Agenda

CALIFORNIA DEPARTMENT OF FISH AND GAME
2012 SALMON INFORMATION MEETING

Sonoma County Water Agency Office
404 Aviation Boulevard
Santa Rosa, California 95403
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Tuesday, February 28, 2012
9:00 a.m. – 2:30 p.m.

Welcome - Moderator Opening Comments and Review Agenda	Marija Vojkovich, CDFG (9:00 AM)
2011 California Ocean Salmon Sport and Commercial Fisheries	Barry Miller, CDFG (9:15 a.m.)
2011 CV Chinook Escapement Estimates	Brett Kormos, CDFG (9:40 a.m.)
Overview of the "Central Valley (CV) Chinook Salmon In-river Escapement Monitoring Plan"	Alice Low, CDFG (10:10 a.m.)
2011 CV Chinook River Sport Fisheries	Mike Brown, CDFG (10:40 a.m.)
BREAK (15 minutes)	(11:00 a.m.)
2011 Klamath Basin Chinook Salmon Spawning Escapement, Harvest and Age Composition	Wade Sinnen, CDFG (11:15 a.m.)
NMFS 2012 Ocean Salmon Fishery Guidance	Heidi Taylor, NMFS (11:45 a.m.)
Abundance Forecasts and Harvest Model Results	Dr. Michael O'Farrell, NMFS (12:15 p.m.)
BREAK (15 minutes)	(12:45 p.m.)
Welcome Back / Introduction of CA Panel	Marija Vojkovich, CDFG (1:00 p.m.)

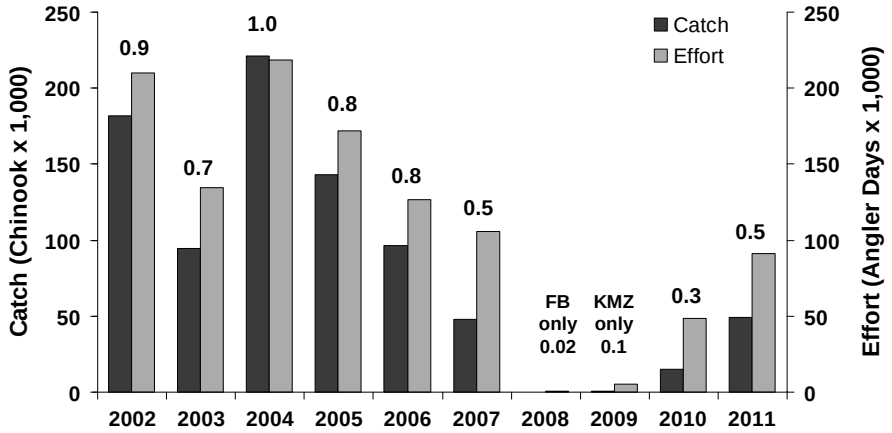
Public Comment to California Salmon Management Panel (1:10 p.m.)

Panel members:
Ms. Marija Vojkovich, CDFG Marine Region, PFMC-DFG Designee
Mr. Dan Wolford, CA PFMC member, Chairman
Mr. David Crabbe, CA PFMC member
Mr. Mark Helvey, NMFS SWR, PFMC-NMFS Designee
Mr. Duncan MacLean, PFMC-SAS, Vice-Chair, CA Troll
Mr. Paul Pierce, PFMC-SAS, CA Sport Fisheries
Mr. Craig Stone, PFMC-SAS, CA Charter Boat
Mr. Jim Hie, PFMC-SAS, Conservation
Dr. Michael O'Farrell, NMFS SWFSC, PFMC-STT, Vice-Chair
Ms. Jennifer Simon, CDFG, PFMC-STT

Closing Comments and Evaluation Form Marija Vojkovich, CDFG
(2:20 p.m.)

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

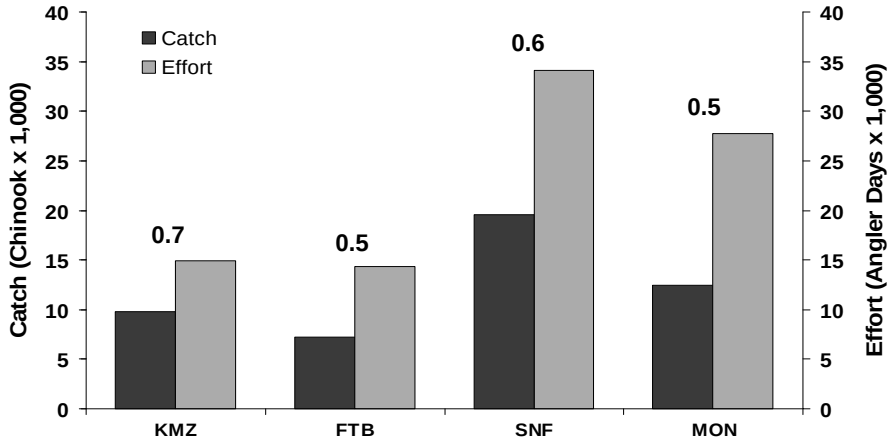
Recreational Catch and Effort, 2002-2011



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Days Open	754	792	792	742	704	794	45	10	520	709

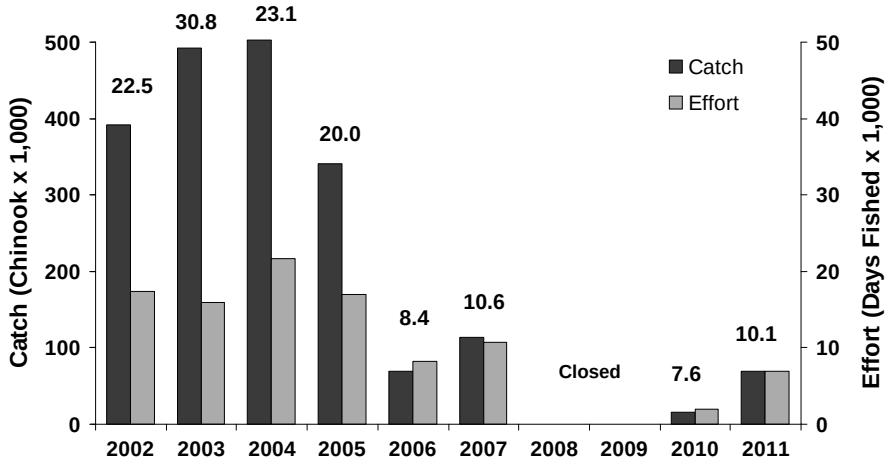
Days Open = All four management areas combined

