Exhibit F.8.b
Supplemental GAP Statement
April 2001

STATEMENT OF THE GROUNDFISH ADVISORY SUBPANEL ON
OBSERVER PROGRAM

The Groundfish Advisory Subpanel (GAP) met with representatives of NMFS to discuss implementation of groundfish observer programs.

GAP members raised a number of questions about the program, which NMFS will provide answers for. The GAP encourages NMFS to move forward with implementation of a groundfish observer program.

PFMC
04/04/01

Agenda F-5

Don McIsaac, Executive Director
PFMC
2130 SW Fifth Ave., Suite 224
Portland, OR 97201

4 - 02 - 01

Washington Trollers Association
PO Box 7431
Bellevue, WA 98008

Subject: Salmon Troll Incidental Catch of Yellowtail Rockfish

Dear Director McIsaac,

As the Washington Trollers mentioned in the "Strategic Groundfish Plan" letter dated 1-05-01, the "open access" category that we have been managed under has never been appropriate for the salmon troll incidental groundfish catch. We don't think salmon troll incidental groundfish catch is mentioned anywhere in the SAFE documents. Prior to 1999, the groundfish landing allowances were large enough that the salmon troll incidental catch never approached the maximum landing allowances. However, in 1999 and 2000, we found that some of the "open access" landing allowances did in fact force us to return a few of the managed species back to the ocean.

While salmon trolling, we encounter very few of the species noted in the SAFE document. Yellowtail rockfish is the specie that we most encounter and there was a landing limit of 100 pounds per month for the salmon troll incidental harvest under the "open access" management . We would like to set up a yellowtail salmon troll landing management regime in 2001 and beyond that prevents discards, avoids targeting on depressed stocks, and allows a fair allocation of the allowed landing allowance.

Through the Staff of Washington Department of Fish and Wildlife (WDFW) we obtained some preliminary information that shows there is little correlation between increased catches of yellowtail and canary which is the most closely associated depressed groundfish stock. The information also shows that in 1998 (1999 and 2000 data is skewed because of restrictive yellowtail landing allowances) which is the last year that yellowtail landing allowances exceeded salmon troll encounters, of the 686 coastwise landings that included both salmon and yellowtail, no landings exceeded 1000 pounds and only 41 landings exceeded 200 pounds of yellowtail while delivering salmon. The remaining 645 landings delivered less than 200 pounds of yellowtail with their salmon. A person needs to remember that the monthly landing allowance of yellowtail in 1998 was far in excess of the yellowtail landed with the troll salmon landings. The total troll landings of yellowtail with salmon in 1997 and 1998 were 31.16 mts and 18.77 mts respectively compared to the ABC of 3000 to 4000 mts.

However, with no tie to salmon, there may be an incentive to target yellowtail which we want to avoid. Also, to be fair, there needs to be a small landing allowance with no salmon for the days when a salmon troller fishes and encounters some yellowtail but is unsuccessful in catching a salmon. Another difficulty we have is estimating weights at

sea. Rather than basing the regulations on weight, it would be better for enforcement and fishermen if the regulation is based on the number of fish allowed to be retained. We are proposing coast wide regulations that will prevent discards by the salmon trollers, prevent targeting when not salmon trolling, and allows a fair allocation of the allowed landings. For the 2001 season, we request that a salmon troll license holder is allowed to deliver up to 20 yellowtail rockfish plus five yellowtail rock fish per salmon delivered whenever there is a legal salmon opening. The data indicates that salmon troll yellowtail encounters would not require Trollers to return yellowtail rockfish to the ocean with these landing allowances. We ask that the State agencies monitor the deliveries during 2001 and review the success of the program at each PFMC meeting through 2001.

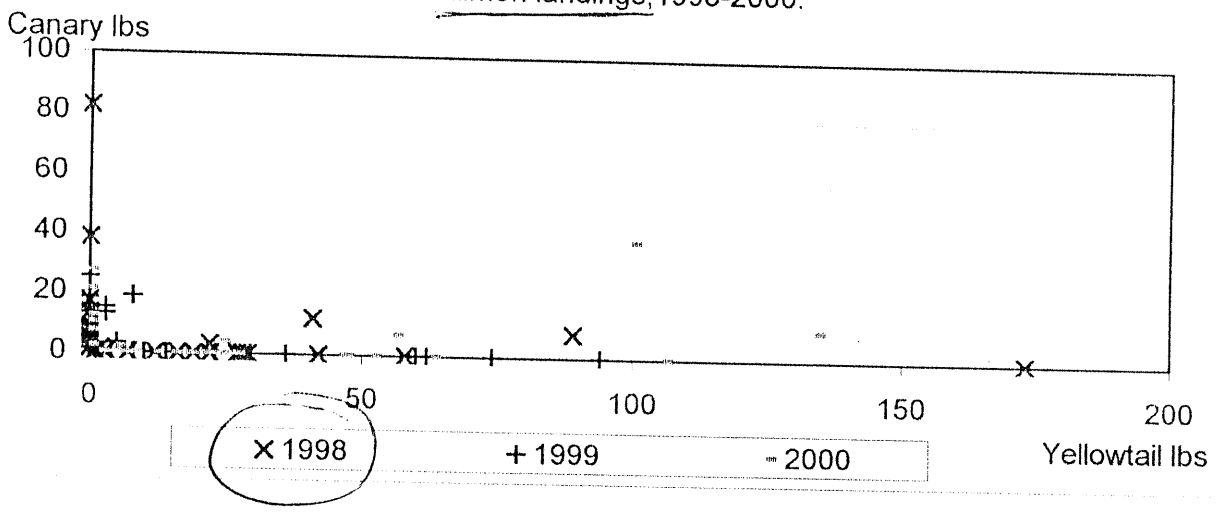
Sincerely,

Douglas Fricke, President

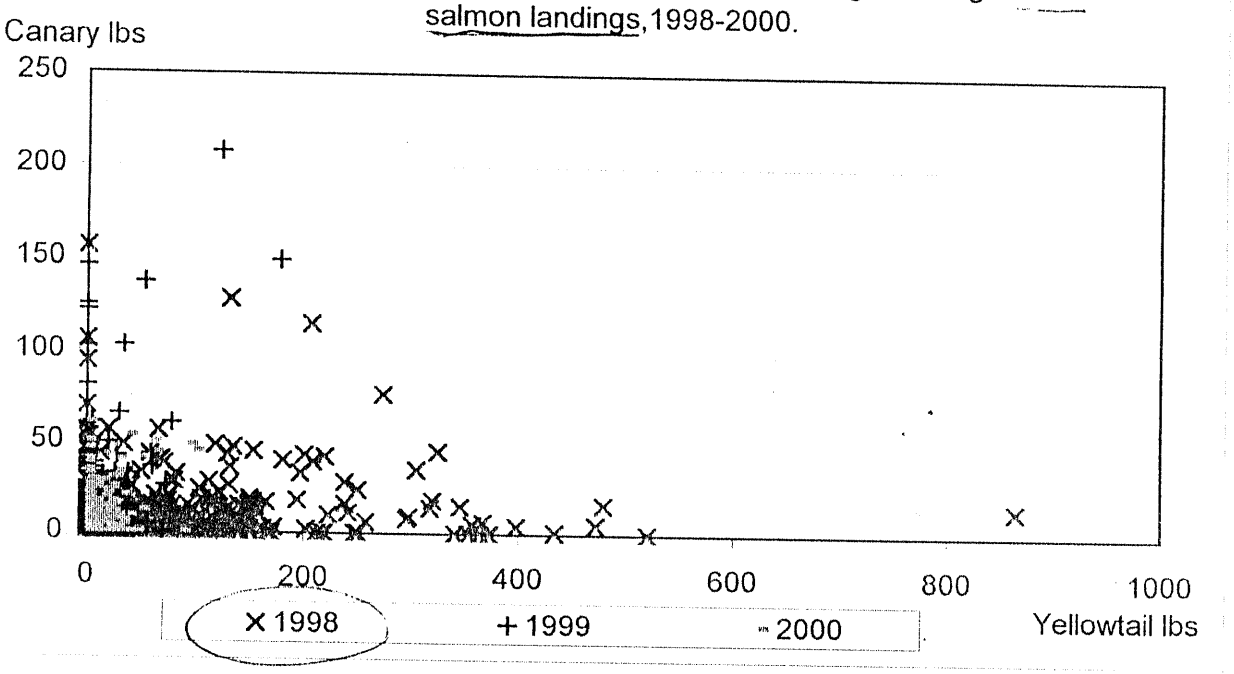
cc WDFW
ODFW
CDFG
GMT
GAP
SAS

Marks concentrated along axis indicate little coincidence between Canary and Yellowtail while salmon trolling

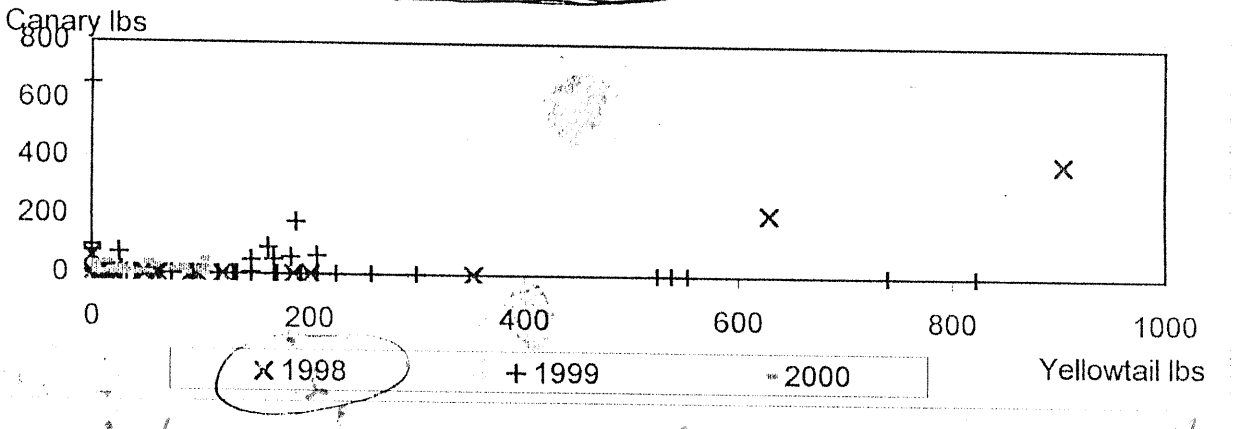
Coincidence of canary and yellowtail rockfish poundage in California troll salmon landings, 1998-2000.



Coincidence of canary and yellowtail rockfish poundage in Oregon troll salmon landings, 1998-2000.



Coincidence of canary and yellowtail rockfish poundage in Washington troll salmon landings, 1998-2000.



No Yellowtail landings over 1000-lbs.

Table C2.--Distribution of troll salmon landings, that had some canary or yellowtail rockfish, among categories reflecting the amount of poundage for each species.

1998-Of the 686 coast wide salmon troll yellowtail deliveries, 41 deliveries were over 200-lbs

Year / Yellowtail lbs in landing	California					Oregon						Washington						Coastwide					
	Canary lbs in landing					Canary lbs in landing						Canary lbs in landing						Canary lbs in landing					
	None	1-25	26-50	51-100	All	None	1-25	26-50	51-100	> 100	All	None	1-25	26-50	51-100	> 100	All	None	1-25	26-50	51-100	> 100	All
1998																							
None		6	1	1	8		56	4	4	2	66				1		1		62	5	6	2	75
1-50 lb	17	3			20	195	135	6	2		338	4					4	216	138	6	2		362
51-100 lb	1	1			2	44	79	5	1		129	5					5	50	80	5	1		136
101-200 lb	1				1	19	40	9		1	69	2					2	22	40	9		1	72
>200 lb						10	18	6	1	1	36	2				3	5	12	18	6	1	4	41
All	19	10	1	1	31	268	328	30	8	4	638	13			1	3	17	300	338	31	10	7	686
1999																							
None		10			10		67	6	2	4	79		1		2	1	4		78	6	4	5	93
1-50 lb	10	4			14	18	73	14	2	1	108	21	2		1		24	49	79	14	3	1	146
51-100 lb	4				4	1	1	3	1	1	7	5					5	10	1	3	1	1	16
101-200 lb										2	2	6	1	1	3	1	12	6	1	1	3	3	14
>200 lb												9			1		10	9			1		10
All	14	14			28	19	141	23	5	8	196	41	4	1	7	2	55	74	159	24	12	10	279
2000																							
None		9	1		10		118	8	1		127		7	5			12		134	14	1		149
1-50 lb	26	2			28	92	119	14	2		227	5	10	2			17	123	131	16	2		272
51-100 lb	2	1	1		4	2		4			6	1	7	2			10	5	8	7			20
101-200 lb	1	1			2													1	1				2
All	29	13	2		44	94	237	26	3		360	6	24	9			39	129	274	37	3		443
1998-2000																							
None		25	2	1	28		241	18	7	6	272		8	5	3	1	17		274	25	11	7	317
1-50 lb	53	9			62	305	327	34	6	1	673	30	12	2	1		45	388	348	36	7	1	780
51-100 lb	7	2	1		10	47	80	12	2	1	142	11	7	2			20	65	89	15	2	1	172
101-200 lb	2	1			3	19	40	9		3	71	8	1	1	3	1	14	29	42	10	3	4	88
>200 lb						10	18	6	1	1	36	11			1	3	15	21	18	6	2	4	51
All	62	37	3	1	103	381	706	79	16	12	1,194	60	28	10	8	5	111	503	771	92	25	17	1,408

SKEWED DATA

Ratio of yellowtail rockfish tonnage to salmon tonnage in west coast troll salmon landings containing both species, by state and ratio categories, 1997-2000.

Y'tail mts per salmon mt	California				Oregon				Washington				Coastwide			
	# of trips	Salmon mts	Y'tail mts	YT / Sal	# of trips	Salmon mts	Y'tail mts	YT / Sal	# of trips	Salmon mts	Y'tail mts	YT / Sal	# of trips	Salmon mts	Y'tail mts	YT / Sal
1997																
> 0 - .2	8	2.10	0.02	0.0	696	24? 04	15.22	0.1	8	0.86	0.09	0.1	712	246.00	15.33	0.1
> 0.2 - 0.5	2	0.03	0.01	0.5	133	11	10.58	0.3	19	3.40	1.05	0.3	154	40.43	11.64	0.3
> 0.5 - 1					28	4.15	2.40	0.6	10	1.08	0.78	0.7	38	5.23	3.18	0.6
> 1 - 2					6	0.28	0.39	1.4	3	0.04	0.07	1.6	9	0.32	0.45	1.4
> 3					1	0.01	0.05	6.4	2	0.05	0.52	10.1	3	0.06	0.56	9.7
All	10	2.13	0.03	0.0	864	284.48	28.63	0.1	42	5.43	2.50	0.5	916	292.03	31.18	0.1
1998																
> 0 - .2	19	5.41	0.19	0.0	473	188.61	10.70	0.1	5	5.12	0.25	0.0	497	199.14	11.13	0.1
> 0.2 - 0.5	2	0.06	0.02	0.4	73	15.98	4.43	0.3	5	0.75	0.24	0.3	80	16.79	4.69	0.3
> 0.5 - 1					19	1.76	1.16	0.7	2	0.17	0.11	0.6	21	1.92	1.26	0.7
> 1 - 2	1	0.05	0.00	1.5	4	0.12	0.19	1.6	2	0.27	0.33	1.2	7	0.44	0.59	1.4
> 2 - 3					1	0.01	0.03	2.4	1	0.22	0.53	2.5	2	0.23	0.56	2.4
> 3	1	0.00	0.01	4.0	2	0.03	0.11	4.0	1	0.05	0.41	8.5	4	0.08	0.54	6.8
All	23	5.53	0.30	0.1	572	206.50	16.62	0.1	16	6.57	1.86	0.3	611	218.60	18.77	0.1
1999																
> 0 - .2	17	7.78	0.19	0.0	99	28.50	0.73	0.0	32	21.51	1.04	0.0	148	57.82	1.96	0.0
> 0.2 - 0.5	1	0.01	0.00	0.2	7	0.20	0.06	0.3	11	5.00	1.47	0.3	19	5.20	1.53	0.3
> 0.5 - 1					6	0.17	0.12	0.7	4	0.79	0.50	0.6	10	0.95	0.62	0.7
> 1 - 2					3	0.03	0.03	1.2	2	0.06	0.07	1.2	5	0.08	0.10	1.2
> 2 - 3					2	0.03	0.09	2.7					2	0.03	0.09	2.7
> 3									2	0.01	0.11	7.8	2	0.01	0.11	7.8
All	18	7.78	0.19	0.0	117	28.92	1.04	0.0	51	27.39	3.19	0.1	186	64.10	4.41	0.1
2000																
> 0 - .2	40	20.92	0.47	0.0	214	47.41	1.05	0.0	23	15.24	0.50	0.0	277	83.57	2.03	0.0
> 0.2 - 0.5	2	0.05	0.01	0.2	24	0.63	0.20	0.3	1	0.07	0.02	0.3	27	0.74	0.23	0.3
> 0.5 - 1	1	0.16	0.09	0.6	6	0.11	0.08	0.7	2	0.07	0.04	0.6	9	0.33	0.21	0.6
> 1 - 2					1	0.03	0.04	1.5	1	0.01	0.01	1.1	2	0.04	0.05	1.4
> 2 - 3	1	0.01	0.01	2.2									1	0.01	0.01	2.2
> 3					1	0.01	0.05	5.0					1	0.01	0.05	5.0
All	44	21.13	0.58	0.0	246	48.19	1.42	0.0	27	15.38	0.57	0.0	317	84.70	2.57	0.0
1997-2000																
> 0 - .2	84	36.21	0.86	0.0	1,482	507.57	27.70	0.1	68	42.75	1.88	0.0	1,634	586.53	30.44	0.1
> 0.2 - 0.5	7	0.14	0.05	0.3	237	53.81	15.27	0.3	36	9.21	2.78	0.3	280	63.16	18.09	0.3
> 0.5 - 1	1	0.16	0.09	0.6	59	6.17	3.76	0.6	18	2.11	1.43	0.7	78	8.43	5.28	0.6
> 1 - 2	1	0.05	0.08	1.5	14	0.45	0.65	1.4	8	0.37	0.47	1.3	23	0.88	1.19	1.4
> 2 - 3	1	0.01	0.01	2.2	3	0.05	0.12	2.6	1	0.22	0.53	2.5	5	0.27	0.66	2.5
> 3	1	0.00	0.01	4.0	4	0.04	0.20	4.7	5	0.11	1.03	9.2	10	0.16	1.25	7.8
All	95	36.57	1.10	0.0	1,799	568.09	47.70	0.1	136	54.77	8.12	0.1	2,030	659.43	56.91	0.1
% <.2 in 1997	80%	99%	62%		81%	85%	53%		19%	16%	4%		78%	84%	49%	
% < .2, overall	88%	99%	78%		82%	89%	58%		50%	78%	23%		80%	89%	53%	

Salmon Troll Total 1997 Yellowtail Delv.

Salmon Troll 1998 Yellowtail Delv.

85%

National Marine Fisheries Service
Northwest Region

PUBLIC NOTICE

7600 Sand Point Way, NE, Seattle, WA 98112

Contact: William L. Robinson (206) 526-6140 or Svein Fougner (562) 980-4000

SCOPING MEETINGS FOR THE PACIFIC COAST GROUNDFISH FISHERY ENVIRONMENTAL IMPACT STATEMENT

The National Marine Fisheries Service (NMFS) is preparing an Environmental Impact Statement (EIS) on the federal managment of the Pacific Coast groundfish fishery in the Exclusive Economic Zone (EEZ) off Washington, Oregon, and California. The EIS analysis will include all activities authorized under the Pacific Coast Groundfish Fishery Management Plan (FMP) and all amendments to the FMP. When completed, the EIS will present an overall picture of the impacts of the fishery and its management, as conducted under the FMP, on the human environment. To provide for public input into the range of actions, alternatives, and impacts that the EIS should consider, scoping meetings will be held in following six west coast cities:

City	Date	Start Time	Location
Newport, OR	May 22	7 p.m.	Hatfield Marine Science Center, Meeting Room 9, 2040 SE Marine Science
Astoria, OR	May 23	7 p.m.	Oregon State University, Seafood Laboratory, 2021 Marine Drive
Eureka, CA	May 29	5 p.m.	Humboldt Bay Harbor, Recreation and conservation District, Woodley Marina, 601 Startare Drive
Los Alamitos, CA	May 30	3 p.m.	California Department of Fish and Game, 4665 Lampson Ave.
Seattle, WA	June 5	7 p.m.	National Marine Fisheries Service, 7600 Sand Point Way NE, Building 9
Burlingame, CA	June 12	7 p.m.	Park Plaza International Hotel, 1177 Airport Blvd.

These meetings are accessible to people with physical disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to William L. Robinson (206) 526-6140 (voice) or 206-526-6736 (fax), at least 5 working days prior to the scheduled meeting date.

