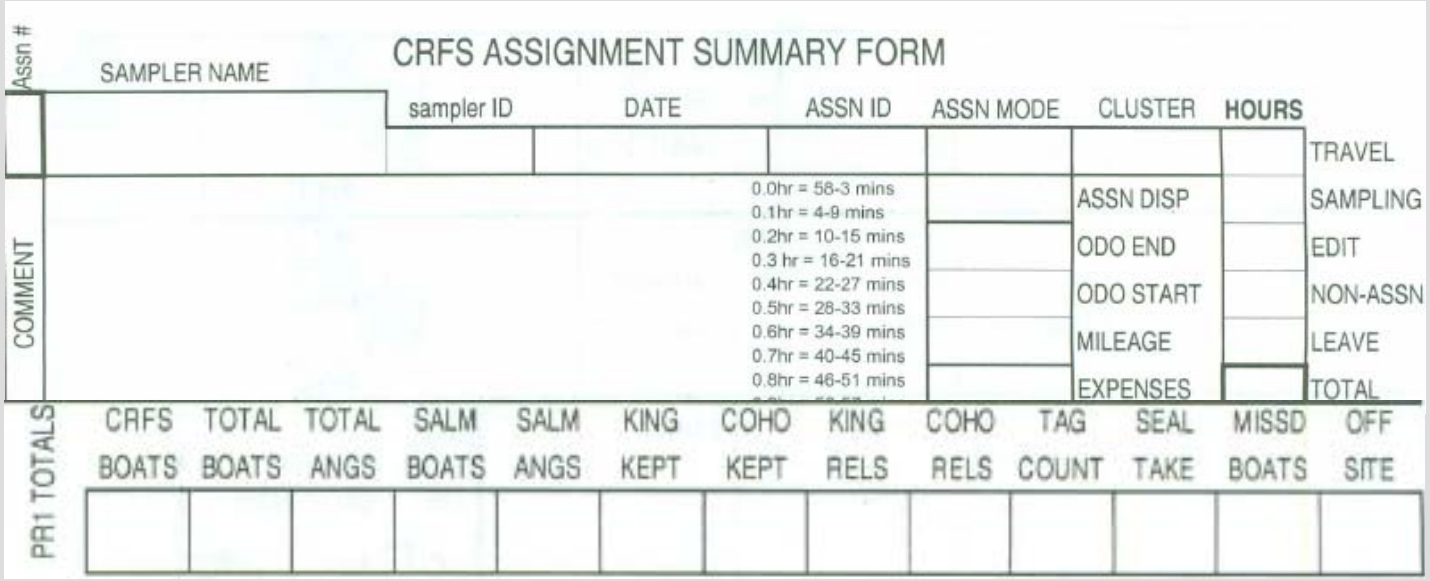
Circle One: **Charterboats** **Skiffs**

Salmon Sampler: _____ **OSP Port:** _____ **Page** _____ **of** _____

CRFS Sampler(s): _____ **Assn ID:** _____ **Date:**_____/_____/_____

CRFS # (sampler initials)	**Salmon Landed**		**#**	**Gear**	**# Salmon Released**		**Sea Lion Take**	**Salmon Headtag Data**			**CPFV Name & Number**
	# **Kings**	**#** **Cohos**	**Anglers**	(circle)	Kgs/?	Coho	# fish	Tag #	FL(mm)	NRS*	NOTES
( )				T M B							

Assignment Summary Form



CRFS ASSIGNMENT SUMMARY FORM

Assn #

SAMPLER NAME

sampler ID	DATE	ASSN ID	ASSN MODE	CLUSTER	HOURS	
						TRAVEL
				ASSN DISP		SAMPLING
				ODO END		EDIT
				ODO START		NON-ASSN
				MILEAGE		LEAVE
				EXPENSES		TOTAL

COMMENT

0.0hr = 58-3 mins
0.1hr = 4-9 mins
0.2hr = 10-15 mins
0.3 hr = 16-21 mins
0.4hr = 22-27 mins
0.5hr = 28-33 mins
0.6hr = 34-39 mins
0.7hr = 40-45 mins
0.8hr = 46-51 mins