2011 Recreational Catch and Effort by Management Area



	KMZ	FTB	SNF	MON
Days Open	115	212	212	170

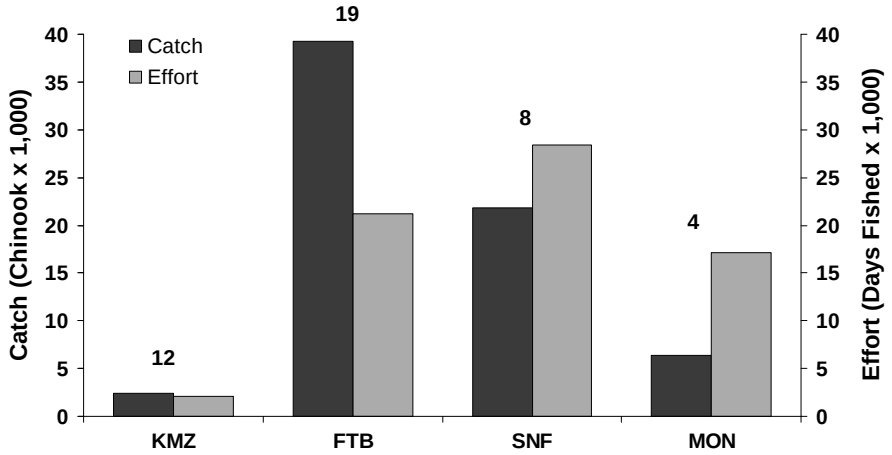
Commercial Catch and Effort, 2002-2011



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Days Open	421	467	411	259	180	353	--	--	70	324

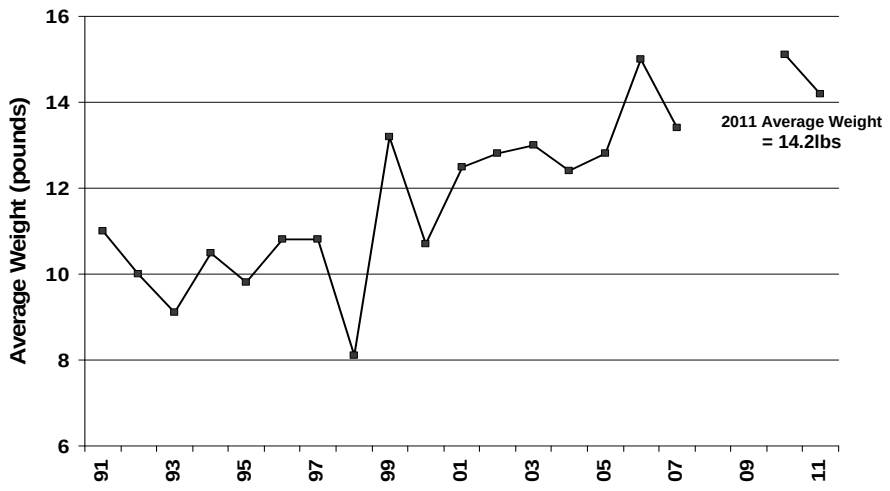
Days Open = All four management areas combined

2011 Commercial Catch and Effort by Management Area

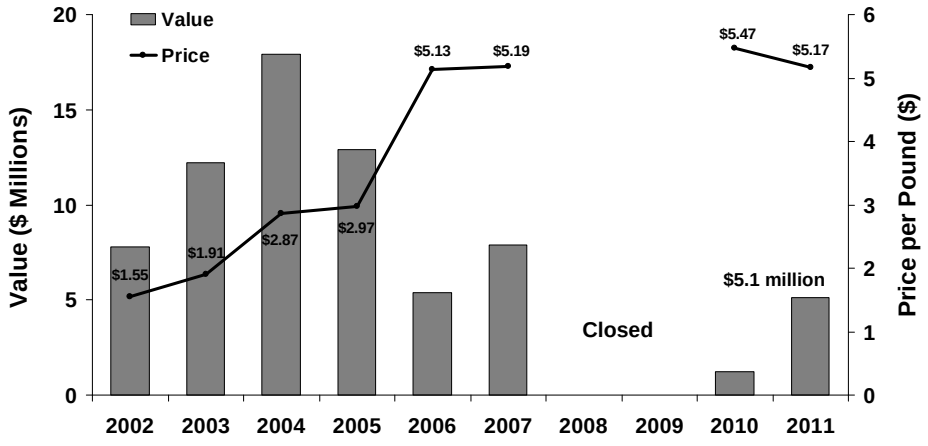


	KMZ	FTB	SNF	MON
Days Open	15	67	129	119

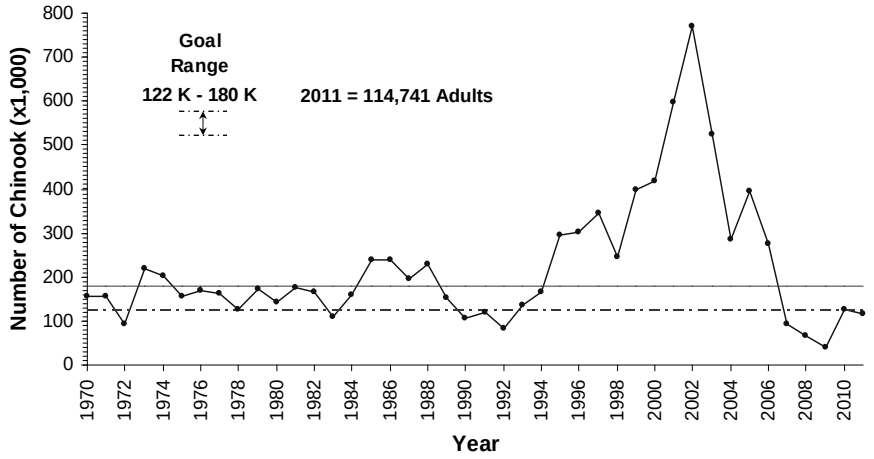
Sampled Average Weight of Commercial Salmon, 1991-2011



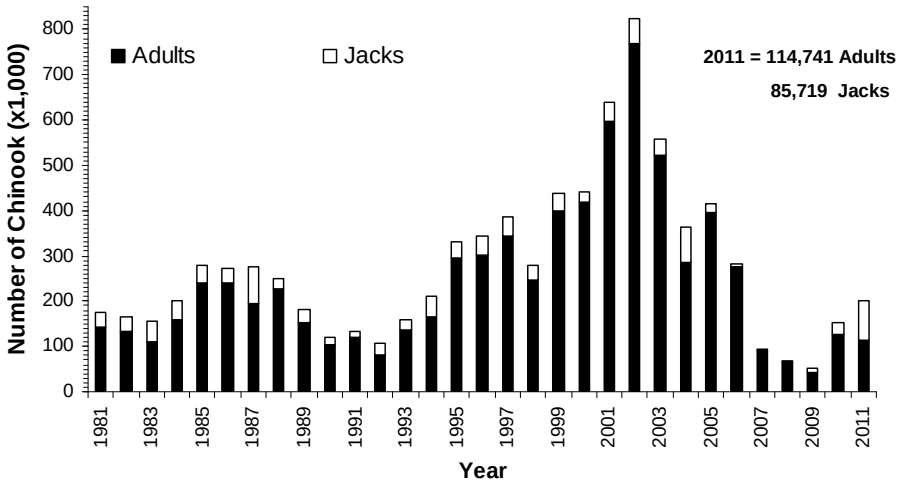
Commercial Ex-Vessel Value and Price per Pound, 2002-2011