2000 PACIFIC WHITING FISHERY
FOR NON-TRIBAL MOTHERSHIPS AND CATCHER/PROCESSORS
(Based on Preliminary Observer Data)

TABLE 1. SUMMARY - CUMULATIVE NON-TRIBAL CATCH OF ALL SPECIES

Groundfish	Retention (mt)	Discard (mt)	Total (mt)
Pacific whiting	114,359.43	295.52	114,654.95
Rockfish	313.74	621.22	934.96
Flatfish	6.29	9.66	15.95
All other groundfish	17.44	122.75	140.19
TOTAL	114,696.90	1,049.15	115,746.05
Prohibited Species		Number of fish	
Halibut		211	
Salmon		6,375	

BLE 2. NON-TRIBAL ROCKFISH CATCH AND RATIO BY AREA (in metric tons)

ROCKFISH	VANCOUVER - 670			COLUMBIA - 710			EUREKA - 720			TOTAL WOC		
	Ret	Dis	Tot	Ret	Dis	Tot	Ret	Dis	Tot	Ret	Dis	Tot
Bocaccio	0.18	2.08	2.27	0.20	0.18	0.38	0.00	0.00	0.00	0.39	2.26	2.65
Other rockfish	31.24	26.87	58.10	32.21	28.65	60.86	1.33	0.04	1.37	64.78	55.56	120.34
POP	1.29	4.30	5.59	1.01	2.93	3.94	0.07	0.00	0.07	2.38	7.23	9.61
Thornyhead	0.11	0.01	0.11	14.69	4.27	18.96	0.00	0.00	0.00	14.80	4.28	19.07
Canary	0.36	0.52	0.88	0.26	0.29	0.54	0.00	0.00	0.00	0.61	0.81	1.42
Yellowtail	139.65	254.20	393.85	23.65	138.06	161.71	0.00	0.01	0.01	163.30	392.26	555.56
Widow	42.51	114.11	156.63	24.31	39.16	63.47	0.01	0.51	0.52	66.83	153.78	220.62
Chili-pepper	0.00	0.00	0.00	0.00	4.83	4.83	0.00	0.00	0.00	0.00	4.83	4.83
Shortbelly	0.00	0.00	0.00	0.66	0.20	0.86	0.00	0.00	0.00	0.66	0.20	0.86
TOTAL ROCKFISH	215.34	402.09	617.43	96.99	218.57	315.55	1.41	0.56	1.97	313.74	621.22	934.96
TOTAL WHITING	43,312	163	43,475	70,738	132	70,870	309	0	309	114,359	296	114,655
Rockfish /Whiting (mt/mt)										0.0077*		

* int venture 11-year average coastwide was 0.007.
Tr = less than 0.5 mt. Slight discrepancies occur due to rounding.

TABLE 3. NON-TRIBAL SALMON CATCH AND RATIO BY AREA

	VANCOUVER - 670	COLUMBIA - 710	EUREKA - 720*	TOTAL
Chinook (no.)	3,030	3,228	2	6,260
Other salmon (no.)	45	70	0	115
TOTAL salmon (no.)	3,075	3,298	2	6,375
Whiting (mt)	43,475.42	70,870.06	309.47	114,654.95
No. chinook/mt whiting	0.0697	0.0456	0.0065	0.0546
JV average 1981-90 (# all sal/mt whiting)	0.16	0.09	0.15	0.11**

* At-sea processing could occur only north of 42°; JV could operate down to 39°.
** Monterey area north of 39° rate was 0.03 salmon per mt whiting.

TABLE 4. CATCH BY NON-TRIBAL MOTHERSHIPS AND CATCHER/PROCESSORS

SPECIES	MOTHERSHIP					CATCHER/PROCESSOR					TOTAL WOC
	RETAIN (mt)	(%)	DISCARD (mt)	(%)	TOTAL (mt)	RETAIN (mt)	(%)	DISCARD (mt)	(%)	TOTAL (mt)	
Whiting	46710.22	100	130.10	0	46840.32	67649.21	100	165.41	0	67814.63	114654.95
Rockfish	33.34	7	442.68	93	476.01	280.41	62	178.54	38	458.94	934.96
Flatfish	0.20	3	5.93	97	6.13	6.09	62	3.73	39	9.83	15.95
*All other groundfish	0.06	0	56.26	100	56.32	17.38	21	66.49	79	83.87	140.19
TOTAL	46743.81	99	634.97	1	47378.78	67953.09	99	414.17	1	68367.27	115746.05
SALMON				%	No.				%	No.	
Chinook				99	4420.74				95	1839.00	626
Other				1	27.19				5	88.23	115
Total				100	4447.93				100	1927.22	6375
No.chinook/mt whiting					0.0943					0.0271	0.0546

* does not include jack mackerel

TABLE 5. CATCH OF ROCKFISH BY NON-TRIBAL MOTHERSHIPS AND CATCHER/PROCESSORS (metric tons)

ROCKFISH SPECIES	MOTHERSHIP	CATCHER/PROCESSOR	TOTAL
Bocaccio	2.20	0.45	2.65
Other rockfish	29.06	91.28	120.34
POP	3.03	6.57	9.61
Thornyheads	0.14	18.93	19.07
Canary	0.56	0.86	1.42
Yellowtail	285.54	270.02	555.56
Widow	150.65	69.97	220.62
Chilipepper	4.83	0.00	4.83
Shortbelly	0.00	0.86	0.86
TOTAL ROCKFISH	476.01	458.94	934.96
Mt whiting	46,840.32	67,814.63	114,654.95
Mt rockfish/mt whiting	0.0102	0.0068	0.0082

Trace = less than 0.5 mt. Slight discrepancies occur due to rounding.

Table 6. 1992-1999 PACIFIC WHITING NON-TRIBAL AT-SEA PROCESSING VESSELS (NMFS Observer Data)

	COMMON NAME	WEIGHT (mt)							
		1993	1994	1995	1996	1997	1998	1999	2000
R	Pacific whiting	99102.9	179072.5	102158.	112776.1	121172.2	120452.1	115259.1	114655.
O	Pacific cod	0.039	0.069	0.02	0.00	0.01	0.00	0.04	0.19
U	Lingcod	0.035	0.177	0.02	0.07	0.14	0.11	0.06	0.41
N	Jack mackerel	6.226	62.180	0.05	60.19	13.18	229.14		
D	Sablefish	11.434	0.598	9.17	6.57	0.81	27.83	2.10	47.13
F	Arrowtooth	0.117	2.768	1.44	0.57	0.16	1.04	3.21	8.61
L	Dover sole	0.026	0.009	0.00	0.09	0.00	0.01	0.00	0.27
A	English sole	0.047	0.044	0.00	0.01	0.00	0.00	0.02	0.22
T	Petrale sole	0.00	0.002	0.00	0.00	0.00	0.00	0.00	0.00
F	Rex sole	0.192	0.341	0.39	0.22	0.04	0.36	0.02	5.54
I	Rock sole	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
S	Starry flounder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	All other flatfish	0.005	0.253	0.01	0.00	0.05	0.01	0.01	1.32
R	Bocaccio	1.091	1.488	0.38	0.15	0.21	1.21	0.32	2.65
O	Canary rockfish	0.720	4.831	0.31	1.22	1.81	2.72	1.22	1.42
C	Chilipepper	0.017	5.856	28.17	0.00	0.01	0.01	0.54	4.83
K	Pacific oc. perch	1.823	61.557	43.79	5.99	3.28	21.28	14.15	9.61
	Shortbelly	0.043	1.908	10.16	6.15	0.76	0.02	0.00	0.86
	Thornyhead	0.413	0.212	5.78	1.93	0.46	2.51	0.02	19.07
S	Widow rockfish	184.269	377.171	240.53	266.57	207.21	292.76	148.95	220.62
H	Yellowtail	307.625	619.823	792.92	630.95	290.15	376.98	684.13	555.56
	Other rockfish spp	16.087	42.862	91.72	35.5	81.56	62.36	33.15	120.34
Other groundfish 2/		64.748	106.722	211.73	98.30	217.27	218.07	254.05	92.46
TOTAL GROUNDFISH		99,698	180,361	103,595	113,891	121,989	121,689	116,401	115,746
N	Pacific mackerel	46.584	51.889	0.00	244.34	54.15	458.78	1.47	15.52
O	Jack mackerel 3/							53.84	52.98
N	Pacific sardine	0.615	1.564	0.220	0.37	0.31	1.94	0.18	0.06
PROHIBITED SPECIES		1993	1994	1995	1996	1997	1998	1999	2000
Chinook Salmon		4,843	3,626	11,578	1,446	1,398	1,477	4,391	6,260
Other Salmon 4/		3/ 3,530	375	4,414	279	924	27	802	115
TOTAL SALMON		8,373	4,001	15992	1,725	2,322	1,504	5,193	6,375
Percent Chinook Salmon		57.8	*90.6*	72.4	83.8	60.2	98.2	84.6	98.2
No. Chinook/MT whiting		0.0489	0.0202	0.1133	0.0128	0.0115	0.0123	0.0381	0.0546
Pacific Halibut		32	54	9	42	9	7	47	211

1/ Defined as sharks, skates, kelp greenling, cabezon, ratfish, morids, and grenadiers.
2/ Non-groundfish species that are incidental to the whiting fishery, but which are not prohibited.
3/ Managed under Pacific Coast groundfish FMP until 1999 when it was moved to the coastal pelagic species FMP.
4/ In 1995, approximately 1,575 were pink salmon.
Trace = less than 0.5 mt. Slight discrepancies occur due to rounding.

2000 PACIFIC WHITING FISHERY
ALL SECTORS

TABLE 1 - Comparison of Catches of Yellowtail Rockfish, Widow rockfish, Salmon, Halibut and Miscellaneous Groundfish in the Pacific Whiting Fishery, through October 19, 2000.

SPECIES	MOTHERSHIPS PROCESSORS						CATCHER/ PROCESSORS		SHORE-BASED PROCESSORS		TOTAL WOC	
	TRIBAL MOTHERSHIPS		NON-TRIBAL MOTHERSHIPS		All * MOTHERSHIPS							
	mt	Rate	mt	Rate	mt	Rate	mt	Rate	mt	Rate	mt	Rate
Whiting Allocation	32,500		47,880		80,380		67,830		83,790		232,000	
WHITING	6,251		46,840		53,091		67,815		85,653		206,559	
Yellowtail Rockfish	100	0.016	286	0.006	386	0.007	270	0.004	19	0.0002	675	0.0033
Widow Rockfish	10	0.002	151	0.003	161	0.003	70	0.001	8	0.0001	239	0.0012
All other groundfish	102		101		203		212		52**		467	
TOTAL GROUNDFISH	6,463		47,378		53,841		68,367		85,732		207,940	
Percent over/under Whiting Allocation	-81%		-2%		-34%		0		+2%		-11%	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chinook	1947	0.311	4421	0.094	6368	0.120	1839	0.0271	3321	0.039	11,628	0.056
Non-Chinook (including salmon unidentified)	16		27		43		88		24		155	
Total Salmon	1963		4448		6411		1927		3345		11,683	

Data sources: Catcher/processor and mothership data is total catch data (retained plus discard) from Alaska Fisheries Science Center Observer Program.
Shore-based data from Oregon Department of Fish and Wildlife.
*Sum of tribal and non-tribal data.
** Other groundfish for the shore-based fishery includes only miscellaneous rockfish and sablefish

Exhibit F.1
Situation Summary
April 2001

NATIONAL MARINE FISHERIES SERVICE REPORT

Situation: National Marine Fisheries Service (NMFS) will report on its regulatory activities since the March 2001 Council meeting. One item of particular importance is implementation of the permit stacking program for the fixed gear sablefish fishery. At the March 2001 meeting, NMFS informed the Council the full program cannot be implemented in time for this year's primary sablefish season, but the basic permit stacking provision should be in place in time for a fishery beginning no earlier than August 1. The catch allowances for the three tiers have been calculated. NMFS is expected to provide an update on implementation activities. A summary of the 2000 whiting fishery is also provided (Exhibit F.1, NMFS Report). NMFS will also report on its research and other nonregulatory activities.

Council Action:

1. Council discussion.

Reference Materials:

1. Exhibit F.1, NMFS Report.

Groundfish Fishery Strategic Plan Consistency Analysis

This agenda item is not expected to require Council decision making that raise issues of consistency with the Plan.

PFMC
03/21/01

APPLICATION FOR ISSUANCE OF AN EXPERIMENTAL FISHING PERMIT

A. Date of application: 26 March 2001

B. Applicant's names, mailing addresses, and telephone numbers:

Jennifer Bloeser - Scientist, Pacific Marine Conservation Council
P.O. Box 327, Arcata, CA 95518
(707) 822-4494

Kenyan Hensel - Commercial Fisherman
871 Elk Valley Road, Crescent City, CA 95531
(707) 465-6857

Jonathan Ramsey - Marine Biologist, California Department of Fish and Game
619 Second Street, Eureka, CA 95501
(707) 441-5757

C. A statement of the purposes and goals of the experiment for which an EFP is needed, including a general description of the arrangements for disposition of all species harvested under the EFP.

The primary purposes and goals of this experiment include the following;

1) quantify the capacity for vertical hook and line gear to selectively fish for yellowtail rockfish while avoiding canary rockfish,

2) provide this information to the National Marine Fisheries Service (NMFS) and the Pacific Fishery Management Council (Council) for use within the management process for groundfish,

3) establish a mechanism, within the NMFS, Council, and management processes, for collaborative research and implementation of the data from that research into the management process.

Species caught within current trip limits will be retained by the vessel, species caught in excess of current trip limits, but permitted within the EFP, will be forfeited to the state to be distributed to a food bank.

D. Valid justification explaining why issuance of an EFP is warranted:

Current monthly trip limits for canary and yellowtail rockfish are set at 50 lbs./month and 100 lbs./month respectively. The amount of yellowtail rockfish allowed under this monthly limit would not permit adequate data collection on selectivity of the fishing gear for yellowtail rockfish and against canary rockfish. Therefore, the applicants are requesting an EFP to allow for 500-1000 lbs./month of yellowtail rockfish to be taken.

E. A statement of whether the proposed experimental fishing has broader significance than the applicant's individual goals:

The applicants of this EFP believe that the information collected during this experiment will have broader significance than the applicants individual goals as it can:

1) provide some level of insight into the performance and selectivity of the gear utilized during this experiment,
2) produce data on the location and behavior of yellowtail and canary rockfish in the area of the experiment and,
3) hopefully act as a catalyst for the collection and application of gear selectivity information within the Council process.

However, the applicants of this EFP do recognize the limited nature of the experiment and its potential application. Additional personnel and funding in the future would have the effect of greatly expanding and diversifying the experiment.

F. For each vessel covered by the EFP:

1) Vessel name Rosy Dawn;

2) Name, address, and telephone number of owner and master - Kenyan Hensel,
871 Elk Valley Road,
Crescent City, CA 95531,
(707) 465-6857;

3) U.S. Coast Guard documentation, state license, or registration number -
CF number 6658KR, and CA Fish and Game boat license number 42528;

4) Home port - Crescent City, CA

5) Length of vessel - 24 feet

6) Net tonnage - the vessel has the capacity to carry one ton of fish;

7) Gross tonnage - total vessel tonnage is three tons.

G. A description of the species (target and incidental) to be harvested under the EFP and the amount(s) of such harvest necessary to conduct the experiment:

The species to be harvested under this EFP include blue rockfish, widow rockfish, yellowtail rockfish, canary rockfish, and some nearshore rockfish species. The harvest levels for all species will be within current trip limits with the exception of yellowtail rockfish. Applicants of this EFP are requesting 500-1000 lbs./month of yellowtail rockfish for the purpose of conducting this experiment.

H. For each vessel covered by the EFP, the approximate time(s) and place(s) fishing will take place, and the type, size and amount of gear to be used:

Fishing during this experiment is proposed to take place off of Crescent City, CA, 2.5 miles northwest of Point Saint George lighthouse at a depth of 19-55 fathoms. The gear to be used is vertical hook and line on rod and reel, continuously attached to the vessel. There will be 2 sets of gear with 9-15 hooks each.

I. The signature of the applicants:

Jennifer Bloeser _____

Kenyan Hensel _____

Jonathan Ramsey _____

Pacific Whiting Conservation Cooperative

Alaska Ocean Seafoods • American Seafoods • Glacier Fish Co. • Trident Seafoods

A Partnership to Promote Responsible Fishing

March 20th, 2001

Dr. William T. Hogarth
NOAA Fisheries Headquarters
1315 East-West Highway SSMC3
Silver Spring , MD 20910

Dear Dr. Hogarth:

I am writing on behalf of the Pacific Whiting Conservation Cooperative (PWCC) regarding implementation of Amendment 13 to the Pacific Fisheries Management Council. PWCC members have been informed by the Northwest Regional Office that the final rule may not be in place for the 2001 whiting season. Implementation of Amendment 13 is an important action for PWCC member companies.

The PWCC was formed to end the race for fish, and rationalize the at-sea whiting fishery. Part of the PWCC's charter is to reduce bycatch and increase utilization of fishery resources. The PWCC has been very successful, and may be the cleanest trawl fishery in the world, with a total bycatch of less than one percent. A majority of the bycatch caught by PWCC vessels is pelagic rockfish, primarily widow and yellowtail rockfish. The PWCC has developed bycatch avoidance plans to minimize bycatch of these species to the smallest amount possible because of their current low stock levels, and their importance to the coastal small boat fleets.

At-sea whiting vessels do have an allocation of rockfish under the Pacific Management Council's trip limit program, however once the trip limit has been reached, excess amounts must be discarded. Under the proposed rule in Amendment 13, if vessels have two NMFS observers onboard at all times, the overages can be retained and utilized for fish meal or donated to a food donation program.

Some of the PWCC companies plan to process rockfish and other food grade bycatch species this year for donation to Northwest Food Strategies for distribution to local food banks. However, with the final rule not implemented, and uncertainty as to whether it will be in place by the start of fishing on May 15th, it is difficult to plan vessel operations.

As you may be aware Northwest Food Strategies has been given a grant from the Kraft Corporation to implement a Seafood Industry Hunger Relief Initiative, a large-scale bycatch donation program. PWCC member companies have been participating in a similar program in the Alaskan fishery, which also allows retention of prohibited species for donation. The program has been highly successful, and was even featured on the Oprah Winfrey Show last year.

Telephone: (206) 285-5139 • Fax: (206) 285-1841
4039 21st Avenue West, Suite 400 • Seattle, Washington 98199

We would very much like to further increase our utilization of bycatch in the at-sea Pacific whiting fishery and put it to humanitarian use. The Proposed Rule to implement Amendment 13 to the Groundfish Fishery Management Plan was published in the Federal Register on November 21, 2000 (vol 65, no. 225) with a comments closing date of January 5, 2001. We are not aware of any opposition to implementation of Amendment 13, and we hope that NMFS could expedite the final rule before the start of the 2001 season.

Sincerely,

Jan Jacobs
President

Cc; Jim Lone, PFMC
Bill Robinson, NMFS,NWRO

GROUNDFISH ADVISORY SUBPANEL STATEMENT ON GROUNDFISH STRATEGIC PLAN IMPLEMENTATION

The Groundfish Advisory Subpanel (GAP) discussed the issues identified under the Exhibit F.2 Situation Summary and makes the following comments.

Marine Reserves

The GAP reviewed the material submitted by the Channel Islands National Marine Sanctuary (CINMS) staff, heard reports from GAP members who had fished in the CINMS area, and received a briefing from the CINMS staff.

The National Marine Sanctuaries Act specifically provides that regulation of fishing within marine sanctuaries is the responsibility of the Council and any applicable state (in this case, California). Thus, it is important the Council play an active role in examining proposals for marine reserves such as are contemplated by CINMS. The Council has already spent considerable time and energy developing its own strategy for marine reserves. Given these facts, the GAP believes the Sanctuary must coordinate its plans with the Council, and not simply inform the Council what it wants to do.

While marine reserves may play a role in conserving fish stocks, they obviously can have significant economic impacts on commercial and recreational fishermen, processors, support industries and businesses, and local communities. The GAP believes a detailed economic impact statement is needed before any marine reserves are established. Further, given the potential economic losses associated with establishment of marine reserves, several GAP members raised the question of who pays to mitigate those losses? Fishermen and processors are already paying the cost of rebuilding through reduced groundfish harvest. Will they also be required to pay for the theoretical benefits that might (or might not) accrue from establishment of marine reserves? The GAP believes any working group established to look at marine reserves should be fully representative of all interests.

If a marine reserve is to be established, how will it be monitored to ensure it is doing what it is supposed to do? Who will supply the funding? What sort of monitoring will occur? How will the reserve be enforced, and how will enforcement costs be covered?

The GAP notes the Implementation Development Team on Marine Reserves established under the Council's Ad Hoc Groundfish Strategic Plan Implementation Oversight Committee made several recommendations which could be useful here. The GAP believes a process should be followed wherein the scientific criteria for marine reserves be developed by an independent scientific committee, but the actual delineation of the reserves within those criteria be done by users who are familiar with the area and the resources it contains.

Open Access Permits

The GAP has commented in the past that establishment of an open access permit system will entail considerable costs to the Council in terms of time and workload. The GAP notes that the individual states are addressing near shore open access fisheries under state management policies, and believes the state processes should be completed before the Council takes additional action on a permitting system. However, because the groundfish fishery is subject to a fishery management plan, the GAP believes the Council should be involved in the state processes and have final authority over state plans that affect the groundfish fishery.

Buyback

The GAP received a presentation from Mr. Pete Leipzig of Fishermen's Marketing Association (FMA) regarding the FMA questionnaire on buyback. The GAP urges the Council to continue forward with a buyback plan to facilitate capacity reduction. The GAP endorses the concept of all users paying the cost of buyback proportionate to the benefits they will receive.

Enforcement

The GAP recognizes the concerns expressed by the Enforcement Consultants in regard to considering enforcement costs in management measures and urges the Council to recognize these costs when deciding on management actions.