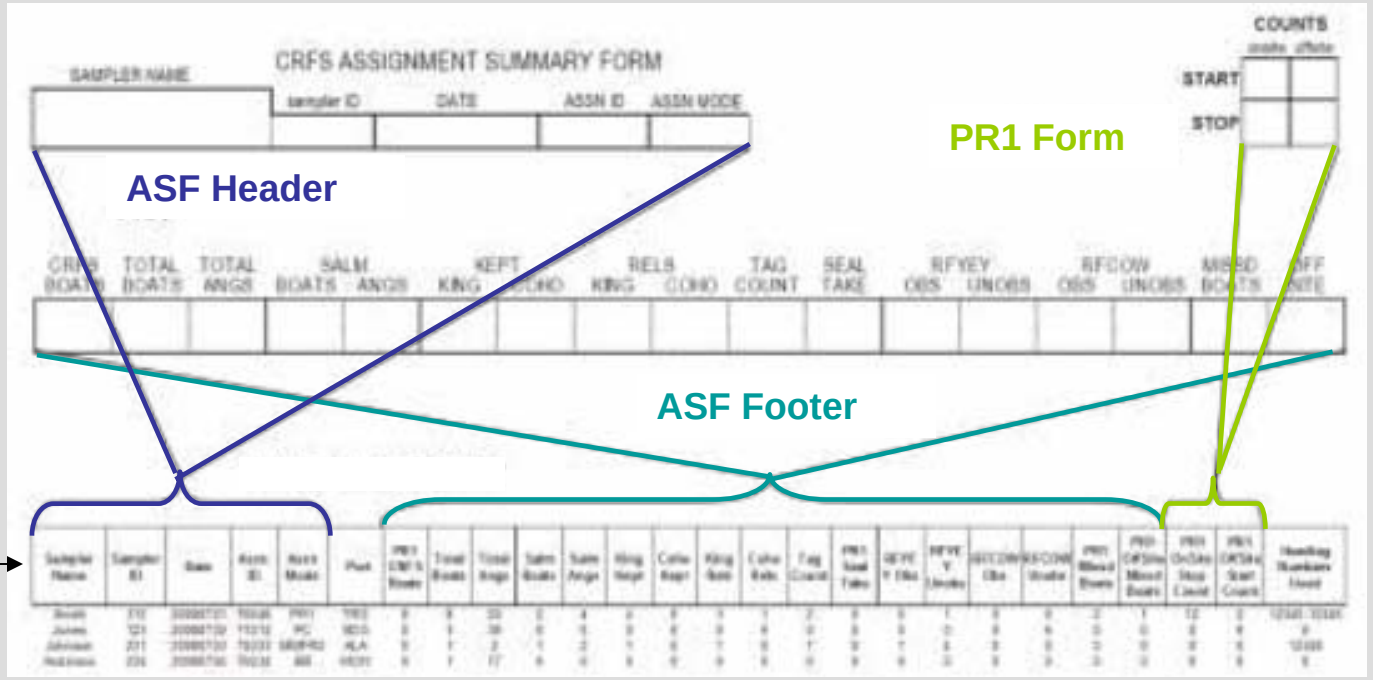
PR1 TOTALS

CRFS BOATS	TOTAL BOATS	TOTAL ANGS	SALM BOATS	SALM ANGS	KING KEPT	COHO KEPT	KING RELS	COHO RELS	TAG COUNT	SEAL TAKE	MISSD BOATS	OFF SITE

- **Note any unusual occurrences in the comment section**
- **Record headtags used on this day**
  - If using a head drop-off freezer, record the location, tag series and the date
- **Sum each PR1 page total and record summary in footer**
  - Please use a calculator if necessary
- **Notice there is no place to record start or stop trailer counts… do not add these counts into ASF salmon summary boxes**

Monday Protocol – 10:00 am

- **Provide your supervisor with a summary of that week's data**
  - Use the provided Excel template (if possible)
  - Find this information in the header and at the bottom of the ASF
  - Include a summary of non-PR1 modes when heads were collected
- **Mail forms to your supervisor**
  - Include a copy of your headtag report (not the original)



Flow of Adipose Fin-Clipped Salmon Heads and Associated Data