Sacramento River Fall Chinook Adult Spawning Escapement 1970-2011



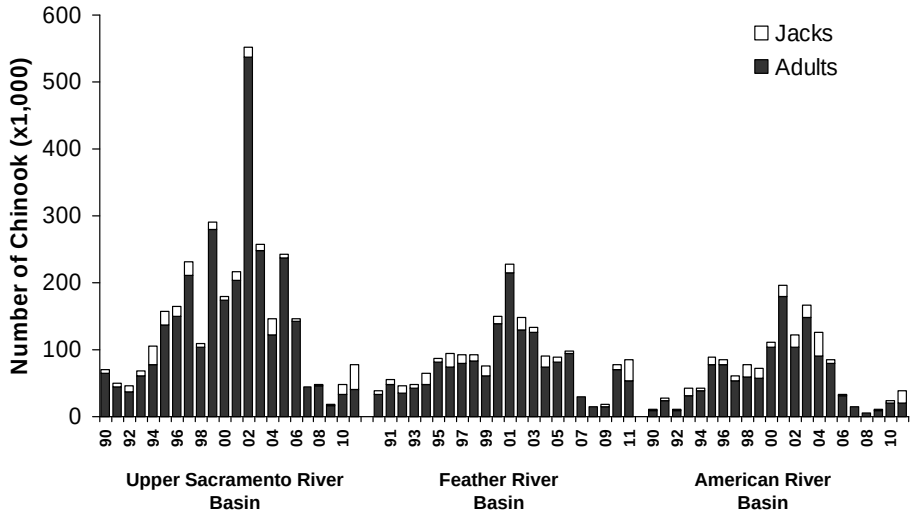
Sacramento River Fall Chinook Total Spawning Escapement 1981-2011



2011 Sacramento River Fall Chinook Hatchery and Natural Escapement

		Jacks	Adults	Total	% Jack	% SRFC Total
Upper Sacramento River Basin	Hatchery	23,068	19,312	42,380	54%	21%
	Natural	15,096	20,466	35,562	42%	18%
		38,164	**39,778**	**77,942**	**49%**	**39%**
Feather River Basin	Hatchery	16,691	15,925	32,616	51%	16%
	Natural	13,982	37,920	51,902	27%	26%
		30,673	**53,845**	**84,518**	**36%**	**42%**
American River Basin	Hatchery	8,963	7,634	16,597	54%	8%
	Natural	7,919	13,484	21,403	37%	11%
		16,882	**21,118**	**38,000**	**44%**	**19%**
Total 2011 SRFC Escapement		**85,719**	**114,741**	**200,460**	**43%**	**100%**

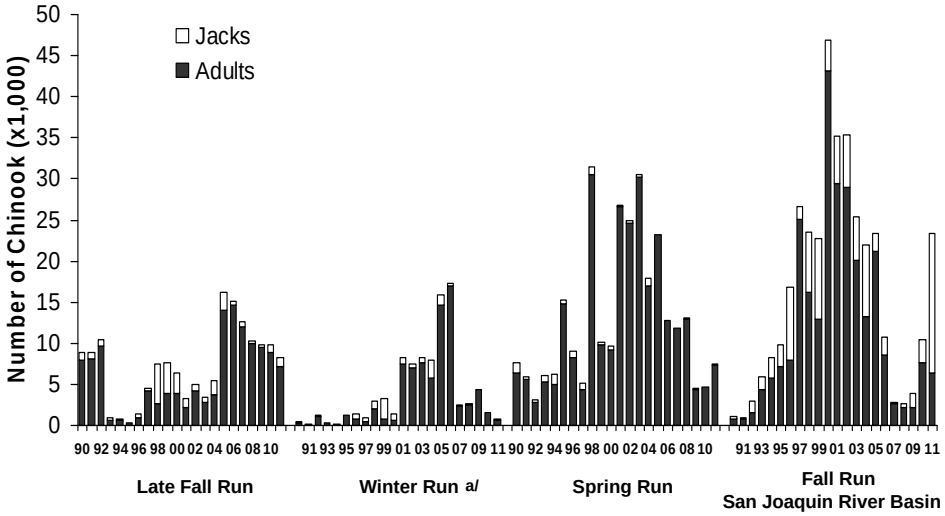
Sacramento River Fall Chinook Escapement Estimates 1990-2011



2011 Other Central Valley Chinook Stocks
Hatchery and Natural Escapement

		Jacks	Adults	Total	% Jack
Central Valley Late Fall Chinook	Hatchery	1,097	3,492	4,589	24%
	Natural	64	3,637	3,701	2%
		1,161	**7,129**	**8,290**	**14%**
Sacramento River Winter Chinook	Natural	187	637	824	23%
		187	**637**	**824**	**23%**
Central Valley Spring Chinook	Hatchery	138	1,831	1,969	7%
	Natural	----	5,431	5,431	----
		138	**7,262**	**7,400**	**----**
San Joaquin Fall Chinook	Hatchery	13,841	2,501	16,342	85%
	Natural	3,099	3,876	6,975	44%
		16,940	**6,377**	**23,317**	**73%**

Other Central Valley Chinook Stocks
Escapement Estimates 1990-2011



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

DEVELOPMENT OF THE

CENTRAL VALLEY CHINOOK SALMON IN-RIVER ESCAPEMENT MONITORING PLAN

Alice Low
Fisheries Branch
Department of Fish and Game

WHY WE NEEDED A MONITORING PLAN

- Annual Spawner Escapement Estimated Since 1950's
- Programs have evolved Very Much over time; vary in methods, intensity of sampling effort, reliability of estimates
- Widely used mark/recapture carcass surveys known not to meet assumptions of models used
- Surveys not reviewed for statistical power or bias
- Data management and reporting not standardized

MONITORING PLAN OBJECTIVES

- Improve estimates of CV Chinook salmon spawning escapement and inland harvest, including statistically valid estimates of accuracy and precision
- Ensure accurate collection of biological data for estimation of age, length, and sex composition, and recovery of CWTs

EXISTING SACRAMENTO RIVER FALL-RUN SURVEYS

Monitoring Weirs/Device Counters:
Mill, Deer, Battle, Cottonwood, Cow Creeks

Mark/Recapture Carcass Surveys:
Mainstem Sacramento, Feather, Yuba, American Rivers, Butte, Clear Creeks

PLAN RECOMMENDATIONS: SACTO RIVER FALL-RUN SURVEYS

- Monitoring Weirs/Device Counters:
  - Mill, Deer, Battle, Cottonwood, Cow Creeks – existing projects
  - Butte, Clear Creeks, Yuba River (upper) – new projects

- Mark/Recapture Carcass Surveys:
  - Mainstem Sacramento, Feather, Yuba (lower), and American Rivers