PFMC
04/04/01

STATEMENT OF THE GROUNDFISH MANAGEMENT TEAM ON GROUNDFISH STRATEGIC PLAN IMPLEMENTATION

The Groundfish Management Team (GMT) continues to support implementation of the Council's Strategic Plan. In particular, the GMT stresses the importance of making swift progress towards achieving capacity reduction objectives, which were identified as the highest overall priority by the SPOC. The Council will face increasing difficulty in resolving conflicts and attaining the other goals and objectives of either the Strategic Plan or the Management Plan until meaningful capacity reduction is realized. Furthermore, although control dates pertaining to capacity reduction have been published, the Council's history of revising such cutoff dates is likely to yield increased speculative participation in the groundfish fishery until the fleet observes tangible progress in the development of reduction alternatives that integrate existing control dates. Such speculative attempts to enhance vessel/permit catch histories will only increase our existing difficulties in managing the fishery and achieving rebuilding targets.

PFMC
04/04/01

Exhibit F.2.b

Supplemental HSG Report
April 2001

HABITAT STEERING GROUP COMMENTS ON GROUNDFISH STRATEGIC PLAN IMPLEMENTATION

After reviewing the minutes of the January 10-11, and March 5 meetings of the Ad Hoc Groundfish Strategic Plan Implementation Oversight Committee (SPOC), the Habitat Steering Group has the following comments.

First of all, we would like to commend the SPOC for prioritizing the issues to be addressed in implementing the strategic plan and further agree with the four themes which were highlighted as high priority:

- Capacity Reduction
- Harvest Policy
- Marine Reserves
- Science

Second, the HSG recognizes the budget limitations of the Council and the costs associated with developing siting criteria for marine reserves. However, we would like to encourage the Council to proceed with Phase II and to use available resources (through the work of federal and state agencies, Council staff, and Council advisory bodies) to do as much groundwork as possible, in the event the Council does not receive additional funding in the near-term.

For example, the state agencies and NMFS and others could work together (through the Council's Marine Reserve Development Team) to inform fishers and the public about what the Council is doing to implement the strategic plan by developing and mailing fact sheets, hosting public meetings, attending industry association meetings, and posting information on their respective websites. This is part of "Task II: Initial Outreach" of the Project to Support the Council's Consideration of Marine Reserves for the West Coast (Exhibit F.2 Attachment 4).

We also note that the SPOC requested preparation of a summary of the agencies and organizations that are currently moving forward to develop marine reserves–"who has funding and who is doing what." The HSG is planning to assemble this information at its June meeting and could present it to the Council then.

In light of the SPOC's discussion on regulatory incentives to minimize impacts on habitat, the HSG would also like to work with NMFS and the Groundfish Advisory Panel (GAP) to develop a workplan on fishing gear impacts to essential fish habitat and alternative measures to address gear impacts. In addition, the HSG could work with NMFS to begin identifying habitat areas of particular concern for groundfish.

Recommendations:

1. We would like to request that the Council proceed with Phase II and to use available resources to do as much groundwork as possible on marine reserves by convening a meeting of the Marine Reserve Development Team (identified on page 7 of the SPOC's January meeting minutes) to:

   · Begin implementation of the Initial Outreach tasks,
   · Review the other tasks developed at its February 13 meeting and determine which other tasks the Council can proceed on in the interim, and
   · Develop a plan to proceed with those tasks.

   This would allow the Council to remain an active participant in marine reserve efforts.

2. With regard to recommendation #1, we request that the Council schedule a Marine Reserves discussion on the Council's June agenda to include a presentation of the Interim Phase II Plan by the Marine Reserve Development Team, and a summary of current West Coast marine reserve efforts by the HSG. In the HSG's comments on agenda item C.1. (Marine Reserves) earlier this week, the HSG also recommended that the Marine Reserve Development Team review the Channel Islands National Marine Sanctuary

(CINMS) information. The Marine Reserves Development Team could be the coordinating advisory body to compare the CINMS alternatives with Council goals and objectives and develop criteria for proposed marine reserves developed outside the Council process.

3. We request that NMFS staff work with the HSG and GAP to develop a workplan on fishing gear impacts to essential fish habitat and alternative measures to address gear impacts. The HSG has a placeholder on its June agenda to receive an update from NMFS on this effort.

PMFC
04/04/01

Exhibit F.2.b
Supplemental SAS Report
April 2001

SALMON ADVISORY SUBPANEL COMMENTS ON GROUNDFISH STRATEGIC PLAN IMPLEMENTATION

The Salmon Advisory Subpanel (SAS) is becoming increasingly concerned about the potential implementation of marine reserves on the Pacific Coast, and the effects of those reserves on salmon fisheries. The SAS has consistently testified that the current salmon regulatory process is sufficient, on an annual basis, to manage our diverse salmon resource. We have asked that these protected areas not apply to commercial or recreational salmon fishing.

It is becoming abundantly clear to us that the scientific/environmental community is committed to, and strongly promoting, "no-take" marine reserves, as compared to Marine Protected Areas (MPAs) which allow certain levels and types of fishing activity. No-take means no fishing for anything whatsoever. On page 2 of a letter from the "National Center for Ecological Analysis and Synthesis" (NCEAS) there is a strong definition of marine reserves. They are exclusively no-take areas. This letter was signed by 161 scientists. This leaves no doubt in our minds that what has been adopted by the Council as "one tool in the tool bag" under the Council's strategic plan for managing groundfish is viewed by (significant) others as a coastwide network of large "no-take" areas. That will affect <u>all</u> fisheries, including many that the Council does not presently manage. That should concern us all.

It is our view that:

1. The Council must be the lead agency in the establishment of any type of marine protected area on the Pacific Coast. Over ninety percent of those affected will be fishermen and those living in fishing communities.

2. Marine protected areas should be established only for the protection of specific species, and as an aid to their rebuilding, and should not constrain fisheries that have little or no impact on stocks of concern.

3. Finally, we ask that you continue to include us in the process as you work your way through the Phase 2 consideration of marine reserves.

PFMC
04/04/01

Exhibit F.2.b
Supplemental SSC Report
April 2001

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON GROUNDFISH STRATEGIC PLAN IMPLEMENTATION

The Scientific and Statistical Committee (SSC) discussed progress made by the Ad Hoc Groundfish Strategic Plan Implementation Oversight Committee (SPOC) to move forward with strategic plan implementation. Initiatives to achieve capacity reduction are first on the recommended list of priorities, which include buyback and trawl permit stacking. The SSC supports timely action to reduce capacity in the groundfish fishery and the SPOC recommendation that work on trawl permit stacking should go forward promptly if full funding for the buyback program cannot be identified by June. The Council will need to consider the substantial workload issues that moving forward with trawl permit stacking will entail.

Marine reserves were also identified as a relatively high priority item. The SPOC recommended (1) continuing with phase 2 to establish an implementation team to develop a full proposal and (2) developing a summary of "who is doing what, so the Council can figure out where to plug in." The SSC supports these two recommendations, which will help to coordinate the Council's interaction with outside entities involved in the marine reserve development process (e.g., the Channel Islands National Marine Sanctuary) and also will facilitate consideration of how marine reserves will interact with existing Council management processes.

PFMC
04/03/01

Exhibit F.Z.C.

Grant Proposal

Submitted to Oregon Sea Grant on February 26, 2001
by Ecotrust and the Pacific Marine Conservation Council

Phase I:
Data collection for economic viability study of West Coast groundfish fleet

Submitted

Priority Issue:
The Pacific Fishery Management Council (PFMC) has adopted its strategic plan titled "Transition to Sustainability". It is a multi-faceted, comprehensive plan for the orderly transition of the existing over-capitalized fleet into a smaller, more economically viable one. The PFMC plan calls for a coast-wide fleet reduction of 50%, and identifies the need to do so with sensitivity toward existing fleet composition by port and gear type. This thinking is far-reaching and worthy of support.

As coastal communities move towards the development of a conservation economy, one competent solution to long-term fishing sustainability, and the subsequent economic rewards, is changing fishing behaviors and gears. Three activities supporting sustainability include:

- Fish habitats must be identified and protected from being overfished or damaged by use of inappropriate gear.
- Fish stocks must be caught using the most selective gear possible, gear that either avoids non-target species, or that allows live escape of non-target species.
- Fishing behaviors must be modified to protect habitat, juvenile fish and reduce bycatch and discards.

Project:
Ecotrust and the Pacific Marine Conservation Council have entered into a collaborative project to pursue the development of information and analysis on the re-structuring of the groundfish fleet in Oregon, Washington, and California.

Ecotrust and the Pacific Marine Conservation Council have identified information that must be gathered and/or consolidated on what exists now in the fleet. That information would then be used to develop a more detailed analysis of how the fleet could be restructured, port by port, gear group by gear group. Using the data, incentives could be proposed for fleets that agree to take certain actions, or individual vessels that change to more sustainable practices. The analysis would be inserted into the PFMC decision-making process for consideration and use. As such, it could well be the single most significant tool for developing a fleet restructuring strategy and a valuable resource for fishing men and women, fish managers and fishing communities.

Process:
We are pursuing a two-phase process. Ecotrust has begun (Phase 1) to gather information used to document what now exists. We expect to complete this phase in about two months (May 2001).

The analytical process (Phase 2) would require greater resources to fully analyze phase one data. It would include utilizing economically based matrixes and other evaluative tools to develop a comprehensive set of options or solutions for fleet restructuring. This, by itself, would answer the first need of the PFMC in reaching its goals. However, an important second step would be taken when our analysis of fishing gear modifications and incentives was used as an overlay to produce a better match of the number and types of vessels leading to a sustainable yield fishery.

We estimate second phase activities would take a full year and would be supported by grant funding secured by both organizations. We feel the expertise and track record of sustainability research by Ecotrust and its financial partner Shorebank Enterprise Pacific combined with the respect and professionalism in management-change issues of PMCC would bring important credibility to the final product.

Information to be gathered will be revised in Phase 1, but is expected to include at least some of the following port by port data:

Infrastructure:
- Number of moorage slips
- Processing capacity
- Ice capacity
- Freezer space
- Critical mass for maintaining marina
- Critical mass for maintaining processing and freezer capacity
- Critical mass for maintaining recreational infrastructure
- Listing of potential future needs to infrastructure

Fisheries:
- Number of vessels by size and gear use; commercial, charter and recreational
- Landings by gear source – trawl, fixed gear, open access, recreational
- Landing by area fished – nearshore, shelf and slope
- Landings by species or complex of species
- Estimate of sustainable level of harvest

Fishing area/resources
- Local reefs, important habitat
- Blackcod spots
- Trawl spots
- Hook and line spots, nearshore and shelf
- Crab and/or shrimp spots

Expectations for the Fellowship:
Ecotrust and the Pacific Marine Conservation Council would assign the Fellow to work as a research and analytical assistant to the project for the Oregon sector. The Fellow would report to the Principal Investigator, a staff person and/or contractor at Ecotrust. The Fellow would also interact with staff at the Pacific Marine Conservation Council and

Shorebank Enterprise Pacific. We would expect the Fellow to contribute significant input to the Oregon sector of the project and be responsible for some reasonable portion of analysis and writing of the final product. Such work could easily contribute to the requirement for a graduate degree program or form the basis of graduate research. It is likely that limited travel to Oregon fishing ports will be required.

The Fellow would be based in the Portland headquarters office of Ecotrust where core infrastructure would include office space, telephone, full-time T1 internet access, and related office services (copying, etc.) Ecotrust expects to open its new office in the Portland River District, the Jean Vollum Natural Capital Center on August 1, 2001.

The Fellow will initially report to Edward H. Backus, Director of Community Programs at Ecotrust. Edward is the contact for this project.

Edward H. Backus
Director of Community Programs
South Coast Development Office
Ecotrust
PO Box 5015
Charleston, OR
97420

541 266 9106
ebackus@ecotrust.org

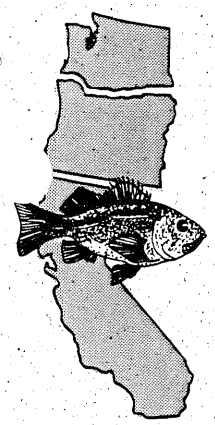
For organizational background information please visit the following websites:

Ecotrust
www.ecotrust.org
www.conservationeconomy.org
www.inforain.org
www.tidepool.org

Pacific Marine Conservation Council
www.pmcc.org

Shorebank Enterprise Pacific
www.sbpac.org

Exhibit P.L.C.



Pacific Marine Conservation Council

"Dedicated to the health and diversity of our marine life and habitat"

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e-mail: pmcc@pacifier.com

March 30, 2001

Peter Leipzig, Executive Director
Fishermen's Marketing Association
320 Second Street, Suite 2B
Eureka CA 95501

Dear ~~Mr. Leipzig~~ Pete,

At the March meeting of the Pacific Fishery Management Council (PFMC), you provided an update, including results of the recent survey, on a West Coast groundfish buyback. You sought input from the Council. You may recall I offered to take the information to our board of directors for review and respond with their thoughts and ideas. This correspondence includes their input to your process and plan.

First of all Pete, we wish to extend appreciation to you, Fishermen's Marketing Association and others for taking the lead to initiate development of the buyback concept in the groundfish fleet. It is important work we wish to support.

The agenda for the Pacific Marine Conservation Council (PMCC) is sustainable fisheries coupled with healthy coastal economies. This provides the opportunity to work for habitat protection and healthy ecosystems for the fish, and to seek short and long-term management practices that sustain fishing family and coastal community economic vitality.

The PMCC board of directors met over the weekend of March 23-25. As you know, that board includes a diverse group of commercial fishers representing all gear types, charterboat owners/skippers, marine scientists and environmental activists who reside in West Coast communities from Seattle to Santa Barbara. They spent part of the three-day session in review of and discussion over the current buyback proposal, a vision of which is found in the paper entitled *"Solving the Problem in the Pacific Groundfish Fishery"*.

> PMCC believes it is critical to reduce, across the board, groundfish fleet harvest capacity – to more closely match fleet capacity with the total allowable catch (TAC). This is important both biologically and economically. Harvest capacity reduction is an important part of the sustainable fishery "toolbox". We agree with others that
> 1) sustainability cannot be reached given the current fleet size and harvest capacity, and
> 2) fleet members who want out should be able to do so with dignity intact and with financial compensation for their forfeited investment in vessel and permits.

It is important that this precedent setting buyback plan be properly crafted. Any flaw in the program could make or break it. Because of this, you are right to seek careful scrutiny and evaluation, with ample amounts of input, before sending it on to Congress.

It is too important to those expecting to participate in the buyback program to do otherwise. Hopefully, the PFMC will provide you with valuable insights.

Buyback is important not only in its design but in its goals and objectives. It will be important to implement buyback strategies that facilitate the conservation of resources and protect the fragile economies of coastal communities.

PMCC has identified a nine-part position statement on groundfish buyback, the full text of which is attached as addendum A. In short, these are:

1) buyback must remove vessels from the fishery
2) buyback must retire all permits connected to the vessel and vessel owner(s)
3) buyback must include a moratorium on harvest capacity increases
4) buyback must be in compliance with the Magnuson-Stevens Act
5) buyback should include all fleets which take groundfish
6) buyback must have measurable goals
7) buyback planning must be a public process
8) buyback must make business sense
9) buyback must not be allocative

Any buyback plan must meet with generally accepted management beliefs, pass scrutiny by the public as it pertains to good public policy, and be in compliance with provisions of the Magnuson-Stevens Act and the PFMC's Strategic Plan "*Transition to Sustainability*".

While a strong case can be made for a full federally-funded buyback, which, by the way, PMCC would also support, your current plan calls for 50% participation by the industry. Our comments relate to a joint federal/fleet buyback.

PMCC recognizes the plan already meets several of the nine provisions of its buyback position statement. We are pleased to see the plan intends to remove vessels and all permits, including state-issued permits, associated with that vessel. We are also pleased to find that groundfish fleets beyond trawl are able to participate in buyback and that port meetings are being planned. A really good move was avoiding allocation as part of the program

Therefore, in the spirit of creating the best possible buyback, PMCC offers the following recommendations, provided here in no particular order:

1) **Include a provision similar to this: there shall be placed on the fleet remaining in the fishery a five-year moratorium on any activity that would increase harvest capacity.**
Comment: This is consistent with the provisions of Magnuson, Section 312(b)(1)(A)(i), the Council's Strategic Plan, page 21, Regulatory Solutions, and PMCC's position.

We recommend a five-year moratorium in the belief this will provide time for stabilization in the transitioning industry and provide sufficient time to gather and analyze catch data to learn if the biological/conservation/economic assumptions and goals associated with harvest capacity reduction are being realized. It would not be prudent to purchase harvest capacity through buyback while those remaining in the fleet were allowed to ramp-up their operations in anticipation of taking more fish. This relates to the commercial fleet and would include moratoriums on activities that could increase harvest capacity such as increasing horsepower, or increasing net size or the number hooks fished.

2) **Assure that fleet-funded participation is realistic and seek flexibility in payment schedules that reflect the uncertainty of drawing income from a fishery resource that can be adversely affected by nature's cycles.**
Comment: This is consistent with Magnuson, Section 312(b)(1)(C), and Sections 312(d)(2)(A) and (B).

Many on our board were concerned that segments of the industry might not have the economic resources available to them to repay the loan from year to year, especially considering the variable and cyclical nature of fisheries.

For instance, crab fishers had a season this past year that would probably have made it possible to pay only 50% of the loan annual payment. Flexibility in a repayment schedule could accommodate such anomalies. Another example is the pink shrimp fishery that currently seeks federal relief from an expanded and subsidized Canadian fishery that has driven ex-vessel price below profitability for West Coast fishers. Depending on international trade negotiations, the long term viability of our pink shrimp fleet may be in jeopardy and their ability to participate in buyback uncertain. Based on this year's season, they, too, may have been at or near that 50% loan repayment level, as well.

There appear to be ways within Magnuson to allow some flexibility, but it would be important to clarify options up-front. One example is Magnuson Section 312(d)(2)(B) that states a repayment fee shall not exceed 5% of ex-vessel value. This means it could be less than 5%, providing some flexibility, perhaps even fleet by fleet, year by year, for repayment.

Another example is Magnuson Section 312(d)(2)(A) which allows the Secretary to adjust the fee rate to ensure repayment. While on the surface this would appear to mean increased fees if repayment was lagging, it could also be interpreted to mean reducing fees if it were necessary to maintain the viability of the affected fleet.

Our board also discussed ways in which changes in fishing practices that lead to reduced bycatch could be rewarded. One idea floated was to allow an incentive for individuals who meet or exceed bycatch reduction goals or targets. The incentive would be a reduction in the percentage of an individual's economic obligation to buyback. This would entail establishing such a goal or target that could be verified by participation in the groundfish observer program. With all long-range plans calling for reductions in bycatch and of providing incentives to do so, we believe this is an idea worth pursuing.

3) Eliminate allocation as an element of buyback.

Comment: It was a good move on your part to avoid allocation in the plan. In case others may feel a need to drag allocation into this, we offer these thoughts.

For this important plan to move forward will take considerable support from all segments of the fleet. Nothing will divide support quicker than determining allocation. The alternative is to allow the existing process – the allocation committee making recommendations to the Council – to continue, adding buyback repayment fee as another allocation element to be considered. This makes sense, too, from the standpoint it is a public process accessible by all, and allows year by year analysis of information before making allocation changes.

The other aspect of allocation as part of a buyback plan is that it may jeopardize the Council's ability to effectively manage for bycatch reduction, habitat protection, and species rebuilding. It is possible the Council will require the allocation of fish within different industry segments or from one segment to another to reduce bycatch and rebuild stocks. By "locking in" any allocations, the Council may not have the flexibility it needs to meet these federal mandates.

4) List the expected benefits of the buyback.

Comment: In the capacity reduction analysis I understand is being produced, it would be important to have a list of the expected benefits of a buyback be made part of the plan text. As you have suggested, these could cover economic, social and conservation benefits such as reduction in bycatch, reduction in harvest capacity, economic viability of remaining vessels, increased price and others.

While it is understood the buyback plan is proposed for economic reasons and not conservation ones, the public is more likely to support the plan if it has identifiable conservation goals and incentives.

Listing anticipated benefits would provide a way to evaluate the effectiveness of the program.

5) Hold community-based meetings

Comment: We are pleased to learn that a series of port meetings are being planned. If we can assist in spreading the word about the meetings, or make specific invitations to people who should attend, please let us know. Many have a stake in this since buyback will change economic dynamics, so it is important to learn how affected gear groups and community leaders feel about the proposed plan.

6) Explore Magnuson required studies.

Comment: It appears Magnuson 312(e)(1)(A) will require an analysis of community impacts. Although unlikely, NEPA may require an EA or EIS analysis. Determining as soon as possible if these are necessary will save time and enhance continuity of process.

Again Pete, congratulations on the work done to date. Let me know how this organization can additionally support the buyback plan.

Sincerely,

Bob Eaton

Bob Eaton
Executive Director

Attachment: Addendum A, Pacific Marine Conservation Council buyback position

Cc: West Coast Congregational delegation members
Jim Lone, Chair, PFMC
Judie Graham, Washington Trollers Association
Mark Cedergreen, Westport Charterboat Association
Joe Easley, Oregon Trawl Commission
Nick Furman, Oregon Crab Commission
Steve Bodner, Coos Bay Trawlers Association
David Jencks, Mid-Water Trawlers Association
Zeke Grader, PCFFA
Onno Husing, OCZMA
Ginny Goblirsch, Sea Grant

ADDENDUM A

Pacific Marine Conservation Council
Astoria, Oregon
(503) 325-8188

Groundfish Buyback Position Statement

Updated 3/30/01

Buyback is an important tool in the "harvest capacity toolbox". Buybacks must be carefully crafted and have measurable goals, must pass agency and public scrutiny, and be supported by the immediate fleet members, coastal communities and any others affected by the buyback. Each buyback sets a precedent for future buybacks and, as such, could jeopardize future efforts by the same or different fleets. PMCC's interest is in having good buybacks that meet both conservation and economic goals. In order for a buyback to be effective, PMCC believes the buyback plan must meet the following criteria:

1) **Buyback must remove vessels from the fishing fleet.** There are no West Coast fisheries that can withstand an infusion of new vessels, or a retooling for greater harvest capacity.