PLAN RECOMMENDATION: CORMACK JOLLY SEBER MODEL

- Open population model
- Doesn't require equal mixing of tagged/untagged
- Can account for heterogeneity in capture probabilities (e.g., fish size, sex)
- Simulations showed estimates using CJS were very close to actual population sizes

2011 ESCAPEMENT COMPARISON: CJS vs. PREVIOUS MODELS

	CJS ESTIMATES			PREVIOUS METHOD		
	Grilse	Adults	Total	Grilse	Adults	Total
Feather River	10,443	32,531	42,974	11973	37297	49,270
Yuba River	325	1,014	1,339	432	1,348	1,780
American River	7,919	13,484	21,403	11,175	19,027	30,202
Butte Creek	188	229	417	428	522	950
Clear Creek	771	4,070	4,841	1,007	5,325	6,332
SAC FALL-RUN TOTALS	85,719	114,741	200,460	91,088	126,932	218,020
				6% higher	10.6 % higher	8.7 % high

2011 METHODS USED TO DISTINGUISH AGE 2/ADULTS

- Length/frequency analysis with CWT verification:
  - 2011 data – Mainstem Sacto, Clear Creek
  - Past 10 years' data – CNFH
  - 2010 data – American River and Nimbus Hatchery
- Fixed length cutoff:
  - Butte, Mill, Cow, Cottonwood, Deer (video monitoring)
  - Feather River and Hatchery, Yuba River

SUMMARY OF THE 2011 SACRAMENTO RIVER CHINOOK SALMON SPORT FISHERY

Prepared by Mike Brown and Rob Titus
California Department of Fish and Game
Fisheries Branch, Anadromous Resource Assessment
8175 Alpine Avenue, Suite F
Sacramento, CA 95826
contact: mbrown@dfg.ca.gov

On 21 April 2011, the California Fish and Game Commission approved a California Department of Fish and Game (CDFG) proposal to re-open the recreational fishery for Sacramento River fall-run Chinook salmon (SRFC) with a nearly full season for the first time since 2007. The 2011 fishery was only slightly restricted including the continued closure of the San Joaquin River and its tributaries and the Feather River from Thermalito Afterbay Oulet to the Oroville Dam complex. Fishing for salmon was allowed beginning 16 July 2011 on the American, Feather and 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 1 August 2011. Closing dates varied from 11 December through 31 December 2011. The tiered closing dates were chosen to avoid contact with endangered winter-run Chinook salmon based on the anticipated progress of their upstream migration. The daily bag limit was 2 Chinook salmon with a 2 Chinook salmon possession limit for each licensed angler. The season as designed also provided fishing opportunity for late-fall-run Chinook salmon (SRLFC). The fishery was monitored in its entirety by CDFG's Central Valley Angler Survey, using a simple, stratified-random sampling design that included both roving and access interview components, and the collection of coded-wire tags (CWT) from adipose fin-clipped salmon for stock identification. Four distinct management zones were established to facilitate estimation of harvest and effort for each of the major rivers that comprise the SRFC fishery area: such as the American, Feather and Lower Sacramento and Upper Sacramento River management zones.

Estimated angling effort in the SRFC fishery totaled 843,098 hours, corresponding to about 208,656 fishing trips. This level of effort was 1.3 times greater than that estimated for the SRFC fishery in 2007, but was about 82% of the average for 9 years surveyed by CDFG between 1991 through 2007.

The SRFC fishery produced an estimated harvest of 60,500 salmon. Based on 2,805 observations of Chinook salmon, 660 were adipose fin-clipped Chinook salmon of hatchery origin. Of 628 CWTs recovered and read 85% were SRFC, 11% were San Joaquin River basin fall-run Chinook salmon, 1.8% were other miscellaneous non-SRFC,1.3% were Feather River Hatchery (FRH) spring-run Chinook salmon and 2.4 % were Coleman National Fish Hatchery SRLFC. Estimated harvest of SRFC adjusted from CWT recoveries was 57,833. Fork length (FL) frequency analysis was used to determine the delineation between grilse (age 2) and adult (age 3 year and older) SRFC by management zone. The size break between the two age groups

ranged from 705 to 740 mm FL resulting in 70% of the overall harvest being composed of grilse. The total estimated harvest of adult SRFC was 17,362.

The SRLFC fishery was restricted to the upper Sacramento River from the Highway 113 Bridge near Knights Landing to the Deschutes Road Bridge from 1 November 2011 through 18 December 2011. We used 1 November as the delineation between SRFC and the SRLFC fisheries. An estimated 35,789 hours of fishing effort or 9,997 fishing trips were expended for Chinook salmon during this period. Total estimated Chinook salmon harvest resulting from this effort was 1,730. Based on observations of adipose fin-clipped Chinook salmon, 66% of the catch consisted of Chinook salmon of hatchery origin. Of the 117 CWTs recovered and read, 97% were SRLFC, the other 3% consisted of a single CWT recovery from each of the following stocks: FRH spring-run Chinook salmon, Mokelumne River Hatchery fall-run and a Coleman National Fish Hatchery SRFC. Estimated harvest of SRLFC adjusted from CWT recoveries was 1,703. Fork length frequency analysis was used to determine the delineation between grilse and adults (Figure 1). There was an apparent break between these two age groups at 580mm FL. Using this criterion only 12% or 204 of the SRLFC harvest were grilse. Total adult harvest of SRLFC was 1,499.