2) **Buyback must remove all permits connected to the vessel and vessel owner(s).**
This provision provides that participating in buyback does provide a cash incentive to participate in other fisheries. Those who participate in buyback are expected to leave fishing. At the very least, there should be assurances that permits being retired in one fishery do not lead to harvest capacity increases in other fisheries.

3) **Buyback must include a moratorium on harvest capacity increases.** The moratorium would be put in place for several years following a buyback, five years is recommended, so the effects of reduced fleet harvest capacity can be evaluated before individual fishers invest to increase harvest capacity.

4) **Buyback must be in compliance with the Magnuson-Stevens Act**. M-S Act implementation guidelines provide new standards for bycatch, discards and fish mortalities. It would not be prudent nor within the scope of the law to authorize a buyback, or management plan designed to facilitate buyback, that wouldn't pass Magnuson muster. A buyback plan should provide a statement that will establish the buyback plan's relationship with the fisheries law of the land.

5) **Buyback should include all fleets that harvest groundfish.** In the case of industry funded buybacks, this would allow all groundfish vessels to be involved in the buyback regardless of gear and would allow for all vessels which land groundfish to contribute to the buyback through a landing surcharge. The portion of the

revenue from buyback that is derived from industry contributions should incorporate incentives for conservation.

6) **Buyback must have measurable goals.** How many vessels are to be removed? What is the budget of the buyback? What are the conservation goals of the buyback? How will the reduction help management? In addition, a list of the expected benefits of a buyback should be made part of the buyback plan text. These could be reduction in bycatch, increased price, reduction in harvest capacity, economic viability of remaining vessels, and others. This would provide a way to evaluate the effectiveness of the program so that changes in future buybacks could be considered and implemented. Any buyback plan must not be structured in a way that threatens the economic viability of the remaining fleet.

7) **Buyback planning must be a public process.** Regardless of the fleet involved, or the proposed funding scheme, it is important that public input be sought and considered. The process involves a public resource, a public fishery authorized by publicly issued fishing permits and managed by a public body and decision-making process. PMCC believes hearings or meetings should be held in coastal communities to learn how others, affected gear groups and community leaders, feel about the proposed program. Many have a stake in this since any buyback will cause economic rippling in coastal communities.

8) **Buyback should make business sense.** A buyback plan should clearly state its business objectives including how funds for buyback are to raised, an analysis of the remaining fleets ability to payback any loans or debt anticipated, who is responsible for any defaulted loans, the estimated cost per permit or vessel. Of most importance is an analysis that determines if the cost of the buyback is consistent with the benefits derived by the public and the remaining vessels of all fleets. As previously noted, buyback must also be analyzed as to how it will affect coastal community employment and economic stability.

9) **Buyback should not be allocative.** Managers must have every means available to manage resources, including, but not limited to, the possibility of reallocation to protect habitat and reduce bycatch, and reallocate within a gear-type or between fleet segments. An analysis should be prepared for any redistribution-of-catch scenario that could lead to increases in bycatch. Another allocation concern is the effect any change might have on remaining vessels if a management plan, using redistribution to support an industry funded buyback, "guarantees" access to fish in order to assure cash flow for buyback. Such action would set a dangerous precedent for future buybacks if provisions lock in long range actions that could not be changed if fish populations are adversely affected.

SUMMARY MINUTES
Ad-Hoc Groundfish Strategic Plan Implementation Oversight Committee

Pacific Fishery Management Council
Pacific States Marine Fisheries Commission
Large Conference Room
45 SE 82nd Drive, Suite 100
Gladstone, OR 97027
January 10 - 11, 2001

Call to Order

The Strategic Plan Implementation Oversight Committee (SPOC) meeting was called to order by Dr. David Hanson, Chair. Mr. Jim Lone, Council Chair, provided introductory remarks, noting reducing capacity in the groundfish fishery was a principal objective of his tenure as Chair. He emphasized implementation of the Strategic Plan as fundamental to this objective and the long-term goal of a viable, sustainable fishery.

After introductions, Dr. Hanson outlined the meeting goals, which entailed prioritization of Strategic Plan issues and initiating implementation development teams. An overarching goal is to ensure the Strategic Plan works for all stakeholders and ensures resource conservation. Public input to the implementation process will be critical to its success.

The agenda was reviewed and approved. Time for a brief presentation by Mr. Brock Bernstein, National Fisheries Conservation Center (NFCC) and a review of legal matters by Ms. Eileen Cooney, General Counsel, National Oceanographic and Atmospheric Administration (NOAA) were added.

Mr. Dan Waldeck reviewed meeting materials for the Committee.

Members in Attendance
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Mr. LB Boydstun, California Department of Fish and Game
Mr. Ralph Brown, Pacific Fishery Management Council
Mr. Jim Caito, Pacific Fishery Management Council
Dr. David Hanson, Chair, Pacific States Marine Fisheries Commission
Mr. Bill Robinson, National Marine Fisheries Service

Others in Attendance
Mr. Brock Bernstein, National Fisheries Conservation Center
Mr. Steve Bodnar, Coos Bay Trawler's Association
Ms. Eileen Cooney, National Oceanographic and Atmospheric Administration - General Counsel
Dr. John Coon, staff, Pacific Fishery Management Council
Mr. Brian Culver, Washington Department of Fish and Wildlife
Mr. Joe Easley, Oregon Trawl Commission
Mr. Bob Eaton, Pacific Marine Conservation Council
Mr. Doug Fricke, Washington Troller's Association
Dr. Rod Fujita, Environmental Defense
Mr. Jim Glock, staff, Pacific Fishery Management Council
Mr. Jim Golden, Oregon Department of Fish and Wildlife, designee for Mr. Burnell Bohn
Dr. Jim Hastie, National Marine Fisheries Service
Mr. Rob Jones, Northwest Indian Fisheries Commission

Cmdr. Ted Lindstrom, US Coast Guard
Mr. Jim Lone, Chair, Pacific Fishery Management Council
Dr. Donald McIsaac, Executive Director, Pacific Fishery Management Council
Mr. Jim Seger, staff, Pacific Fishery Management Council
Ms. Cyreis Schmitt, National Marine Fisheries Service
Mr. Chuck Tracy, staff, Pacific Fishery Management Council
Mr. Dan Waldeck, staff, Pacific Fishery Management Council

Meeting Summary

General Discussion

Dr. McIsaac discussed Council budget and staff workload. Given the level funded budget and no change in workload priorities, he stressed staff will be able assist at a limited level, e.g., tracking strategic plan consistency relevant to briefing book situation papers, acting as an information base, staffing meetings of the SPOC. Dr. McIsaac provided a table outlining staff workload to illustrate his point. Significant activity implementing the Strategic Plan would displace other current workload priorities assigned by the Council. Creation of workload to implement the Plan would need to be balanced by commensurate deletions from current staff workload. He suggested performing a workload management check each time a new implementation task is considered, e.g., (1) what is current workload?, (2) how much time will the new task take?, (3) how does the task fit into the context of existing priorities?

An opportunity was provided for public comment. Mr. Eaton stated the Council needs to identify the amount of money needed to implement the plan and where the money would come from (internal or external sources). He suggested the Council needs to define priorities, where public funds should come from, where private funds should come from; this will help others in lobbying Congress on the Council's behalf. Mr. Easley noted the tremendous amount of work it will require to implement the plan.

A general discussion followed about how to proceed with the meeting.

It was suggested that in setting priorities, the SPOC needs to consider what projects will provide the most benefit in relation to their cost; the focus should be on projects that provide the most gain. It was also noted that it will be important to identify where a task or priority will lead, and how it fits with other Plan initiatives. For example, marine reserves may be a harder sell if they are prioritized ahead of capacity reduction, whereas, capacity reduction first may facilitate marine reserves as a second priority.

There is an immediate need for conservation, especially rebuilding overfished species; implementation of the plan needs to be in balance with other groundfish priorities. Therefore, it was suggested that rebuilding plans should be the first priority, as there are seven overfished stocks and no approved rebuilding plans. It was agreed all components of groundfish fishery management need to be considered – rebuilding plans, annual management, other groundfish tasks, strategic plan implementation.

Ms. Cooney provided an update on litigation issues. She noted that National Environmental Policy Act (NEPA) compliance for Groundfish Essential Fish Habitat (EFH) had been successfully challenged and a new NEPA analysis for groundfish EFH would need to be completed. She also noted the high risk of litigation on rebuilding plans, both Amendment 12 and the individual rebuilding plans.

The committee discussed delegation of nearshore fisheries to the states. It was suggested that it would be easier for state fish and game commissions to manage nearshore fisheries. Three options were proposed: remove species from the groundfish FMP; or leave species in the FMP, but delegate (or defer) management to states. For California, there are approximately 20 species that could fall under a Nearshore Fishery Management Plan (FMP). Currently, California is developing a Nearshore FMP. It was noted that consistency among state and federal regulations would be a critical issue. Ms. Cooney noted that where fish are captured is critical to who has management authority. In order to determine whether to, and the best way to transfer management authority to the states, you must look at the location of the fishing of different species, e.g., species only caught within 3 miles; caught within 3 miles, but some outside 3 miles in federal waters; or mostly caught in federal waters. Delegation of nearshore

management could also have spill-over effects on the groundfish limited entry fishery or the new "B" permit fishery that could be established under the strategic plan recommendations. That is, if species are removed from the groundfish FMP, it could negatively affect limited entry permit holders.

It was noted that state nearshore management will still require some Council involvement, and, therefore, still place a burden on staff workload. It could also result in increasingly complex management, especially if state limited entry and federal limited entry programs are developed. There is also the likelihood that, when catching fish under a nearshore FMP, federally managed species will also be caught, which would require coordination between state and federal activities, that would vary depending on the amount of interaction.

Priority Setting

The SPOC then discussed the various elements of the Plan and developed a list of priority issues. Four themes were highlighted as high priority:

- Capacity Reduction
- Harvest Policy
- Marine Reserves
- Science

Within each theme the SPOC identified and prioritized various issues. A detailed list is provided below.

Specific to the harvest policy recommendations in the Plan, it was noted that these provisions will, generally, be, implemented through the annual groundfish fishery management process. It was stressed that strong consideration needs to be given to recommendation 2.a under Harvest Policy in the Plan, i.e., "...close fishery when OY is reached... ."

Specific to capacity reduction, consideration will need to be given to the details of reducing capacity(i.e., what sectors, how will it be accomplished?), particularly the details of converting the open access fishery to limited entry. How would state limited entry fit with federal limited entry, would both be necessary? Coordination will be critical.

It was also noted that gear modifications have improved resource conservation. Therefore, in implementing the Plan, the SPOC should look to incentives and other passive measures (rather than regulations).

An overarching concern will always be ensuring conservation and stock rebuilding while allowing harvest of healthier stocks.

Groundfish Fishery Strategic Plan Implementation Oversight Committee – Recommended List of Priorities

Item (section in Strategic Plan)	**Staffing Cost (states/NMFS/Council/tribal)**	**$ cost**	**Rank**	**Development Team Needed**
Buyback – all gears (C. 3.g)	med/med/low [5/]	very high	1.a [7/]	
Trawl permit stacking (A.3.e) [1/]	low - high		1.b [7/]	yes
Observers -- develop full program (A.5) [2/]	med/high/low	high	2	no [8/]
Review and improve groundfish management process (C.8)	low/low/low	low	3	no [8/]
Fixed gear permit stacking -- sablefish (A.3.d) [1/]	low/high/med		4	no [8/]
Open access limited entry (A., C. 3.a,b,c)	high/high/high	high	5	yes
Allocation*	high/high/high	high	6*	yes
Marine reserves (A.6.) [3/]	high/high/high/yes	high	7	yes
Nearshore rockfish delegation (A.1.d)	high/med/med/yes		8	yes
Implement harvest policy recommendations (A.2.a-e)	low/low/low	low	9	no [8/]
Fixed gear spp endorsements & stacking -- non-sablefish	high/high/high	high	10	yes
Explore regulations to (1) reduce bycatch and (2) access allocations	med/med/med	high	11	yes
Explore regulatory incentives (regs/gear) to minimize impacts on habitat	high/high/high	high	11	yes
Implement Strategic Plan science recommendations (B. 1-11) [4/]	high/high/high	very high		
Implement Strategic Plan Council process recommendations (C. 1-7) [4/]				
*Elements of Allocation Category	Rank w/in 6			
"A" v "B" v "C" v Sport permits (overfished species)	6.a			
Sport v Commercial	6.b			
Limited entry trawl v Fixed gear (rockfish, lingcod)	6.c			
"B" v "C" permits (selected species)	Part of 5 above [6/]			

1/ As first step toward IFQ
2/ $2.25 million -- federal base funding (annual). "Full" means a comprehensive program with an adequate annual budget
3/ Tool within the larger context of the Strategic Plan. Adopted as a tool, but no use of the tool scheduled.
4/ Critical element, not accorded rank -- overrides other topics. Include comment to this effect in introduction.
5/ Currently, industry lobbying for. Near-term low workload NMFS/Council. If Congress authorizes, NMFS/Council workload will be large.
6/ Allocation will occur as part of O/A to L/E
7/ Priority may change depending on Congressional action.
8/ Program in place, under development, or under review – no development team needed.

Thursday, January 11, 2001

The list of priorities developed on the previous day was reviewed.

It was agreed to form a small subcommittee to develop rough cost estimates for the items in the priority list. It was stressed the cost estimates should be simple, noting who would bear the cost and who would do the majority of the work. This is necessary to provide a realistic view of the level of funding required to fully implement the Strategic Plan. The estimates would represent additional funding needed (above the Council budget) to accomplish implementation of the Plan. It was agreed the draft cost estimates would be reviewed by the SPOC prior to the March Council meeting. The subcommittee is comprised of Dr. McIsaac, Mr. Robinson, and Mr. Golden; and will meet February 14, 2001.

Discussion of the List of Priorities

Buyback and Trawl Permit Stacking

Without Congressional help, a buyback program is unlikely, the Council and/or the industry does not have the means to do it. West Coast industry representatives are actively lobbying Congress for a buyback program. However, if, by the June Council meeting, signs are that Congress will not adopt legislation for a West Coast buyback program, the SPOC agreed that trawl permit stacking should become a high priority.

The rationale for first emphasizing buyback as the preferred means for reducing capacity in the trawl fleet was because a large reduction is needed to rationalize the fleet and industry supports a buyback program. Until there is an indication that Congress will not support a buyback program, trawl permit stacking will be less desirable from the perspective of the industry.

Allocation could also be a critical issue. For example, if buyback is for all sectors of the industry then allocation might be less of an issue, whereas, if buyback is only for trawl, then allocation might be critical. This would also be true for trawl permit stacking.

Finally, it was emphasized that developing a trawl permit stacking program will require an extensive analysis. This must be factored into the workload equation (in balance with other workload), as both the analysis and implementation of trawl permit stacking will be quite intensive.

Observers

A partial program will be implemented by mid-2001. However, there is a strong need for a comprehensive program, which will require secure, long-term funding, i.e., annual commitment in the NMFS budget. The groundfish fishery is extremely diverse, and the current level of funding provides for only a limited program (covering only a small portion of the fleet).

It was noted that pursuing observer funds should be done in the context of other strategic plan initiatives. For example, the groundfish fishery only generates about $50 million per year, it may be hard to justify spending large amounts of money for a small net gain. If the fleet were rationalized (made smaller), it would require a smaller program to cover the entire fleet. Moreover, with a rationalized fleet it may be possible to move to a system where the industry funds management.

Management Process

A comprehensive review of the groundfish management process is underway, the SPOC will need the results of this review before taking action to implement the management process recommendations in the

Strategic Plan. The Groundfish Management Process Committee will report to the Council in March, with the aim of initiating action for review at the April Council meeting. The goal is to implement an improved process for the 2002/2003 cycle, with phase-in of certain parts as soon as possible.

Fixed Gear Permit Stacking

It was reported that Council staff is completing the analytical work for the FMP amendment (or regulatory amendment depending on NOAA-GC determination). NMFS will draft the regulations, which could be quite complex when all the permit stacking provisions are factored in.

As it will be difficult to complete all of the above (analyses, Council review, regulations) in time for implementation in fall 2001, it may be necessary to phase-in certain aspects. One possibility is to implement in 2001 the extended fishing season and stacking permits (i.e., the basic objectives). The more complicated issues, e.g., ownership, owner-onboard, will require substantial analysis and a longer regulatory process under the Paperwork Reduction Act, and may need to be implemented later. The SPOC noted partitioning the analysis and review could, ultimately, create more workload (i.e., doing things twice); but there was general agreement that we should move forward.

Open Access to Limited Entry

This has the potential of being a highly contentious issue, and may require consideration of the net benefit to the fishery as a whole versus the cost to individuals in the open access fishery.

It was agreed that a group would develop a scoping document to outline what needs to be done, this will include consideration of delegation or deferral of nearshore management to states. The group will also explore linkages with other Strategic Plan issues, e.g., allocation, delegation of nearshore management, etc. The states will take the lead on developing the scoping document. In addition, the document will include definitions of “B” and “C” categories and the fleet involved, and consideration of the importance to coastal communities. It was suggested that they use outside mediation/facilitation (e.g., the Environmental Conflict Resolution Institute) to aid in development of an implementation strategy.

The possible schedule is to be included as part of scoping document. The document will be reviewed by SPOC at their March meeting.

Allocation

The issue of allocation is strongly entwined with many other strategic plan issues, and may be necessary before implementation of other components of the Strategic Plan. Currently, allocation is an annual necessity as part of routine fishery management, especially for overfished species. May not be able to improve from current process until after GMPC review.

Marine Reserves

Implementation will require substantial funding (in excess of Council budget), especially for developing siting criteria. It will also require substantial public participation, which will add to the overall cost. Therefore, the issue will require substantial commitment of new funds. *The SPOC recommends continuing with Phase II, under the aegis of strategic plan implementation, to begin with establishing an Implementation Development Team assigned the sole task of developing a complete proposal (with the Council as lead authority): a proposed process and proposed budget.* The SPOC also recommends the proposal include outside assistance, in the form of non-governmental organization funding and/or facilitation services of NFCC. Opportunities with the Pacific Ocean Conservation Network should also be pursued.

Nearshore Rockfish

It was agreed that this would be included as part of scoping document for conversion of Open Access to Limited Entry (discussed above).

Implement Harvest Policy Recommendations

Implementing the recommendations in the Strategic Plan will require development and adoption of management policies for closing fisheries when OY is reached. It will be necessary to distinguish between closure of a single fishery that harvests the stock and closure of all fishing for the stock. *The SPOC recommends the Council initiate discussion of this topic in April 2001*.

Fixed Gear Species Endorsements/Stacking (non-sablefish)

It was suggested that this issue could be taken up in conjunction with the Open Access to Limited Entry work.

Explore Regulations – to Reduce Bycatch / for Access Allocations

"Access allocation" refers to, for example, management measures that solve the problem of not harvesting the allowable sablefish OY year after year. Recently the trawl fleet has not been able to harvest its entire allocation because of protections for thornyheads. Therefore, there is a desire to allow the trawl fleet to possibly access sablefish with a different gear that does not affect the restricted species.

The SPOC recommends the development of a work plan (in the near future). It was suggested that this work could be supported/funded with disaster relief money (or other outside funding source).

The SPOC recommends an industry group be formed to develop ideas related to access allocation, especially sablefish – possibly including: Mr. Steve Bodnar, Mr. Marion Larkin, Mr. Joe Easley.

No due date was discussed for this work plan.

Explore Regulatory Incentives (regulations/gear) to Minimize Impacts on Habitat

Similarly, the SPOC recommends development of a work plan in the near future. The SPOC recommends incorporation of this issue into the Council's Research and Data Needs document with a high priority.

No due date was discussed for this work plan.

<u>Implementation Development Teams</u>

The SPOC discussed the need for development teams for each of the issues identified on the Priority List. Generally, most issues will require development teams; several issues are either completed or in progress, and, thus, development teams will not be required. At this meeting, the SPOC approved the formation of two Implementation Development Teams (marine reserves and allocation) and a subgroup to develop cost estimates.

Marine Reserves

Development Team: Mr. Jim Seger (staff), Ms. Jennifer Bloeser, Mr. Dave Fox, Dr. Rod Fujita, Mr. Mark Helvey, Ms. Michele Robinson, Mr. Bob Lee, Mr. Barry Cohen, Mr. John Crowley, Mr. Kelley Smotherman, Mr. Mark Cedergreen, Ms. Fran Recht. Also, the SPOC asked that Mr. Brock Bernstein and Ms. Suzanne Iudicello (NFCC) be invited to participate in a facilitation role.
For the time being, the team was tasked only with developing a detailed proposal – based on the proposal submitted by the Pacific Ocean Conservation Network. The proposal would be for a project to address remaining marine reserve recommendations contained in the Strategic Plan. The detailed proposal would address the complete process to implement marine reserves as described in Strategic Plan, consistent with the objectives already adopted by the Council.

The Team will meet February 13, 2001, Portland, OR

Allocation

The SPOC recommends use of the current Ad-Hoc Allocation Committee to develop further recommendations at his point.