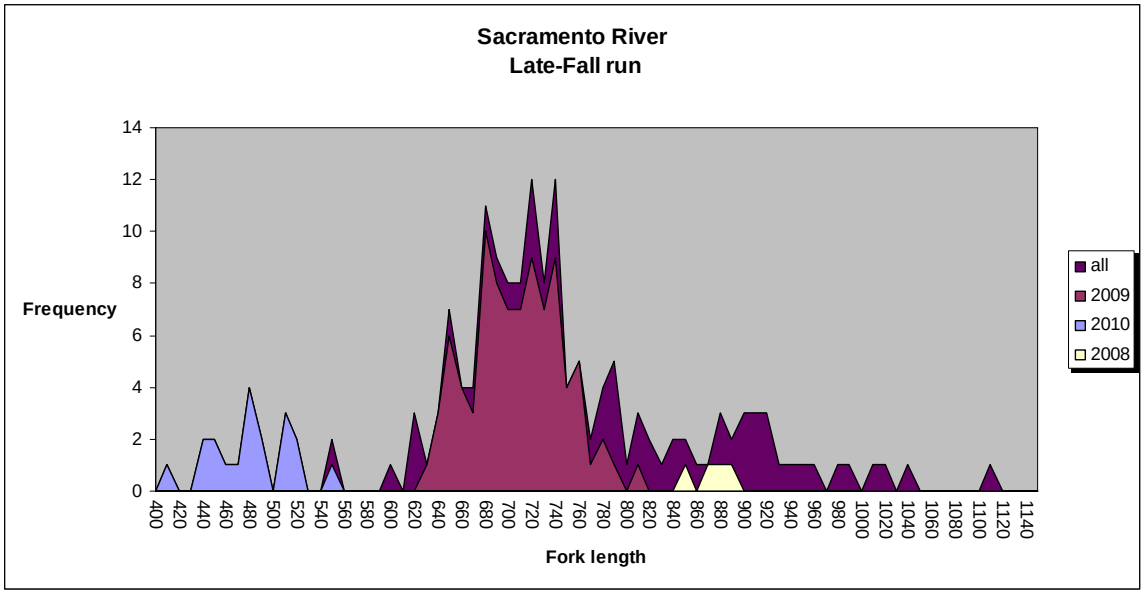


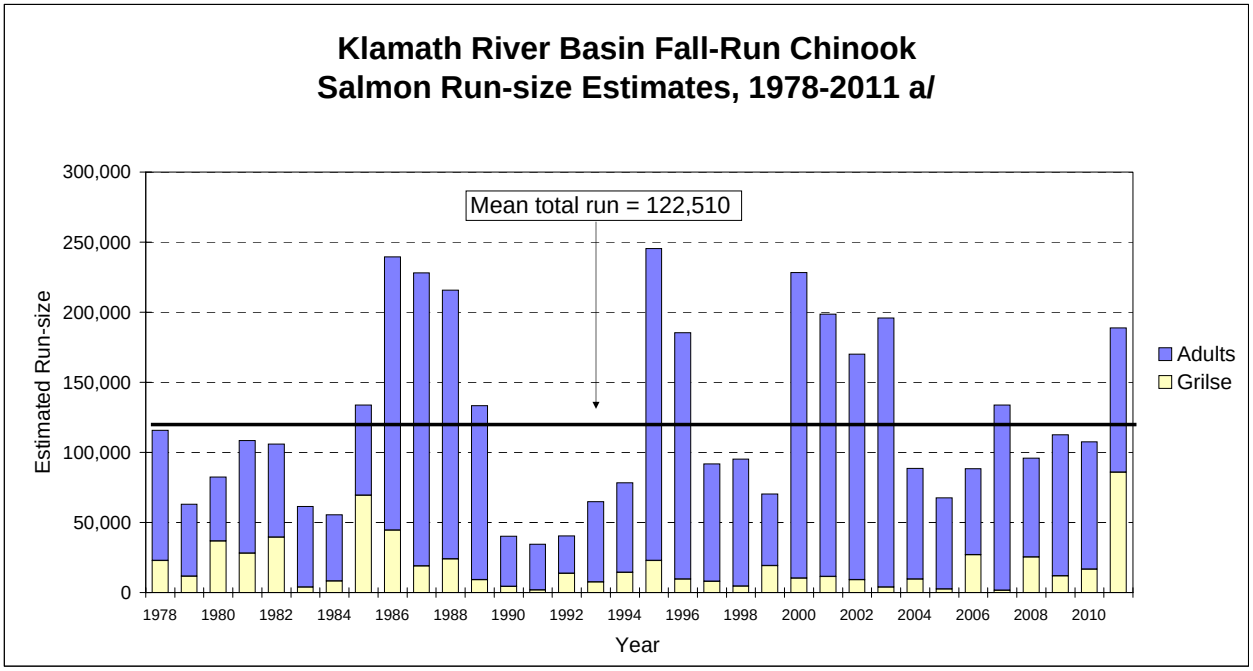
Figure 1, *Fork length frequency distribution of late-fall-run Chinook salmon caught in the Sacramento River from1 November 2011 through 18 December 2011. Years refer to progeny of a given brood year based on CWT recoveries.*

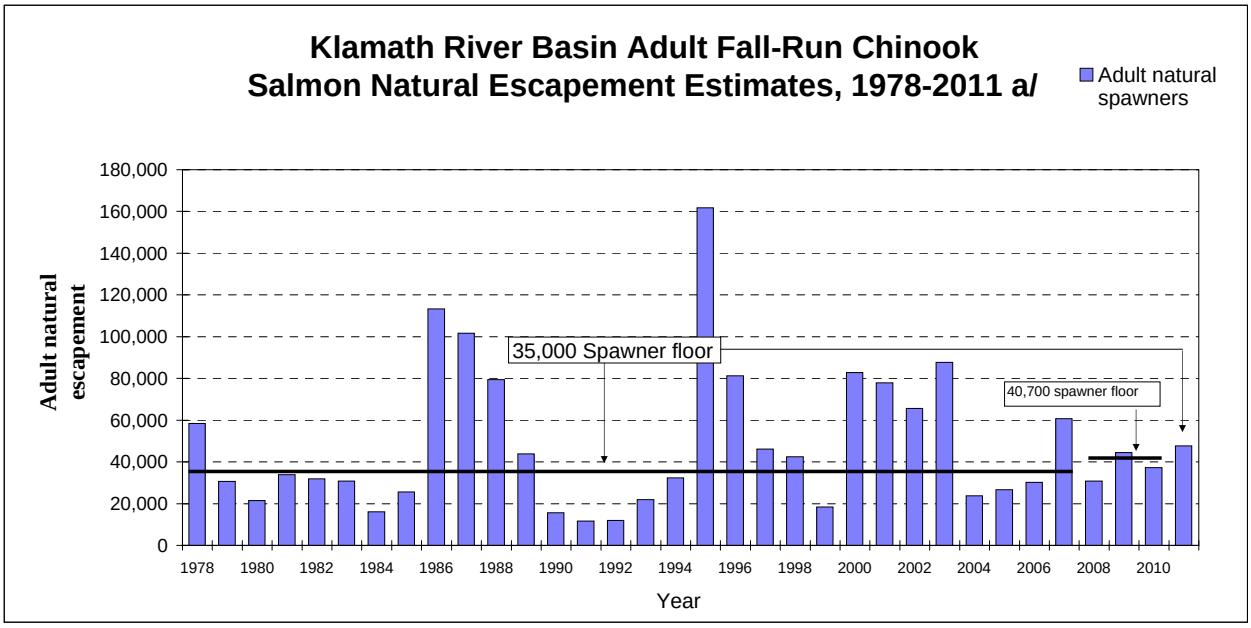
CDFG would like to thank the angling public for their cooperation in working with the Central Valley Angler Survey to provide data on their angling effort and catch, and for surrendering salmon heads for tag recovery.

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

Table 5. Age composition of the 2011 Klamath Basin fall Chinook run.