The SPOC anticipates adding to the prior allocation committee process industry representatives at some point in the future to deal with allocation issues directly related to implementation of the Strategic Plan.

As a first step, the SPOC recommends the Allocation Committee develop allocation priorities relative to implementing the strategic initiatives in the Plan.

Next Meeting

The SPOC will meet Monday, March 5, 2001 in Portland, Oregon.

Other Topics Discussed

IFQ

It was noted that the Council will eventually need a committee to scope out an IFQ program.

National Fisheries Conservation Center (NFCC)

Mr. Brock Bernstein from the NFCC presented information about his organization and the facilitation role they could play in implementation of the Plan. For example, with marine reserves, they could build bridges behind the scenes; facilitate public processes/meetings toward agreement. Also could provide dispute resolution. He noted their role would not be to set up meetings or an organizational structure, rather they would act as facilitators.

PROPOSED AGENDA

Ad-Hoc Groundfish Strategic Plan Implementation Oversight Committee

Pacific Fishery Management Council
Pacific States Marine Fisheries Commission
45 SE 82nd Drive, Suite 100
Gladstone, Oregon 97027
(503) 650-5400
January 10-11, 2001

WEDNESDAY, JANUARY 10, 2001 – 10 A.M.

A.	***Introductory Remarks***	Jim Lone
B.	***Meeting Purpose and Approval of Agenda***	Dave Hansen, chair
C.	***Review of Meeting Materials***	Dan Waldeck
D.	***Funding and Staffing Capabilities***	Don McIsaac
E.	***Public Comment***	
F.	***Review of Legal Matters***	Eileen Cooney
G.	***National Fisheries Conservation Center***	Brock Bernstein
H.	***Prioritization of Implementation Efforts***	SPOC
I.	***Establishment of Implementation Development Teams***	SPOC

THURSDAY, JANUARY 11, 2001 – 8 A.M.

J.	***Public Comment***	
K.	***Schedule of Near Future Events***	Dave Hansen
L.	***Next Meeting Agenda***	Dave Hansen

ADJOURN

PFMC
01/10/01

DRAFT SUMMARY MINUTES
Ad-Hoc Groundfish Strategic Plan Implementation Oversight Committee

Pacific Fishery Management Council
Nestucca Room
1401 N Hayden Island Drive
Portland, OR 97217
(503) 283-2111
March 5, 2001

Call to Order

The Strategic Plan Implementation Oversight Committee (SPOC) meeting was called to order by Dr. David Hanson, Chair.

Members in Attendance
Mr. Bob Alverson, Pacific Fishery Management Council
Mr. LB Boydstun, California Department of Fish and Game
Mr. Ralph Brown, Pacific Fishery Management Council
Mr. Jim Caito, Pacific Fishery Management Council
Mr. Jim Golden, Oregon Department of Fish and Wildlife, designee for Mr. Burnell Bohn
Dr. David Hanson, Chair, Pacific States Marine Fisheries Commission
Mr. Bill Robinson, National Marine Fisheries Service

Others in Attendance
Mr. Steve Bodnar, Coos Bay Trawler's Association
Ms. Eileen Cooney, National Oceanographic and Atmospheric Administration - General Counsel
Mr. Brian Culver, Washington Department of Fish and Wildlife
Mr. Jim Glock, staff, Pacific Fishery Management Council
Mr. Rob Jones, Northwest Indian Fisheries Commission
Cmdr. Ted Lindstrom, US Coast Guard
Mr. Rod Moore, Seafood Processors Association
Dr. Donald McIsaac, Executive Director, Pacific Fishery Management Council
Mr. Jim Seger, staff, Pacific Fishery Management Council

Meeting Summary

General Discussion

Bob Alverson and Ralph Brown recalled the SPOC's previous discussion about allowing limited entry vessels to use alternative gears in order to reduce bycatch or incidental catch as well as to provide better access to species that might be otherwise unavailable. This idea has been suggested to the Council by various stakeholders, and Bob wanted the SPOC to keep it on the radar screen. He suggested removing or revising the permit gear endorsements could reduce some of the allocation disputes, or at least change the nature of those disputes.

Don McIsaac presented a letter dated February 15, 2001 he sent to Randy Fisher regarding the Council's Fiscal Year 2002 Congressional funding needs (Attachment 1). In particular, he discussed Table 1 at the end of the document that lists strategic plan implementation costs. He presented a second document that outlines costs associated with establishment of marine reserves (Attachment 2). The committee discussed personnel and funding needs for these projects and how receptive Congress might be to providing the necessary funds. The committee concurred with Dr. McIsaac's figures. LB Boydstun reported California will not be able to complete its efforts to assume nearshore fish management, but he hopes this can be accomplished next year. Jim Seger briefed the committee on outside funding sources. No large scale funding sources have been identified at this time. Eileen Cooney discussed the process for accepting outside donations.

The committee discussed its role and the Council's role in setting up marine reserves. There are several agencies and groups moving forward on this, and the committee believes the Council needs to establish its role in the process quickly and effectively. LB asked for a presentation to the committee and Council of a summary of who is doing what so the Council can figure out where to plug in.
Recommendation The SPOC requests preparation of a summary of the agencies and groups currently moving forward to develop marine reserves, who has funding and who is doing what. The report would be presented at the April meeting.

LB summarized a subgroup conference call held January 18, 2001 to discuss an implementation strategy for limiting participation in the open access fishery (Attachment 3). He presented the proposed schedule, noting it is optimistic and achievement would require a substantial commitment of Council resources. He said the committee and Council should consider the costs and benefits of this, and also the interplay with State management goals and activities. The subgroup recommended the Council move forward with developing a restricted access program for the identified fisheries. The SPOC appointed a core policy group to guide and make recommendations on plan development process. The group includes one representative from each coastal state and NMFS and will meet after the April Council meeting, pending Council approval. The core group will consider ways and means of soliciting and receiving public input to the process, specifically how to involve the myriad of different user groups. Council and agency staff (Dr. Hastie) will need to be tasked with preparing plan development documents and to analyze fishery data, as directed.

Recommendation: The SPOC requests Council concurrence. This will be a major work load issue the Council should consider in the context of the other high priority groundfish issues.

Ralph Brown reported on activities relating to buyback efforts. He said the current proposal is to purchase all permits (including state permits) and the vessel, with the goal to increase average vessel revenue by 50%. This would require a reduction of 40%-65% of the current fleet. He said the Fishermen's Marketing Association circulated a questionnaire to all limited entry permit holders regarding their willingness to submit bids, and 77% of the respondents said they would. Of the $50 million originally proposed, $38 million would reduce trawl sector leaving $12 million which would be applied to reduce fixed gear. To reduce an equal number of fixed gear vessels, given current bid prices, would require a total $74 million. Under the proposal, all commercial fishers would contribute to the purchase of the vessels and associated permits. He believes Senator Wyden will sponsor a bill, once the remaining details are worked out. State legislation would also be necessary.

PACIFIC FISHERY MANAGEMENT COUNCIL

2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

CHAIRMAN
Jim Lone

EXECUTIVE DIRECTOR
Donald O. McIsaac

Telephone: (503) 326-6352
Fax: (503) 326-6831
www.pcouncil.org

February 15, 2001

Mr. Randy Fisher, Executive Director
Pacific States Marine Fisheries Commission
45 SE 82nd Dr., Ste 100
Gladstone, OR 97027-2522

Re: Fiscal Year 2002 Congressional Funding Needs for the Pacific Council

Dear Randy,

It is well known that three years of level funding for the Council has resulted in an untenable situation whereby essential, core responsibilities and obligations cannot be accomplished. Please find following a description of the direct Congressional funding needs for the Pacific Fishery Management Council. These funding initiatives are presented separately for needs to conduct fundamental Council responsibilities and for additional strategic measures associated with the Council's recently adopted Groundfish Fishery Strategic Plan.

CORE COUNCIL RESPONSIBILITIES AND OBLIGATIONS

Funding for all Regional Councils $19,047,00

The line item request for the collective eight Regional Councils for FY 02 is $19,047,000. This request level was developed as an eight Council consensus, and the Pacific Council remains fully supportive of this amount. Each Council is allocated a specific share of this amount; the Pacific Council share is **$2,642,800**, which amounts to an increase of **$713,000** over current funding. This is our best estimate of the funding needed to conduct existing core Council responsibilities and obligations under the Magnuson-Stevens Act.

Urgent Needs for Serious Shortfalls $500,000

If it is not possible to receive the additional $713,000 described above, there is a minimum need of $500,000 to cover critical shortfalls in the ability of the Pacific Council to conduct the core business required under the Magnuson-Stevens Act. The specific basis of this $500,000 shortfall need is described below.

1. Two new Staff Officer positions are needed: one for groundfish fishery management and one for socioeconomic analytical necessities. The additional groundfish position is needed to address the tremendous increase in workload caused by the current crisis in the groundfish fishery[1/] and new requirements from the 1996 reauthorization of the Magnuson-Stevens Act. The socioeconomic position is needed for groundfish fishery related analyses, but would also work on other fisheries. Providing for these two positions and associated ancillary costs requires adding **$300,000** to the base Council budget. Absent additional funding, the workload of existing staff will be managed for the highest priority core obligations, and a significant number of critical responsibilities will be left undone, with consequent lack of compliance with Magnuson-Stevens Act requirements and continued vulnerability to lawsuit.
2. Funding is needed to implement the new Fishery Management Plan (FMP) for Highly Migratory Species. This important FMP is scheduled for adoption in September 2001. Outside funding from NMFS SWR has provided for development of the FMP, and there is currently no funding in the Council budget for FMP implementation. An additional **$150,000** is needed to the base Council budget to

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1/ The secretary of Commerce designated the West Coast groundfish fishery as disaster on January 19, 2000 and Disaster Relief funding was appropriated in June 2000.

providing for the necessary Management Team, Advisory Subpanel, and Council staffing functions. Absent additional funding, the FMP will not be implemented, or some marginal implementation will occur at the cost of further attrition to already underfunded Council programs; either of these two options represent serious inadequacy relative to the requirements of the Magnuson-Stevens Act.

3. An addition **$50,000** is needed to ameliorate the administrative cost shortfall caused by three consecutive years of level funding. A variety of base expenses have increased as general cost-of-living costs have increased, such as office rent, travel, and printing costs. Absent additional funding to cover such fixed costs, there will be continued attrition to elements of public participation in the Council process (such as advisory panel meetings, public hearings, etc.).

GROUNDFISH FISHERY STRATEGIC PLAN

$ 50.250 M for a Capacity Buyback Program
$ 6.8 M for other priority Strategic Plan Initiatives

After substantial public process and an investment of about $100,000, the Council adopted the ***Pacific Fishery Management Council Groundfish Fishery Strategic Plan "Transition to Sustainability"*** in September 2000. This Plan contains strategic initiatives designed to solve the existing crisis and provide for a stable, sustainable fishery in the long term. The following initiatives are high priority elements that require additional funding to implement; the attached table provides additional itemized amounts and specific information related to this request. Absent funding to implement the Groundfish Strategic Plan, the initial investment and current momentum will be largely lost, and existing fishery problems and economic hardship will accrue negative national consequences.

1. The amount of $500,000 is needed for the Council to administer implementation of the Strategic Plan and accomplish several high priority objectives that don't warrant itemized cost requests due to the low whole dollar amount. Functionally, this money would fund public participation, committee work and staffing coordination necessary to achieve the objectives detailed in the following Table.
2. Capacity reduction is a key feature of the Strategic Plan, in addition to a NMFS priority for all national marine fisheries. The Council supports the current effort from the regional industry representatives advocating a $50 M plan, half in Congressional funding and half from industry sources; $250,000 would also be needed to administer the program. Absent this funding, about $100,000 is needed to provide for trawl permit stacking alternatives, $400,000 for a limited entry system for the current open access fishery, and $50,000 for permit stacking in the non-sablefish fixed gear fishery.
3. An additional amount of $2.8 M is needed for at-sea observers, to complete existing funding of $2.2 M for a pilot program for groundfish vessels, so as to address the important issues of by-catch and discards.
4. An amount of $1.4 M is needed to fund establishing Marine Reserves on the West Coast. The Council can take the lead in securing biological security for future groundfish fisheries in this region, including coordination with other federal initiatives such as the recent Executive Order on Marine Protected Areas and regional State initiatives.
5. The Groundfish Strategic Plan calls for the delegation of near-shore rockfish to the three regional States, at a cost of $1.575 M.

Should you have any questions about Council funding needs, please don't hesitate to give me a call.

Sincerely,

Donald O. McIsaac, Ph.D.
Executive Director

c: Jim Lone
Council Members
Rebecca Lent
Donna Darm
West Coast Congressional Delegations
Regional Fishery Management Council Executive Directors
Ad Hoc Marine Reserve Process Design Committee
Bob Fletcher
Karen Garrison
Suzanne Udicello

Table 1. PFMC Groundfish Strategic Plan Implementation Costs

(all items will require some level of continued funding beyond FY02 except for Buyback)

OBJECTIVE	COSTS (in million $)							
	Council	Nat'l. Mar. Fish. Serv.		States	Tribes	sub-total	Other	Grand
		direct	pass-thru			Cong.request		Total
Administration	0.5					0.5		0.5
Buyback		0.25	25			25.25	25	50.25
Trawl permit stacking	*	0.1				0.1		0.1
Observers		2.8				2.8		~~2.8~~ (+2.1 already)
Improve Groundfish Fishery Mgmt Process	*					*		*
Sablefish Fixed Gear permit stacking	*					*		*
Open Access Limited Entry Allocation	0.25 *	0.15				0.4 *		0.4 *
Marine Reserves	0.298	0.832		0.198	0.066	1.394	0.25	1.644
Near shore rockfish delegation to States				1.5	0.075	~~1.575~~		~~1.575~~
Non-sablefish fixed gear permit stacking		0.05				0.05		0.05
New harvest policy recommendations	*					*		*
Targeted Reg. Impr. (2)	*					*		*
TOTAL	1.048	4.182	25	1.698	0.141	~~32.069~~	25.25	57.319
TOTAL WITHOUT BUYBACK	1.048	3.932	0	1.698	0.141	~~6.819~~	0.25	7.069

* The implementation costs of these objectives is included in the $ 0.5 M for the Plan Administration objective

**Project to Support the Pacific Fishery Management Council (Council)
Consideration of Marine Reserves for the West Coast
(and Coordination with State and Local Efforts)**

Task I: General Process Support (GPS)

Staff would be hired to provide preparation, coordination, and follow-up for all other tasks in this project. The staff would be assigned as follows:

	Location		Cost Year 1	Cost Years 2&3
A.	Council Office	One professional plus 0.25 FTEs of administrative support	$150,000/year	$150,000/year
B.	Washington	One professional	$66,000/year	$132,000/year
C.	Oregon	One professional	$66,000/year	$132,000/year
D.	California	One professional	$66,000/year	$132,000/year
E.	NMFS NWR	One professional	$66,000/year	$132,000/year
F.	NMFS SWR	One professional	$66,000/year	$132,000/year
G.	Tirbes	One professional	$66,000/year	$132,000/year
H.	Process Oversight Panel Meetings		$35,000/year	$35,000/year
			Total Year 1: $581,000	**Total/year for Years 2&3: $977,000**
				Total for three years: $2,535,000

Task II: Initial Outreach

- Provide information on what has happened thus far in the process and the plans for what will happen
- Invite participation
- Determine what processes others are pursuing to consider MPAs. Address integration and overlap issues.
- Educate regarding the science of marine reserves
- Be ready to accept input

	Subtask	Details	Timing	Cost	Responsible Party
A.	Develop an Outreach Plan for Each State (Coordinate with state and local MPA processes)	Work with Sea Grant and other contacts up-front to plan meetings and visits for the following two subtasks	Year 1	See GPS Task	Council Coordinates
B.	Hold a Series of One Day Community Meetings	A team would go to each location for each one day meeting. The team would remain in the area for 2 or 3 extra days to engage in one-on-one discussions with members of the fishing industry and local community: Washington (5 meetings); Oregon (5 meetings); California (15 meetings)	Year 1	$3,000 per meeting plus GPS Task Total: $75,000	Council Coordinates
C.	Attend Meetings of Specific Groups (e.g. Industry Associations)	One person would go to meeting and stay an extra day for further discussion: Washington (4 meetings); Oregon (4 meetings); California (8 meetings)	Year 1	$500 per meeting Total: $8,000	Council Coordinates
			Year 1	**Total: $83,000**	

Task III: Physical, Biological, and Socio-Economic Science and Data Development

- Assemble and summarize data
- Achieve a common understanding of the science and data
- Provide a mechanism to capture fishermen's knowledge
- Produce specific design criteria
- Find out what others are doing to develop science and data systems, determine whether or not it is compatible and useful
- Consider monitoring theory and enforceability
- Develop siting frameworks/design criteria

Subtask		Details	Timing	Cost	Responsible Party
A.	Assemble Two Standing Panels	One panel of physical and biological scientists and one panel of economists and other social scientists	Year 1	See GPS Task	Council Coordinates
B.	Three Post-doctoral Scientists to Support Panels in Year 1, Four in Year 2	These individuals would pull together and summarize data then work with local fishers to augment information available from existing data systems.	Years 1&2	$100,000/person/year Year 1: $300,000 Year 2: $400,000 **Total:$700,000**	PSMFC or NMFS
C.	Industry Liaisons	Fishers to work hand-in-hand with scientists	Years 1&2	$200,000/year **Total:$400,000**	PSMFC
D.	GIS Data System and Decision Support Tool	One individual, travel, software and computer support and document development, reproduction, and distribution	Years 1&2	$200,000/year **Total: $400,000**	PSMFC or NMFS
E.	Meetings	Technical science meetings (4/year) Town hall meetings to augment data system information (several) Final science meeting (1)	Years 1&2	$30,000/year **Total: $60,000**	Council Coordinates
			Year 1	**Total: $730,000**	
			Year 2	**Total: $830,000**	
			Project	**Total: $1,560,000**	

Task IV: Marine Reserve Scenario Development

- Use the concept of an extended Groundfish Advisory Panel that includes communities and all stakeholders to develop scenarios for marine reserves.
- Scenarios should include proposals for management restrictions in the marine reserve areas, boundaries and management outside the marine reserve.

Subtask		Details	Timing	Cost	Responsible Party
A.	Initial Scenario Development	Three three-day meetings of extended GAP. One meeting for the nearshore area, one for the shelf area and one for the slope. At each meeting the attendees would divide into three groups, one for each state. Integrate with local efforts to develop marine reserves. Include professional facilitator.	Year 2 (Jan-Apr)	$54,000 Plus GPS Task	Council Coordinates
B.	Regional Scenario Development	Hold regional meetings: two each for Washington and Oregon and six in California. Integrate with local efforts to develop marine reserves. Include professional facilitator.	Year 2 (Jun-Aug)	$120,000 Plus GPS Task	Council Coordinates
C.	Finalize Scenarios for Council Consideration	Single meeting for groups from Subtask A.. Include professional facilitator.	Year 2 (Fall)	$20,000 Plus GPS Task	Council Coordinates
D.	Prepare Recommendations for Council	Develop documents for Council	Year 2-3	GPS Task	Council Coordinates
			Year 2	**Total: $194,000**	

Task V: Expanded Council Process for Final Decision

- Narrow alternatives
- Continue to rely on an expanded Groundfish Advisory Panel type group
- Additional outreach at proposed sites
- Conduct needed NEPA analysis

This task includes only activities over and above normal process and Council staff support.

	Subtask	Details	Timing	Cost	Responsible Party
A.	Website	Develop and implement interactive website to present data from Task III and scenarios from Task IV	Year 3 (may start in Year 2)	$50,000 Plus GPS Task	PSMFC
B.	Outreach Publications	Development, reproduction and distribution	Year 3	$50,000 Plus GPS Task	Council Coordinates
C.	NEPA Analysis	EIS Documents	Year 3	$250,000 Plus GPS Task	Contractor
D.	Expanded Advisory and Public Hearing Process for Council		Year 3	$30,000 Plus GPS Task	Council
			Year 3	**Total: $380,000**	

Fiscal Summary:

	Task	Year 1	Year 2	Year 3	Total
I.	General Process Support	$581,000	$977,000	$977,000	$2,535,000
II.	Initial Outreach	$83,000			$83,000
III.	Physical, Biological, and Socio-Economic Science and Data Development and Summary	$ 730,000	$830,000		$1,560,000
IV.	Marine Reserve Scenario Development		$194,000		$194000
V.	Expanded Council Process			$380,000	$380,000
	Total	$1,394,000	$2,001,000	$1,357,000	$4,752,000

Exhibit F.2

Attachment 5
April 2001

DRAFT FOR COMMENTS—LB BOYDSTUN—JANUARY 25, 2001

Mr. Jim Lone
Chairman
Pacific Fishery Management Council

Dear Mr. Lone:

Permit Requirement for the Open Access Commercial Groundfish Fishery

A subcommittee of the Strategic Plan Oversight Committee (SPOC) held a teleconference January 18, 2001 to discuss and develop an implementation strategy regarding subject.

The committee reviewed the pertinent Groundfish Strategic Plan (Plan) sections and received input from Dr. Jim Hastie on his preliminary assessment of the quantity and quality of data available for the various segments of the open access commercial fisheries. The subcommittee initially identified three fishery strategies that fall under the "directed" or "B" fishery heading, as described in the Plan. These include the directed hook-and-line fisheries (troll, fixed, and long line gear); fishpots (primarily for sablefish); and directed fishery set nets. Under the "incidental" or "C" gear category we identified the following gear types or fishery strategies: exempted trawl (pink shrimp, spot prawn, sea cucumber, and California halibut), salmon troll, halibut longline, and non-directed set net fisheries (for California halibut and white seabass). Dr Hastie noted some open access data do not specify gear type and will require additional analysis if they are to be included as part of the data base. The group noted there are geographic differences in the fisheries that should probably be taken into account in the final partitioning of the data for initial permitting and fishery allocation purposes.