Escapement & Harvest	AGE 2	3	4	5	Total Adults	Total Run
Hatchery Spawners						
Iron Gate Hatchery (IGH)	9,549	6,212	2,276	1	8,490	18,039
Trinity River Hatchery (TRH)	1,872	12,162	1,606	80	13,849	15,721
Hatchery Spawner subtotal	**11,421**	**18,374**	**3,882**	**81**	**22,339**	**33,760**
Natural Spawners						
Salmon River Basin	1,819	1,885	1,789	0	3,674	5,493
Scott River Basin	2,499	978	2,038	0	3,016	5,515
Shasta River Basin	11,187	23	190	0	213	11,400
Bogus Creek Basin	2,303	2,046	869	5	2,919	5,222
Klamath River mainstem (IGH to Shasta R)	2,247	1,224	1,486	6	2,716	4,963
Klamath River mainstem (Shasta R to Indian Cr)	1,059	539	718	3	1,260	2,319
Klamath Tributaries (above Trinity River)	3,259	458	2,583	32	3,072	6,331
Blue Creek	418	11	1,067	65	1,143	1,561
Klamath Basin subtotal	24,791	7,164	10,740	111	18,013	42,804
Trinity River (mainstem above WCW)	37,690	16,911	9,727	1,105	27,744	65,434
Trinity River (mainstem below WCW)	130	132	732	60	924	1,054
Trinity Tributaries (above Reservation; below WCW)	96	0	515	27	542	638
Hoopa Reservation tributaries	94	0	503	27	530	624
Trinity Basin subtotal	38,010	17,043	11,477	1,219	29,740	67,750
Natural Spawners subtotal	**62,801**	**24,207**	**22,217**	**1,330**	**47,753**	**110,554**
Total Spawner Escapement	**74,222**	**42,581**	**26,099**	**1,411**	**70,092**	**144,314**
Recreational Harvest						
Klamath River (below Hwy 101 bridge)	700	477	144	4	624	1,324
Klamath River (Hwy 101 to Weitchpec)	6,557	556	332	24	912	7,469
Klamath River (Weitchpec to IGH)	1,480	996	486	1	1,483	2,963
Trinity River Basin (above WCW)	826	401	311	14	726	1,552
Trinity River Basin (below WCW)	434	207	202	9	418	852
Subtotals	**9,997**	**2,637**	**1,475**	**52**	**4,163**	**14,160**
Tribal Harvest						
Klamath River (below Hwy 101)	429	7,629	9,251	338	17,218	17,647
Klamath River (Hwy 101 to Trinity mouth)	467	2,376	1,841	56	4,272	4,739
Trinity River (Hoopa Reservation)	426	3,281	1,495	87	4,863	5,289
Subtotals	**1,322**	**13,286**	**12,587**	**481**	**26,353**	**27,675**
Total Harvest	**11,319**	**15,923**	**14,062**	**533**	**30,516**	**41,835**
Totals						
Harvest and Escapement	85,541	58,504	40,161	1,944	100,608	186,149
Recreational Angling Dropoff Mortality 2.04%	204	54	30	1	85	289
Tribal Net Dropoff Mortality 8.7%	115	1,155	1,095	42	2,292	2,407
Total River Run	**85,860**	**59,713**	**41,286**	**1,986**	**102,985**	**188,845**