We had a brief discussion about the need to allocate catches consistent with future permitting decisions. The window period selected for making such allocations could be quite contentious. The window period used for making fishery allocations for existing limited entry fisheries may not be appropriate for allocations between open access fisheries based on changes in those fisheries in recent years. Also, the resolution in the data, particularly for nearshore species, is poor at best for years prior to about 1994.

The group did not delve deeply into the myriad of specific issues (and problems) associated with the development of a new restricted access program.

The group recommends that the Council move forward with developing a restricted access program for the subject fisheries. To do, that we recommend the formation of a core policy group to guide and make recommendations on plan development process. We suggest the group be comprised of one representative each from the coastal states, a National Marine Fisheries Service member, and other Council entities or members, as appropriate. The core group should consider ways and means of soliciting and receiving public input to the process. Appropriate Council and agency staff will need to scheduled to prepare plan development documents and to analyze fishery data, as directed.

This will be a major work load issue that will have to considered in the context of the Council's other high priority groundfish issues.

We developed the following implementation schedule for Council consideration:

Mar 2001:	Council considers the need for restricted access in the open access commercial fishery and recommends formation of core planning group (CPG). Council guidance at his meeting could help the CPG get started. The CPG should plan to meet before or soon after the April 2001 Council meeting to scope the issue, agree on a problem statement, determine how to receive public input to the process, and make initial assignments.
June 2001:	CPG provides the Council a plan development update and seeks guidance.
Sep 2001:	CPG provides a draft plan to the Council and sets public hearing dates and places.
Nov 2001 or March 2002:	Adopt final plan.
April to Dec 2002:	Complete groundfish plan amendment process, issue permits, hear appeals, etc.
Jan 1, 2003:	Restricted access plan is implemented.

Participants: Eileen Cooney, Bill Robinson, and Jim Hastie; WDFW–Brian Culver, ODFW--Jim Golden; CDFG--LB Boydstun and Dave Thomas; PFMC staff-- Jim Glock.

Questionnaire Number _____

GROUNDFISH BUY-BACK QUESTIONNAIRE

1) What gear endorsement(s) does your permit have?

Trawl _____
Longline _____ → Sablefish endorsed? Yes ____ No ____
Pot _____ → Sablefish endorsed? Yes ____ No ____

2) Is your groundfish permit currently assigned to a vessel that you own?

Yes _____ No ____

3) If yes, for the vessel that your groundfish permit is assigned, are there also any State fishery permits assigned? Yes _____ No _____

If yes, which State fishery permits do you also have:

	Calif.	Oregon	Wash.
Pink shrimp	_____	_____	_____
Dungeness crab	_____	_____	_____
Pacific Salmon	_____	_____	_____
Other (1) _____	_____	_____	_____
Other (2) _____	_____	_____	_____

4) If a buy-back program were made available to you that provided an **option** of selling either your groundfish permit alone **OR** selling your groundfish permit, and all State permits along with your vessel, what would your likely do?

a. Submit a bid to sell groundfish permit alone _____
b. Submit a bid to sell all permits and boat _____
c. Not submit a bid _____

If above you indicated you would likely submit a bid in either a or b, please state your estimated bid price for sale. _____

5) If in question 4a, you indicated that given the option, you would likely submit a bid to sell the groundfish permit alone, would you also be likely to submit a bid if a buy-back program were made available to you that **required** the selling of your groundfish permit, all State permits and your vessel?

Yes _____ No _____

If above, in #5, you indicated YES, you would likely submit a bid, please state your estimated bid price for sale for all permits and vessel. _____

SUMMARY OF BUY-BACK QUESTIONNAIRE

	# OF PERMITS	RETURNED QUESTIONNAIRES	PRECENT RETURNED
TRAWL	263	193	73.4%
LONGLINE	187	109	58.3%
POT	31	16	51.6%
TOTAL	481	318	66.1%

SABLEFISH ENDORSED	# OF PERMITS	RETURNED QUESTIONNAIRES	PRECENT RETURNED
LONGLINE	131	79	60.3%
POT	31	16	51.6%
TOTAL	162	95	58.6%

QUESTION #2 - OWN BOAT?

	YES	NO
TRAWL	174	18
LONGLINE	81	21
POT	12	3

QUESTION #3 - STATE PERMITS?

	YES	NO
TRAWL	135	39
LONGLINE	65	16
POT	12	0

QUESTION #4 - SELL WITH CHOICE

	4a	4b	4c	total
TRAWL	53	96	41	190
LONGLINE	20	39	45	104
non-endorsed	10	12	7	29
endorsed	10	27	38	75
POT	2	3	10	15

QUESTION #5 - NO CHOICE	YES	NO
TRAWL	25	16
LONGLINE	7	11
non-endorsed	3	6
endorsed	4	5
POT	2	0

ESTIMATED NUMBER OF WILLING SELLERS

	Permit	Boat & Permit	Total	
TRAWL	21	166	186	70.8%
NON-TRAWL	14	91	105	48.3%
LL-endorsed	7	52	59	45.2%
LL- nonendorsed	8	28	36	64.3%
Longline total	14	81	95	51.0%
Pot	0	10	10	32.3%
TOTAL	**35**	**257**	**291**	**60.6%**

DRAFT REDUCTION GOALS

TRAWL	106 - 172
NON-TRAWL	87 - 142
TOTAL	**193 - 314**

ENFORCEMENT CONSULTANTS COMMENTS ON IMPLEMENTATION OF THE GROUNDFISH STRATEGIC PLAN

The Enforcement Consultants (EC) in reviewing the Groundfish Strategic Plan do not see anywhere where enforcement costs are identified in the plan. As the Council moves forward with different phases in implementing the strategic plan, the cost of enforcement is highly variable depending on actions taken. Two specific examples are observer coverage and marine reserves both of which have substantial enforcement elements. We ask that the Council recognize these costs as both state and federal resources are limited. The trend now is for less money for enforcement programs. The ability of enforcement to react to newly implemented programs is very limited.

PFMC
03/07/01

GROUNDFISH STRATEGIC PLAN IMPLEMENTATION

Situation: The Council will hear from its groundfish advisory bodies and the Scientific and Statistical Committee (SSC) on the recommendations of the Ad Hoc Groundfish Strategic Plan Implementation Oversight Committee (SPOC).

Earlier this year, the SPOC met to begin implementation of the Groundfish Strategic Plan. The SPOC reviewed and prioritized strategic plan topic areas and issues. Specific information about strategic plan implementation cost estimates, nearshore management delegation, and conversion of the open access fishery to limited entry was also reviewed and/or developed. The SPOC designated an implementation team for the purpose of developing a process design and cost estimate to implement marine reserves under the goals and objectives described in the Groundfish Strategic Plan.

At the March 2001 meeting, the SPOC provided a report to the Council detailing recent activities and recommendations. The Council directed that the SPOC materials be made available to the Council's advisory entities for review and comment at the April 2001 Council meeting.

After hearing from the advisory bodies, the Council will provide guidance to the SPOC regarding the next steps in implementing Groundfish Strategic Plan measures.

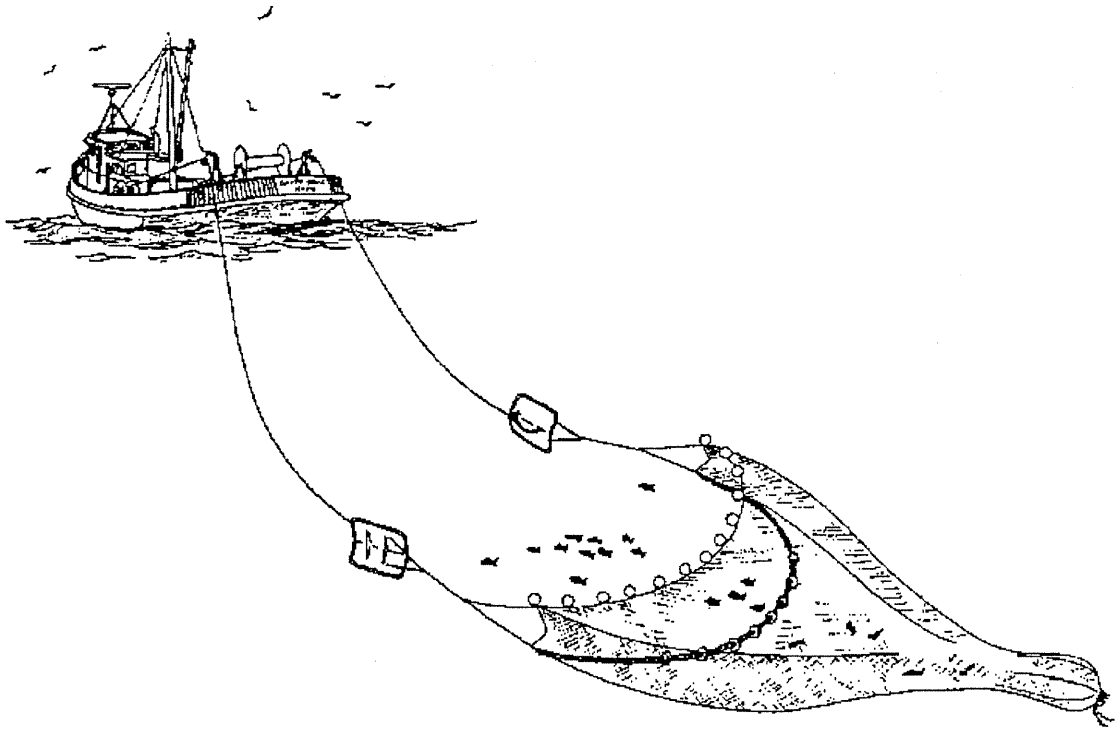
Council Action: Consider Further Implementation Measures.

Reference Materials:

1. Exhibit F.2, Attachment 1. Summary Minutes from first SPOC meeting.
2. Exhibit F.2, Attachment 2. Summary Minutes from Second SPOC meeting.
3. Exhibit F.2, Attachment 3. Council letter to Mr. Randy Fisher Regarding Groundfish Strategic Plan Implementation Costs.
4. Exhibit F.2, Attachment 4. Cost and Process Description for Council Consideration of Marine Reserves Under the Groundfish Strategic Plan.
5. Exhibit F.2, Attachment 5. Draft Letter Regarding Permitting of the Open Access Commercial Groundfish Fishery.
6. Exhibit F.2, Attachment 6. Industry Sponsored Groundfish Buyback Questionnaire.
7. Exhibit F.2, Attachment 7. Enforcement Consultants Comments on Groundfish Strategic Plan Implementation.
8. Exhibit F.2, Supplemental SSC Report.
9. Exhibit F.2, Supplemental GMT Report.
10. Exhibit F.2, Supplemental GAP Report.

PFMC
03/20/01

SUMMARY AND ANALYSIS OF THE 2001 GROUNDFISH BUY-BACK QUESTIONNAIRE



Peter Leipzig
Fishermen's Marketing Association
320 Second Street
Suite 2B
Eureka, CA

MARCH 28, 2001

In mid-January 2001 a questionnaire was mailed to all holders of Pacific Groundfish Limited Entry permits. The purpose of the questionnaire was ascertain the level of interest by permit holders in selling their permit and vessel in a buy-back program and to produce an estimate of the cost of conducting such a program.

There were 499 questionnaires mailed. For the purpose of analyzing the response, the eight Newport Beach, California dory fleet permit holders and 10 factory trawl permit holders have been excluded from the analysis for a total of 481 permits. Additionally, since several permits are endorsed with more than one gear type a single gear was assigned to these permits. There are five permits that show both "trawl and longline" or "trawl and pot". Four of these were assigned to the trawl group, while one that had not trawled in recent years was assigned to longline. Those permits that possessed "longline and pot" were assigned to the pot group.

Each questionnaire was assigned a unique number that identified the holder of the permit. A second mailing of the questionnaire was sent in mid-February to each permit holder that had not yet returned the questionnaire. A copy of the questionnaire is attached (Figure 1).

Table 1 summarizes the returns, which ran from 73% for trawl to 48% pot. Generally, permit holders own the boat that their permit is assigned and also hold permits to participate in other fisheries. Roughly 72% of the trawl permit holder were interested in selling, while 47% of the non-trawl permit holder wanted to sell. Assuming that non-respondents would answer similarly to responding permit holders, an expanded estimate of the total number of interest sellers was 189 for trawl and 102 for non-trawl (Table 2)

The cost of the program is more difficult to estimate. Bid responses were "scored" by dividing the bid amount for each vessel by the 1998-2000 gross fishing revenue for that vessel. (These calculations were performed by NMFS and the revenue information for each vessel was held confidential.) These were then ranked from low to high score. Generally, the non-trawl bid amount was higher than trawl amounts for similar revenue. Figure 2 shows the cumulative number of boats by gear against the total dollar cost of the program. The relative higher bid of the non-trawl boats is seen as increasing numbers only at very high total dollar amounts. If this program had a total dollar amount of $50 million available, few non-trawl permits would be purchased unless the submitted bid was much less than the response on the questionnaire.

Table 3 summarizes the number of state fishery permits that were held by individuals indicating an interest in submitting a bid in a buy-back program.

Table 4 provides an estimate of the cost of the program to the remaining groundfish and state fishery participants.

Figure 1.

Questionnaire Number _____

GROUNDFISH BUY-BACK QUESTIONNAIRE

1) What gear endorsement(s) does your permit have?

Trawl _____
Longline _____ → Sablefish endorsed? Yes ____ No ____
Pot _____ → Sablefish endorsed? Yes ____ No ____

2) Is your groundfish permit currently assigned to a vessel that you own?

Yes _____ No ____

3) If yes, for the vessel that your groundfish permit is assigned, are there also any State fishery permits assigned? Yes _____ No _____

If yes, which State fishery permits do you also have:

	Calif.	Oregon	Wash.
Pink shrimp	_____	_____	_____
Dungeness crab	_____	_____	_____
Pacific Salmon	_____	_____	_____
Other (1) _____	_____	_____	_____
Other (2) _____	_____	_____	_____

4) If a buy-back program were made available to you that provided an **option** of selling either your groundfish permit alone **OR** selling your groundfish permit, and all State permits along with your vessel, what would your likely do?

a. Submit a bid to sell groundfish permit alone _____ .
b. Submit a bid to sell all permits and boat _____
c. Not submit a bid _____

If above you indicated you would likely submit a bid in either a or b, please state your estimated bid price for sale. _____

5) If in question 4a, you indicated that given the option, you would likely submit a bid to sell the groundfish permit alone, would you also be likely to submit a bid if a buy-back program were made available to you that **required** the selling of your groundfish permit, all State permits and your vessel?

Yes _____ No _____

If above, in #5, you indicated YES, you would likely submit a bid, please state your estimated bid price for sale for all permits and vessel. _____

Table 1. SUMMARY OF BUY-BACK QUESTIONNAIRE

QUESTION #1	# OF PERMITS	RETURNED QUESTIONNAIRES	PERCENT RETURNED
TRAWL	263	193	73.4%
LONGLINE	187	115	61.5%
POT	31	15	48.4%
TOTAL	481	323	67.2%

SABLEFISH ENDORSED ?	# OF PERMITS	RETURNED QUESTIONNAIRES	PERCENT RETURNED
LONGLINE	131	84	64.1%
POT	31	15	48.4%
TOTAL	162	99	61.1%

QUESTION #2 - OWN BOAT?	YES	%	NO	%
TRAWL	174	90.6	18	9.4
LONGLINE	86	79.6	22	20.4
POT	11	78.6	3	21.4

QUESTION #3 - STATE PERMITS?	YES	%	NO	%
TRAWL	135	77.6	39	22.4
LONGLINE	68	79.1	18	20.9
POT	11	100.0	0	0

QUESTION #4 - SELL WITH CHOICE

	4a	%	4b	%	4c	%	total
TRAWL	50	26.3	100	52.6	40	21.1	190
LONGLINE	23	20.9	39	35.5	48	43.6	110
non-endorsed	12	38.7	11	35.5	8	25.8	31
endorsed	11	13.9	28	35.4	40	50.6	79
POT	2	14.2	2	14.2	10	71.4	14

QUESTION #5 - NO CHOICE	YES	%	NO	%
TRAWL	24	63.2	14	36.8
LONGLINE	9	45.0	11	55.0
non-endorsed	4	40.0	6	60.0
endorsed	5	50.0.	5	50.0
POT	2	100.0	0	0

Note: Since some respondents did not answer all questions, totals may not sum to the total number of returns.

Table 2. ESTIMATED NUMBER OF WILLING SELLERS

	Permit	Boat & Permit	Total	Percent
TRAWL	20	169	189	71.9%
NON-TRAWL	15	87	102	46.7%
LL-endorsed	8	51	59	45.0%
LL- nonendorsed	7	27	34	61.3%
Longline total	15	78	93	49.9%
Pot	0	9	9	27.6%
TOTAL	**36**	**255**	**291**	**60.5%**

REDUCTION GOALS:

TRAWL	106 - 172
NON-TRAWL	87 - 142
TOTAL	**193 - 314**

Note: Data presented are an expansion of questionnaire results. The values for permit only represent those responses to question #4a that also did not own the vessel that their permit was assigned. The values for boat and permit is the sum of responses to question #4b and those that responded YES to question #5.

Figure 2.

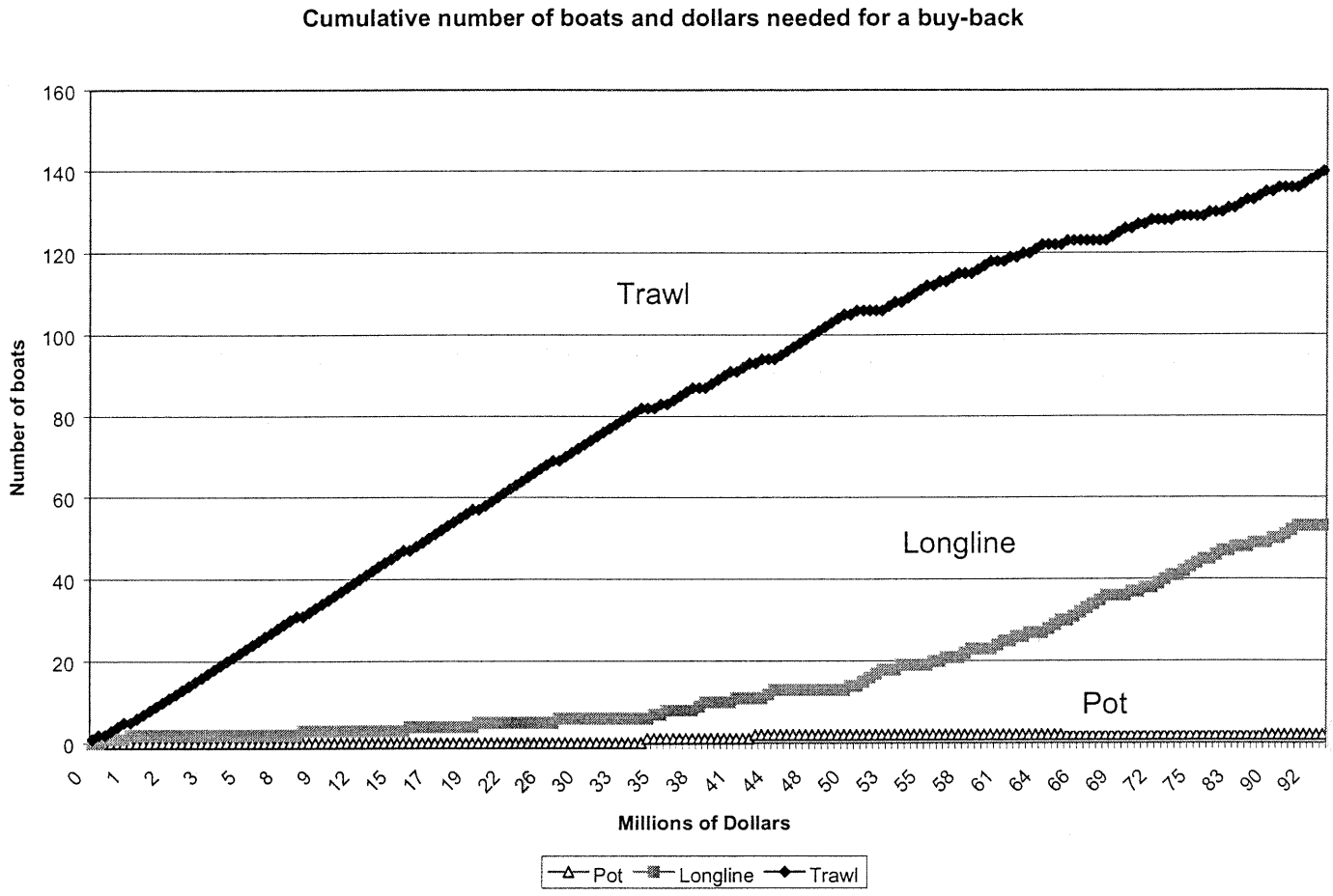

Cumulative number of boats and dollars needed for a buy-back
Number of boats
160
140
120
100
80
60
40
20
0
Trawl
Longline
Pot
0 1 2 3 5 8 9 12 15 17 19 22 26 30 33 35 38 41 44 48 50 53 55 58 61 64 66 69 72 75 83 90 92
Millions of Dollars
Pot
Longline
Trawl

Table 3. ESTIMATED NUMBER OF STATE PERMITS BY FISHERY AND STATE THAT WOULD BE SOLD IN A GROUNDFISH BUY-BACK PROGRAM

	WASHINGTON	OREGON	CALIFORNIA	TOTAL
SHRIMP				
TRAWL	19	41	47	107
LONGLINE	1	0	0	1
POT	0	0	1	1
TOTAL	20	41	48	109
CRAB				
TRAWL	1	13	36	50
LONGLINE	7	8	11	26
POT	0	0	0	0
TOTAL	8	21	47	76
SALMON				
TRAWL	2	7	14	23
LONGLINE	2	11	16	29
POT	0	1	1	2
TOTAL	4	19	31	54

Table 4. AN EXAMPLE OF ESTIMATED COST OF THE BUY-BACK PROGRAM TO THE VARIOUS FISHERIES

Assume the following average sale price and distribution of revenue

	groundfish	shrimp	crab	salmon	sale price
trawl	60%	20%	20%	0%	$350,000
non-trawl	30%	0%	50%	20%	$150,000

	# Permits			
	Trawl	Non-trawl	$	%
GROUNDFISH				
Trawl	125		$26,250,000	58.0%
Non-trawl		50	$5,250,000	11.6%
SHRIMP				
Washington	19	1	$1,330,000	2.9%
Oregon	41	0	$2,870,000	6.3%
California	47	1	$3,290,000	7.3%
CRAB				
Washington	1	7	$560,000	1.2%
Oregon	13	8	$1,470,000	3.2%
California	36	11	$3,290,000	7.3%
SALMON				
Washington	2	2	$60,000	0.1%
Oregon	7	12	$360,000	0.8%
California	14	17	$510,000	1.1%
Total			$45,240,000	100%

Proposed Fishery Legislation

Section by Section Summary 4/02/01

Section 1

Short title: Pacific Coast Commercial Fishery Preservation and Enhancement Act

Section 2

Pilot Project for Charitable Donation of Bycatch

(1) NMFS will administer a pilot project aimed at avoiding the enormous waste of the resource. Fishermen may donate bycatch or regulatory discards to charitable organizations. The project will require observers or other means to monitor catch for compliance with trip limits.

(2) If observers are utilized in this pilot project:

(a) the Pacific Council will work with NMFS to establish the observer pilot project;

(b) the Secretary will ensure that this project is part of, or consistent with any national observer program;

(c) The Secretary will ensure that the observer project is consistent with section 313 of the M/S Sustainable Fisheries Act (M/S SFA).

(3) Reports

(1) The Secretary will notify the Senate Commerce Committee within 90 days and again one week before the project is implemented about:

(A) the fishery where this project will be implemented; and

(B) The period of time the project will run.

(2) Follow-up: The Secretary will report to the Senate Commerce Committee on the findings of the project and potential ramifications of those findings within 90 days after the project is completed.

Section 3

Expedited Disaster Assistance for Pacific Coast Groundfish Fishery

This section requires that groundfish disaster money that was appropriated in June 2000 be distributed as expeditiously as possible. If the money has not been distributed by the date of enactment, then the Secretary is instructed to distribute the funds without further delay. The Secretary is required to report to the Senate Commerce Committee within 45 days of enactment describing the actions that have been taken to provide disaster relief and providing a plan for expediting disaster relief in the future.

Section 4

Capacity Reduction in the Pacific Coast Groundfish Fishery

(a) After notice and opportunity for public comment, the Secretary will adopt regulations to implement a capacity reduction plan for the fishery that meets the following criteria:
  (1) Consultation with all affected parties who must participate;
  (2) the most capacity reduction for the least amount of money using a reverse auction process;
  (3) non-expansion of the scope of the fishery failure into other fisheries or regions;
  (4) meet the requirements of section 312 (b-e), except as specified in this section;
  (5) Incorporates the components in subsection (c) of this section.

(b) Expedited adoption of the capacity reduction plan:
  (1) notice in the Federal Register will appear within 30 days of the enactment of this bill;
  (2) 60 day comment period;
  (3) Final regulations will be adopted within 45 days after close of the public comment period.

(c) Plan Components: The plan will:
  (1) Provide for significant reduction in fishing capacity;
  (2) Permanently revoke all fishery licenses and permits, area and species endorsements, and any other privileges, for all U.S. fisheries that were issued to vessel(s) or persons for which the groundfish permit is revoked;
  (3) Permanently revoke the fishery endorsement for any vessel (that takes place in this capacity reduction program) by the Secretary of Transportation, and such vessel cannot be transferred to a foreign flag;
  (4) Ensure that vessels that participate in this program are permanently ineligible to participate in any fishery worldwide (the owners of the vessels must agree that the vessels will operate only under the US flag or be scrapped);
  (5) Ensure that vessels removed from the groundfish fishery, the owners of those vessels and holders of permits for those vessels forever surrender any claim associated with the vessel, permits, and any catch history that could qualify the vessel, vessel owner, or permit holder for any present or future limited access fishing permits;
  (6) Not waive any requirements of the Limited License Program;
  (7) Establish a repayment period for the reduction loan of not less than 30 years.

(d) Funding buyback of vessels and permits
  (1) Authorization of appropriations sufficient to complete the program:
    (A) ½ appropriated in 2002

(B) ½ will come from an industry fee program to pay back the reduction loan.

(2) The industry fee portion will be financed under the relevant sections of the Merchant Marine Act.

(e) Industry fees:

(1) Establishes an industry fee system under section 312(d) of the M/S Sustainable Fisheries Act to repay the loan.

(2) Repayment fees will be applied to:

(A) holders of Pacific Coast groundfish permits;

(B) holders of Pacific Coast shrimp permits;

(C) holders of Pacific Coast salmon permits; and

(D) Holders of Pacific Coast crab permits.

The % of revenue generated by the fee system from the holders of each kind of permit will correspond to the % of the total amount paid for that kind of permit.

(f) Duties of the Secretary of Transportation

(1) The Secretary of Transportation will be notified by the Secretary of Commerce and will:

(A) permanently revoke any fishery endorsement issued to such vessel;

(B) refuse to grant the approval required for the vessel under foreign registry or the operation of such vessel under the authority of a foreign country.

(2) The Secretary of Transportation will adopt final regulations within 6 months after enactment to prohibit any vessel that participates in the capacity reduction program (permit surrendered or revoked) from fishing on the High Seas or under the jurisdiction of any foreign country while operating under the U.S. flag.

Section 5

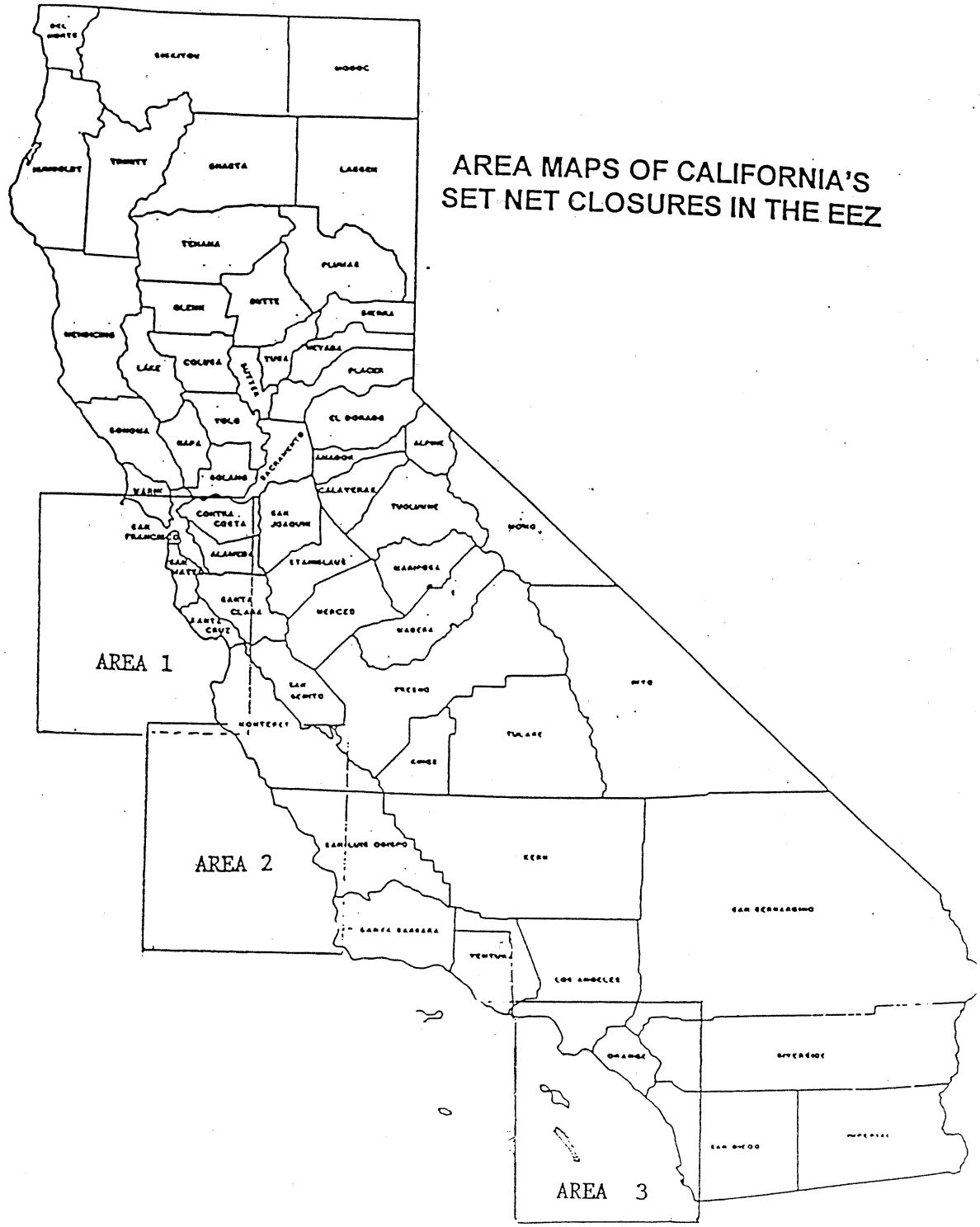
Amendment to the Merchant Marine Act (1936) to expand the purposes of the Capital Construction Fund

This section describes the changes to the Merchant Marine Act of 1936 and the Internal Revenue Code to allow funds currently in the Capital Construction Fund (CCF) to be rolled over into an Individual Retirement Account (IRA) without adverse tax consequences to the account holders.

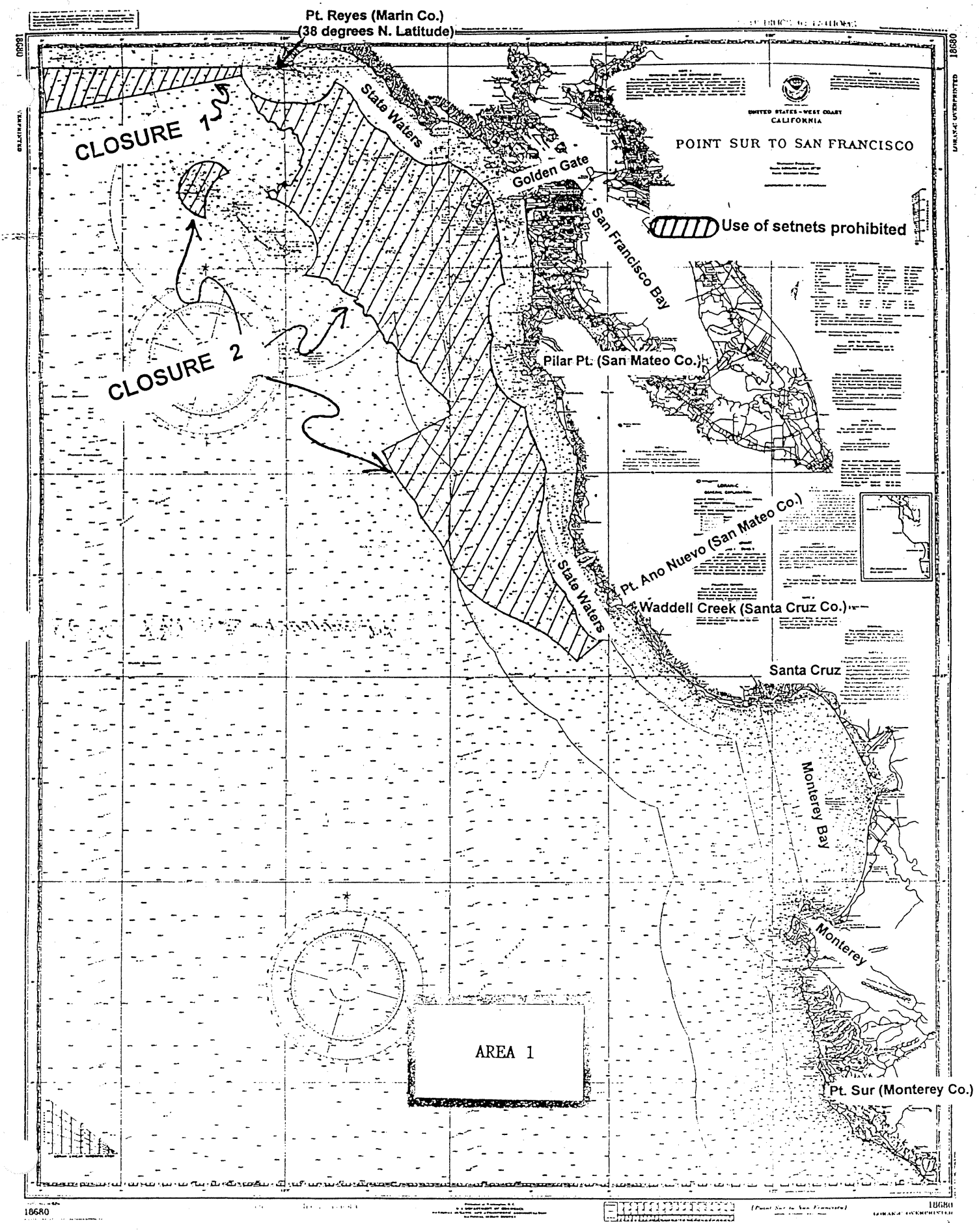
Exhibit F.3.a.(1), Supplemental CDFG Presentation April 2001

ATTACHMENT 1

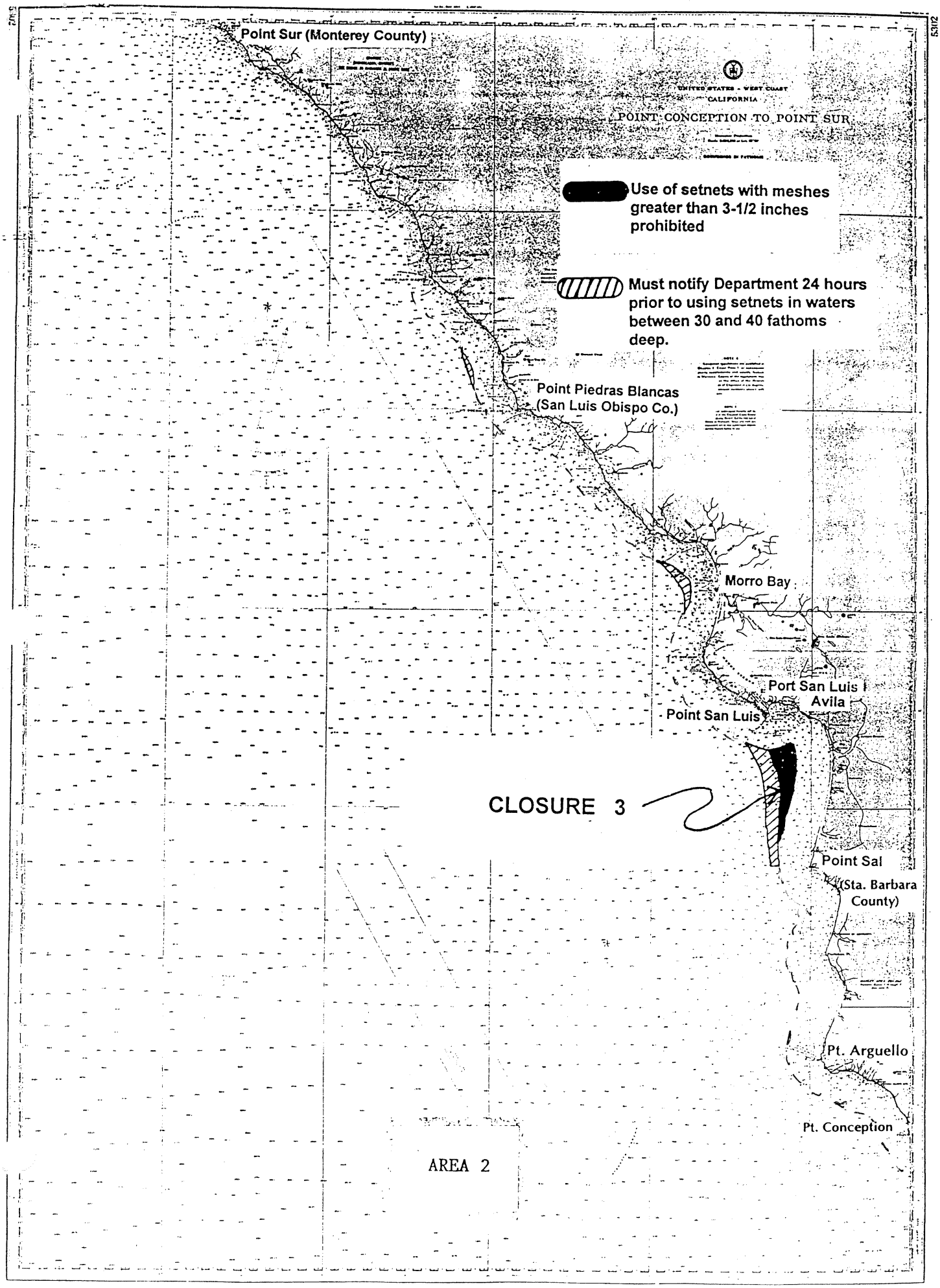
AREA MAPS OF CALIFORNIA'S SET NET CLOSURES IN THE EEZ