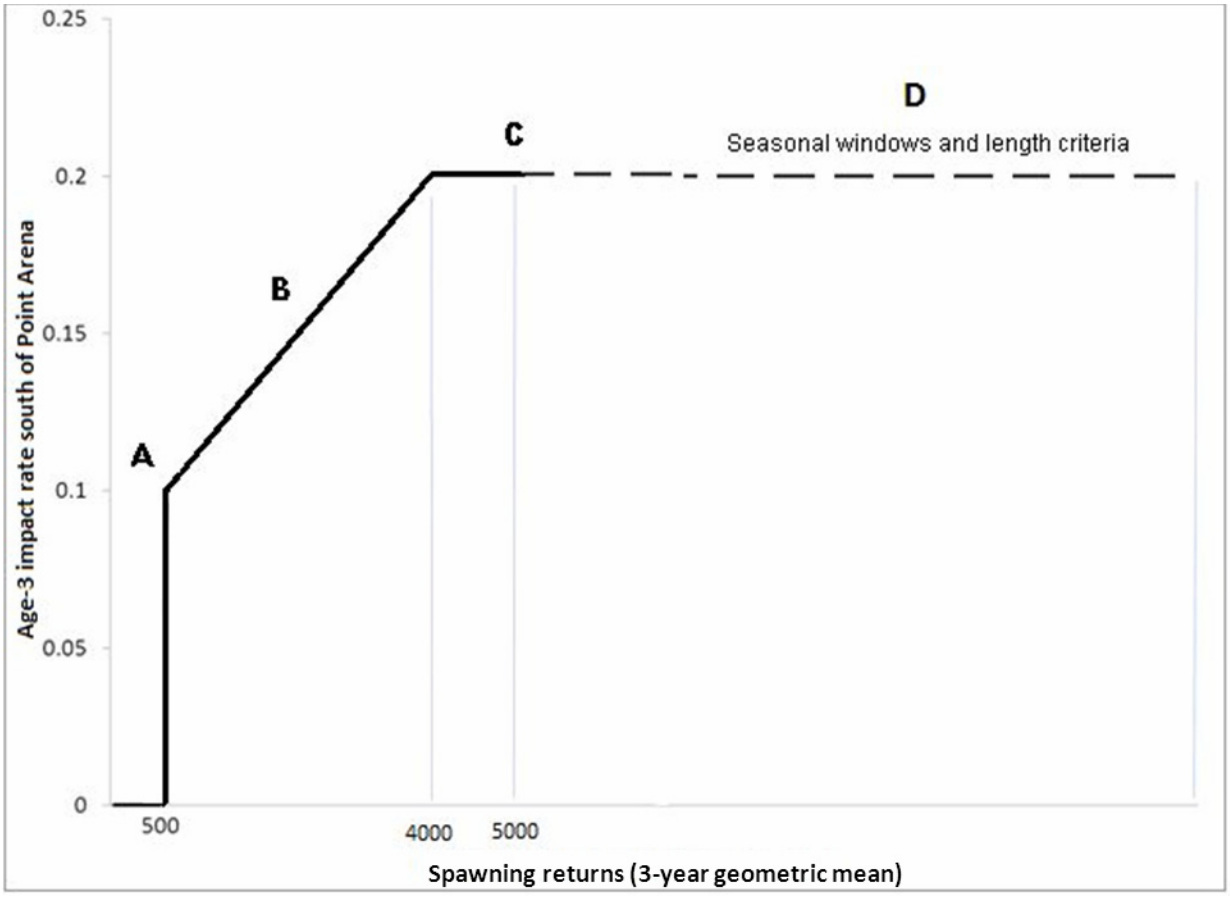




a/ 2011 data preliminary

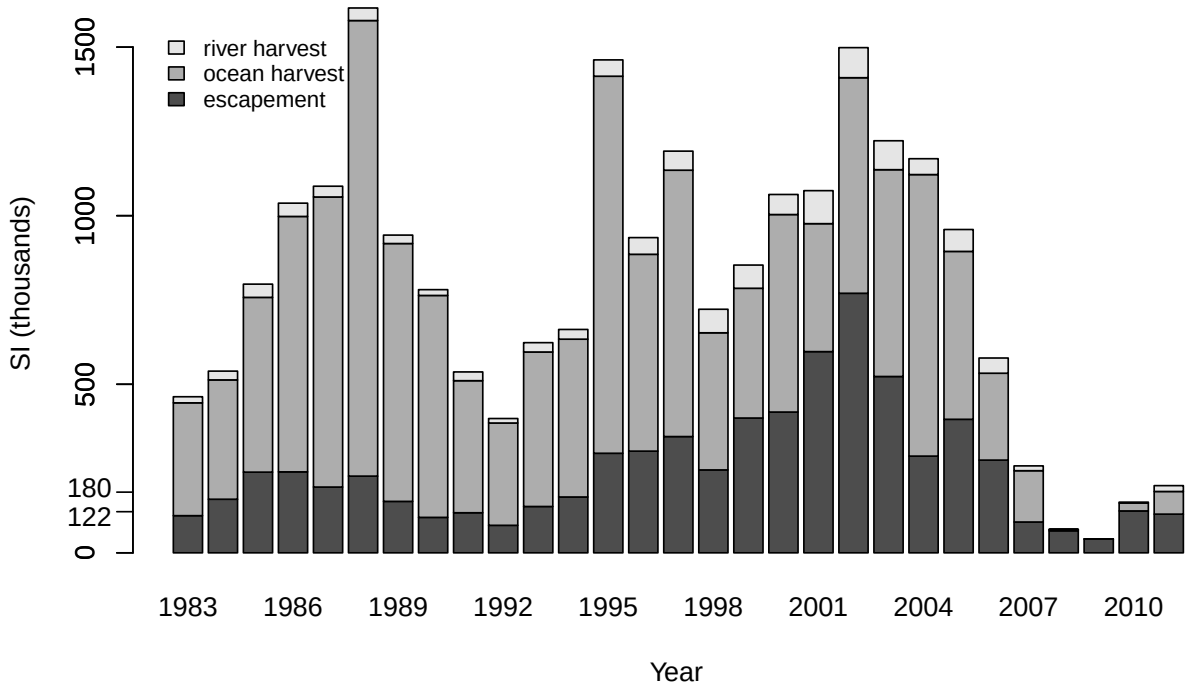
Sacramento River Winter Chinook Management Framework

The framework is a tiered abundance-based approach with the previous consultation standards regarding minimum size limits and seasonal window restrictions for both commercial and recreational fisheries in effect at all times:

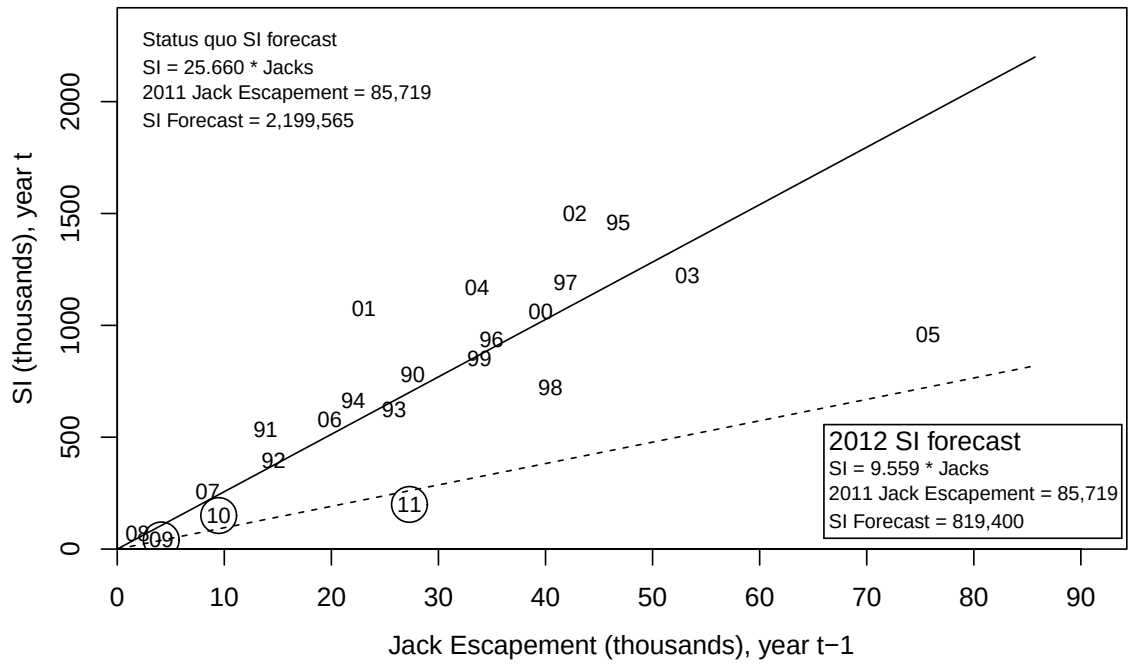


Condition A: Geometric mean of the most recent 3 years of spawning return estimates of less than 500 - 0% impact rate cap.
Condition B: Geometric mean of the most recent 3 years of spawning return estimates between 4000 and 500 - a straight line, proportional decline between 20% and 10% impact target cap.
Condition C: Geometric mean of the most recent 3 years of spawning return estimates between 5000 and 4000 - 20% impact target cap.
Condition D: Geometric mean of the most recent 3 years of spawning return estimates greater than 5000 - No preseason impact rate cap (Minimum size limit and seasonal window restrictions still in effect).

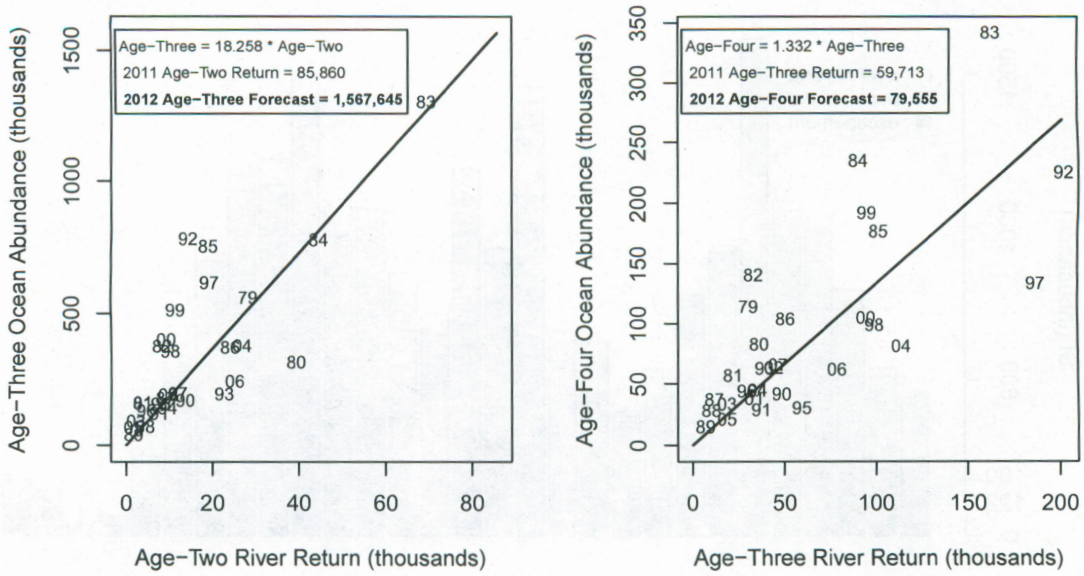
Sacramento Index (SI) time series



2012 SI forecast: 819,400



2012 Klamath forecast: 1,651,785



KRFC 2011 abundance forecast: 371,100
age-3: 304,600
age-4: 61,600

Management context

Sacramento River fall Chinook

- Abundance forecast large
- Must target an escapement of at least 245,820 (max 70% exploitation rate)
- Unlikely to constrain 2012 fisheries
- 2011 regs: prediction of 469,000 spawners

Sacramento River winter Chinook

- Maximum age-3 impact rate: 13.7 percent
- May constrain fisheries south of Point Arena
- 2011 regs: 12.3% age-3 impact rate prediction

Klamath River fall Chinook

- Abundance forecast large
- Must target a natural area escapement of at least 86,288 (max 68% exploitation rate)
- California Coastal Chinook likely to constrain 2012 fisheries
- 2011 regs: 13.2% KRFC age-4 ocean harvest rate prediction

Salmon 2012 Preseason Process: Calendar of Events

March 2-7, 2012 - Pacific Fishery Management Council Meeting
Double Tree Hotel, 2001 Point West Way, Sacramento, CA, 95815
The PFMC will addresses inseason action for fisheries opening prior May 1 and adopts preliminary alternatives on March 4, adopts tentative alternatives for STT analysis on March 5, and Final Alternatives for Public review on March 7.
Preseason Report II: Proposed Alternatives & Environmental Assessment Part 2 for 2012 Ocean Salmon Fishery Regulations, www.pcouncil.org/salmon/stock-assessment-and-fishery-evaluation-safe-documents/preseason-reports/
(Available on-line March 20, 2012)

March 7, 2012 - **California Fish and Game Commission Meeting**
Mission Inn Hotel & Spa, 3649 Mission Inn Avenue, Riverside CA, 92501
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 video available online at: www.fgc.ca.gov

March 27, 2012 - Pacific Fishery Management Council Public Hearing – California
Red Lion Eureka, 1929 Fourth Street, Eureka, CA 95521
The PFMC will receive comments from the public on the ocean salmon fishery management alternatives adopted by the Council in March. More information available at www.pcouncil.org.

April 1-6, 2012 - Pacific Fishery Management Council Meeting
Sheraton Seattle Hotel, 1400 6th Avenue, Seattle, WA, 98101
The Council will adopt review final regulatory measures, after analysis by the STT, on April 6. Final adoption of recommendations to National Marine Fisheries Service (NMFS) is scheduled to be completed on April 6.
Preseason Report III: Analysis of Council-Adopted Management Measures for 2012 Ocean Salmon Fisheries, available online April 17, 2012 at www.pcouncil.org/salmon/stock-assessment-and-fishery-evaluation-safe-documents/preseason-reports/ (Available on-line April 17, 2012)

April 11-12, 2012 - California Fish and Game Commission Meeting
Red Lion Eureka, 1929 Fourth Street, Eureka, CA 95521
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 video available on line at www.fgc.ca.gov/meetings

Who Can I Contact Regarding the Upcoming Salmon Season?

Contact a member of the Pacific Fishery Management Council's **Salmon Advisory Sub-panel:**

Jim Hie Conservation	Pacific Marine Conservation Council 1423 Vista Av, Napa, CA 94559	Telephone: (707) 695-8661 Fax: (707) 265-0304 Email: jnahie@att.net
Mike Orcutt, California Tribes	Hoopa Valley Tribe PO Box 930, Hoopa, CA 95546-0417	Telephone: (530) 625-4267 Fax: (530) 625-4995 Email:director@hoopa-nsn.gov
Duncan Maclean Vice-Chair, California Troll	Owner, F/V Barbara Faye PO Box 1942 El Granada, CA 94018-1942	Telephone: (650) 726-1373 Fax: (650) 712-8744 Email: b-faye@comcast.net
Paul Pierce California Sport Fisheries	Coastside Fishing Club 512 Pershing Drive San Leandro, CA 94577	Telephone: (510) 432-8820 Fax: (510) 568-2713 Email: sdad111@aol.com
Craig Stone California Charter Boat	Emeryville Sportfishing 3310 Powell St. Emeryville, CA 94608	Telephone: (510) 654-6040 Fax: (510) 654-2106 Email: emvlsport@aol.com

To make comments directly to the **Pacific Fishery Management Council** regarding the upcoming salmon season, please visit the Councils web site at: www.pcouncil.org/contact/. Or, contact the PFMC staff officer for salmon: Chuck Tracy (Chuck.Tracy@noaa.gov)

To make comments directly to the **Fish and Game Commission** regarding the upcoming salmon season, please visit the Commissions web site at: www.fgc.ca.gov/contact/.

Online Resources:

Review of 2011 Ocean Salmon Fisheries (includes in-river escapement data) www.pcouncil.org/salmon/stock-assessment-and-fishery-evaluation-safe-documents/review-of-2011-ocean-salmon-fisheries/ (Currently available online)

Preseason Report I: Stock Abundance Analysis for 2012 Ocean Salmon Fisheries www.pcouncil.org/salmon/stock-assessment-and-fishery-evaluation-safe-documents/preseason-reports/ (Available on-line March 1, 2012)

Klamath Basin Age Composition and Stock Projection Reports
www.pcouncil.org/salmon/background/document-library/
(Available on-line ~ March 1, 2012)

EVALUATION

To improve future *Salmon Information Meetings* and to better meet your needs, please complete this evaluation.

1. Indicate the interest group with which you are affiliated.

- ☐ Fishing Dependant Business
- ☐ Ocean Commercial
- ☐ Ocean Sport
- ☐ River Sport
- ☐ Tribal
- ☐ Conservation
- ☐ Resource Management
- ☐ Other (please describe)

2. What information did you find most useful?

- ☐ Review of 2011 Sport Fishery and Commercial Fishery
- ☐ Review of 2011 Central Valley (CV) System
- ☐ Development and Overview of CV Chinook In-River Escapement Monitoring Plan
- ☐ 2011 CV River Sport Fisheries
- ☐ Review of 2011 Klamath River Fall Chinook (KRFC)
- ☐ NMFS Guidance for CA Stocks
- ☐ Klamath and Sacramento Ocean Harvest Model Results
- ☐ Public Comment to CA Salmon Management Panel

3. What information would you like presented in the future?

4. What meeting organization comments or suggestions do you have?

5. Additional comments or suggestions about the meeting are appreciated.

Any formal recommendations or comments that you would like forwarded to your representatives for the 2012 salmon management process?

Name:_____ Affiliation_____

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(Optional) Please provide your contact information so your representatives can ask follow up questions.

E-mail: _____ Phone: _____