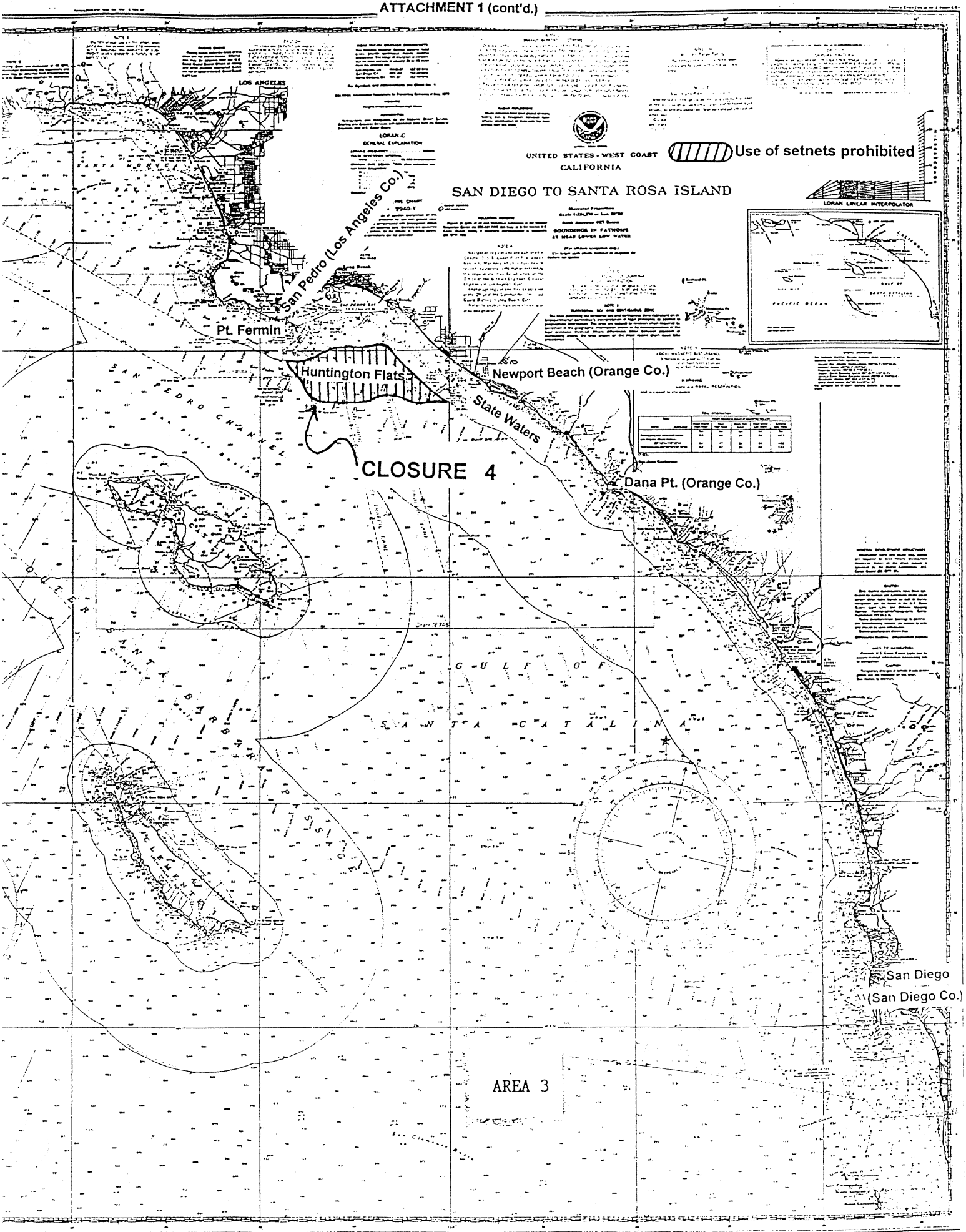


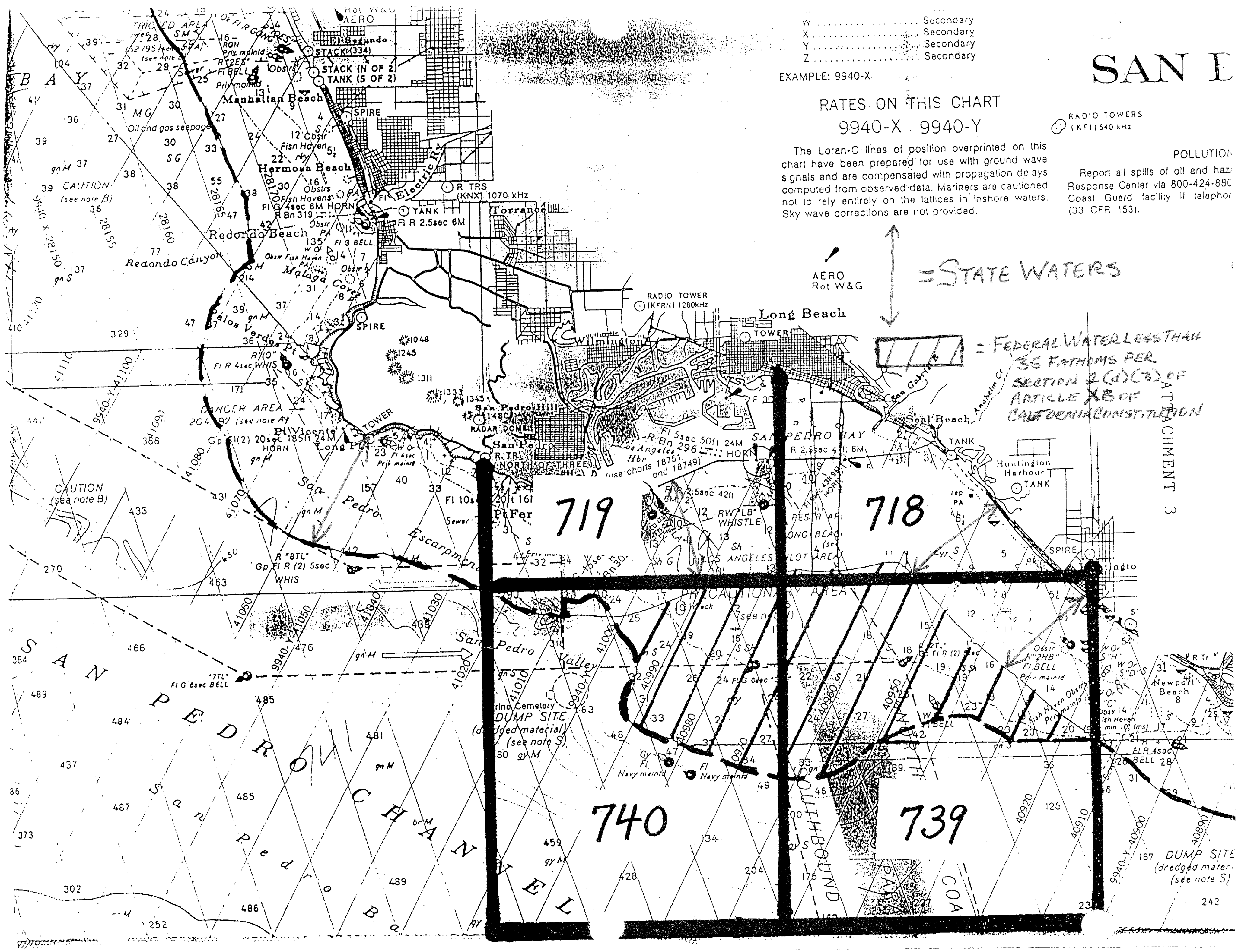
ATTACHMENT 1 (cont'd.)



ATTACHMENT 1 (cont'd.)




UNITED STATES - WEST COAST
CALIFORNIA
SAN DIEGO TO SANTA ROSA ISLAND
Use of setnets prohibited
LORAN LINEAR INTERPOLATOR
LORAN-C
GENERAL EXPLANATION
LOS ANGELES
SANTA MONICA BAY
San Pedro (Los Angeles Co.)
Pt. Fermin
Huntington Flats
Newport Beach (Orange Co.)
State Waters
CLOSURE 4
Dana Pt. (Orange Co.)
SAN PEDRO CHANNEL
OUTER SANTA BARBARA PASSAGE
GULF OF SANTA CATALINA
San Diego
(San Diego Co.)
AREA 3


SAN P
W .... Secondary
X .... Secondary
Y .... Secondary
Z .... Secondary
EXAMPLE: 9940-X
RATES ON THIS CHART
9940-X . 9940-Y
The Loran-C lines of position overprinted on this chart have been prepared for use with ground wave signals and are compensated with propagation delays computed from observed data. Mariners are cautioned not to rely entirely on the lattices in inshore waters. Sky wave corrections are not provided.
RADIO TOWERS (KFI) 640 kHz
POLLUTION
Report all spills of oil and haz Response Center via 800-424-880 Coast Guard facility if telephor (33 CFR 153).
= STATE WATERS
= FEDERAL WATER LESS THAN 35 FATHOMS PER SECTION 2(d)(3) OF ARTICLE XB OF CALIFORNIA CONSTITUTION
ATTACHMENT 3
719
718
740
739
Long Beach
Manhattan Beach
Hermosa Beach
Redondo Beach
Redondo Canyon
Torrance
Wilmington
San Pedro
San Pedro Hill
SAN PEDRO BAY
Seal Beach
Huntington Harbour
Newport Beach
SAN PEDRO CHANNEL
San Pedro Escarpment
San Pedro Valley
PRECAUTIONARY AREA
DANGER AREA
DUMP SITE (dredged material) (see note S)
CAUTION (see note B)

GROUNDFISH & STATE-MANAGED FISH AS A PERCENT OF TOTAL FISH/POUNDS/VALUE TAKEN IN SETNETS AT THE **HUNTINGTON FLATS** BASED ON REPORTED COMMERCIAL LANDINGS, OBSERVATIONS OF SET NET CATCHES, TRAWL SURVEYS, AND REPORTED CATCHES ABOARD COMMERCIAL PASSENGER FISHING VESSELS

DATA SOURCE	LOCATION	UNIT	PERCENT OF TOTAL	
			STATE-MANAGED	GROUNDFISH
1993 Reported Pounds Landed (1 year prior to set net closure)		Pounds	88.5%	11.5%
1995 Reported Number of Fish Caught Aboard Commercial Passenger Fishing Vessels from Logbooks	Catch Blocks 718 719 739 740	No. of fish " " " " " "	96.7% 80.5% 80.3% 86.5%	3.3% 19.5% 19.8% 13.5%
Department Trawl Surveys	-Seven Trawl Stations greater than 3 miles from shore in depths 10-28 fathoms -Three deeper trawl (station 42-50 fathoms. (Standard Groundfish Sampling nets)	No. of fish No. of fish	84% 24%	16% 76%
11-25-96 Through 12-16-96 Setnet Landings Reported Under Temporary Restraining Order	greater than 3 miles from shore.	Pounds $	72% 95.5%	28% 4.5%
1983-89 Observations of set net catch at time of net retrieval.	Greater than 3 miles from shore and less than 35 fathom deep	No. of fish	92.5%	7.5%

Year 2000 Value* of Take by Vessels** Landing Fish Using Setnets
in Fish and Game Catch Blocks 718, 719, 739, 740 (=Zone)

Range of $ Income Reported from Setnet Landings in the Zone	No. Vessels Reporting Landings in a $ Value Range	Total Reported Value ($'s) of all Landings for all Vessels in a Range (A)	Reported Value ($'s) of all Landings Other Than by Setnets in the Zone for all Vessels in a Range (B)	Value ($'s) of all Setnet Landings from the Zone for all Vessels in a Range (C)	% of Total Value of all Setnet Landings in the Zone Taken by Vessels in a Range. (C/D))	% of Total Value of all Landings by Vessels in a Range Taken with Setnets in the Zone (C/A))	Cumm.% of Value of Setnet Landings Taken by Vessel in Ranges in the Zone
>$50.000	7	$656,366	$187,881	$468,484	71.4	63.6	63.6
$25,000 - $50,000	4	$345,191	$219,039	$126,152	36.5	17.1	80.7
$10,000 - $25,000	4	104,729	$38,166	$66,561	63.5	9.0	89.7
$0 - $10,000	23	-	-	$75,663	-	10.3	
Total	38	-	-	-	-	100	

* Value of all setnet landings in the zone = $736,860 (D)

STATE OF CALIFORNIA - THE RESOURCES AGENCY
GRAY DAVIS, Governor

DEPARTMENT OF FISH AND GAME
1416 NINTH STREET
P. O. BOX 944209
SACRAMENTO, CA 94244-2090
(916) 653-6281

March 23, 2001

Dr. Don McIsaac , Executive Director
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

Dear Dr. McIsaac :

The California Department of Fish and Game (CDFG) urges the Council to reject the request by attorney Mary Hudson on behalf of the Los Angeles Commercial Fishermen's Association (LACFA), so that NMFS will proceed with the final rule revising the groundfish regulations (see 65 FR 31871, May 19, 2000), closing the federal portion of the Huntington Flats to gill nets. This letter also responds to the correspondence dated March 5, 2001 from Ms. Hudson. To assist the Council, we have attached a very brief chronology of events occurring during the past ten years leading up to the present efforts to adopt a federal rule to implement the Council's 1997 recommendation prohibiting the use of set nets to take groundfish in certain areas of federal waters off California (Attachment 1).

Since the Council's last meeting at which Ms. Hudson asked the Council to reconsider its previous action, the Department has examined more recent landing and logbook information for setnet vessels operating at the Huntington Flats off southern California (Fish and Game Blocks 718, 719, 739 and 740) to determine if there have been any substantive changes in setnet fishing practices and ability of vessels to target groundfish. The data are not appreciably different from those provided the Council at the time of the Council's recommendation in April 1997. The available landing and logbook data indicate that setnet fishers continue to rely on state-managed species, primarily California halibut, white seabass, yellowtail, thresher shark, barracuda, and white croaker. During 1998-2000, species of fish managed by the state accounted for about 92 percent of the weight, and 96 percent of the value of fish landed from the Huntington Flats catch blocks. Landings of skates, and leopard, dogfish, and soupfin sharks comprised the principal groundfish species taken from this area (Attachments 2 and 3).

With regard to Ms. Hudson's reply to the Council's three questions, she makes several statements on which we offer comment. *As to the first question*, regarding post-1997 changes at the Huntington Flats, Ms. Hudson argues for reconsideration because LACFA claims it has no bycatch. As previously stated in the Department's July 31, 2000 comment letter, and as confirmed in the attachments, over 95 percent of the value of the total gillnet landings from the Huntington Flats is attributable to state-managed species. This level of catch of non-groundfish indicates that groundfish are not the target species for this fishery. Further, if the state's laws and regulations were able to be enforced to conserve and manage state-managed species, the non-groundfish catch would have to be discarded and thus would constitute a major bycatch problem. The NMFS proposed regulation would address this issue by establishing consistency between state regulations and federal regulations, with the result that the set gillnet fishery, which targets non-groundfish resources, would no longer be permitted in the federal waters at Huntington Flats. This means there would be no bycatch and there would be no excessive "incidental catch" of state-managed species under the guise of a groundfish fishery. The state's efforts to conserve and manage state species under state management plans would no longer be adversely affected by the gap in federal regulations.

A second argument is that closure of the Huntington Flats will force the LACFA vessels to move into deeper waters, with the undesirable result of subjecting the already strained groundfish resource to more fishing pressure. However, at the same time, LACFA indicates that its fleet generally cannot fish deeper waters due to the size of the vessels, so this is not the problem. Further, this claim implies that the vessels do not now participate in the groundfish fishery. Of course, this is a correct implication. The fact is that it is difficult for LACFA to claim that its vessels participate in the groundfish fishery, when 90 percent or more by weight and 95 percent of the value of their landings derives from state-managed fish and when the setnet fishery is not really a groundfish fishery. Moreover, from a fishery management standpoint, the groundfish resource cannot be reliably managed unless fishing pressure is accurately characterized and monitored. Currently, LACFA purports to target groundfish, but in reality relies on state-managed species. If the NMFS regulations actually result in shifting effort to groundfish, the fishing effort will more accurately be characterized for use in monitoring and stock assessment efforts. The effort now, since it really is directed at non-groundfish, cannot be used to derive any reliable measure of groundfish stocks' abundance and distribution. Thus, another effect of the NMFS action is that any redirected groundfish fishing effort will be more accurately characterized and monitored and thus support a more accurate assessment of true impacts of the fishery on groundfish.

A third argument is that closure of the Huntington Flats is not warranted because of the increased reliance by LACFA on groundfish landings (p. 2, ¶ 1). However, the more recent landings data, which appear in attachments to this letter, show that the fishery is as reliant on state-managed species today as it was in 1996-97. The argument also asserts that the Huntington Flats vessels are "a vital part of the small vessel component of the Pacific fleet" (p. 2, ¶ 1). This statement cannot be reconciled with the earlier description (p. 1 ¶ 2) of the vessels as making only "modest landings" that fill a "primarily local niche market." Moreover, fewer than 10 percent of the total number of California gillnet permittees (223 permits issued in 2000) fish the Huntington Flats; of this subset, Ms. Hudson identifies 7 vessels as being "most active," but this figure represents only 3 percent of the permittees.

As to the second question, regarding catch of state-managed species, Ms. Hudson states that "the federal judge reviewing LACFA's case against the CDFG specifically found that a predominance of state-managed species does not remove these fishers from the coverage of the Magnuson-Stevens Act" (p. 3, ¶ 1). This statement only reflects the court's holding that preliminary injunctive relief was justified because the federal law preempted state law, but that order also made it clear that the injunction was operative "unless and until the NOAA changes the current regulations," a condition that recognizes that final resolution of the conflict would lie in amending the regulation. Ms. Hudson confirms this when she states that the December 2000 Consent Decree and permanent injunction "has resolved the dispute and will remain controlling unless the NMFS modifies the existing federal regulation" (p. 2, ¶ 3). However, the Council should know that the purpose of the consent decree was to avoid the expense of trial when both sides realized that the final resolution of the dispute would be determined by the final regulation. To that end, the consent decree imposed the current permanent injunction, but allowed the state to apply for its dissolution if the subsequent regulation closed the Huntington Flats; LACFA, for its part, agreed to not oppose such an application. Thus, none of these facts are reasons for reconsidering the regulation. Since the federal regulations would prevail, there would also no longer be a conflict between federal and state regulations governing setnet use in this area. Just as the Council's Groundfish Fishery Management Plan (FMP) is intended to manage where the fishery is predominately for FMP species, the Council agreed in its request for federal regulations that state management approaches were reasonable where the fishery is predominately for state-managed species. The Council agreed that prohibiting setnet fishing for groundfish at Huntington Flats would not adversely affect implementation of the FMP.

As to the third question, regarding what LACFA wants the Council to do, Ms. Hudson asserts that the Council should withdraw its recommendation that the rulemaking go forward because the regulation is deeply flawed. We disagree. The fact

that conflicting federal and state laws have allowed state-managed species to be profitably exploited by a few individuals under a court order does not justify maintaining that conflict, but rather counsels its resolution through the NMFS regulatory action. The federal court, and even Ms. Hudson herself, recognized that NOAA/NMFS have the authority to do this. As for the regulation itself, it is entirely consistent with the National Standards and the Council's Groundfish FMP, while the existing court-order fishery is not. The proposed regulation represents a reasonable and prudent method of harmonizing the two fisheries management regimes and removing this conflict. We urge the Council to reaffirm its 1997 recommendation to close setnet fishing for groundfish at the Huntington Flats and for the NMFS to proceed with the final rule.

Sincerely,

L.B. Boydstun, Representative
Office of Intergovernmental Affairs

cc: Mr. Robert Hight, California Department of Fish and Game
Dr. Rebecca Lent, National Marine Fisheries Service, Southwest Region
Ms. Mary Hudson, Los Angeles Commercial Fishermen's Association

Attachment 1
Chronology of Events

11/06/90:	Proposition 132 enacts Marine Resources Protection Act (MRPA).
02/25/93:	Vietnamese Fishermen Assn Permanent Injunction.[1]
01/01/94:	MRPA closure of Huntington Flats (HF) becomes effective.
10/03/94:	DFG Letter requests PFMC consistency determination
06/21/95:	DFG Letter to LACFA re Continuing MRPA Enforcement at HF.
00/00/95:	DFG withdraws request for PFMC consistency determination.
06/18/96:	DFG requests regulatory action at PFMC meeting.
08/23/96:	PFMC considers issue.
10/23/96:	PFMC defers issue to 03/00/97 meeting.
10/00/96:	NMFS preliminary rulemaking initiated.
11/22/96:	LACFA TRO issued.
03/19/97:	Preliminary Injunction Issued
04/00/97:	PFMC recommends regulatory action.
12/23/99:	Court requests views of NOAA re rulemaking.
05/19/00:	Proposed rulemaking noticed in Federal Register (65 FR 31871).
07/31/00:	DFG comment letter supports NMFS rulemaking.
11/20/00:	Consent Decree makes settlement contingent on rulemaking outcome.

[1] Vietnamese Fishermen Assn v. DFG (1993) 816 F.Supp. 1468.

Attachment 2

Pounds and Value of Fish Reported Taken in Setnets and Landed by Vessels Fishing at the Huntington Flats (Catch Blocks 718, 719, 739, 740) During 1998, 1999, and 2000

	POUNDS			VALUE		
Year	State Species	Groundfish	Total	State Species	Groundfish	Total
1998	280,139	26,089	306,228	$385,078	$17,576	$402,654
1999	381,251	37,431	418,682	$632,139	$28,068	$660,207
2000	385,364	32,664	418,028	$714,559	$22,298	$736,857
Total of 3-years	1,046,754	96,184	1,142,938	$1,731,776	$67,942	$1,799,718
Percent	91.6	8.4	100	96.2	3.8	100

Ranking of Top 10 Species/Species Groups by Pounds for the Total of the Three Years and All Catch Blocks

Rank	Pounds	($$)
1) California halibut	318,665	(943,842)
2) White seabass	174,735	(275,691)
3) Yellowtail	157,587	(154,976)
4) Thresher shark	135,114	(208,843)
5) California barracuda	85,607	(42,633)
6) White croaker	77,711	(43,226)
7) Skates*	39,072	(10,837)
8) Sharks (3-groundfish spp.)	37,122	(27,381)
dogfish*		
leopard*		
soupfin*		
9) Shortfin mako	26,548	(28,751)
10) Pacific mackerel	21,422	(4,550)
Total	1,073,583	(1,799,718)

file a:/98-2000huntflat.wpd (3/21/01)

Attachment 3

POUNDS AND NUMBER OF GROUNDFISH AND STATE MANAGED FISH TAKEN IN <35 FATHOMS AT THE HUNTINGTON FLATS DURING 1999-2000 AS REPORTED IN GILL AND TRAMMEL NET LOGBOOKS

Catch Block	Pounds of Groundfish	Pounds of State Mngd.	Total Pounds	%Ground-fish	% State Mngd.	Tot. %
719	135	21,230	21,365	0.6	99.4	100
739	4,193	29,231	33,424	12.5	87.5	100
740	4,321	52,820	57,141	7.5	92.5	100
Total	8,649	103,281	111,930	7.7	92.3	100

Ranking of Top Species/Species Groups by Pounds for the Three Catch Blocks

Barracuda	45,488
White Croaker	34,397
California halibut	10,753
Mackerel	6,522
Skates*	4,975
Thresher shark	3,498
Combined	2,949
Leopard*	
Soupfin*	
Dogfish*	
Guitarfish	1,555
Total	110,137 (= 98.4 percent of total fish reported for waters <35fthms)

*Groundfish Species

Schultze (3/15/2001) (c:\LogbooktakeHuntFlats.wpd)

1999-2000 Landings by 7 Vessels Owned by Persons Commenting on the Proposed Rule re: Setnets at Huntington Flats

	1999		2000	
Vessel	Total	Groundfish	Total	Groundfish
1	70,472	4,224	53,428	1,867
2	65,805	2,847	53,842	1,393
3	2,826	201	825	88
4	145,725	5,696	108,659	3,150
5	27,881	3,115	28,160	3,883
6	18,758	4,226	15,674	1,894
7	62,438	19,180	42,112	6,315
TOTAL	393,905	39,489	302,700	18,590

Groundfish landings principally consist of sharks (leopard, soupfin, spiny dogfish) and skates/rays

Principal state-managed species landed include barracuda, California halibut, white seabass, yellowtail, and pelagic sharks (using drift gillnet on same vessels)

Exhibit F.3.c
Public Comment 1
April 2001

Mary L. Hudson

ATTORNEY AT LAW

RECEIVED
MAR 19 2001
PFMC

BY FEDERAL EXPRESS

March 16, 2001

Mr. Jim Glock
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

Re: April PFMC Agenda Item:
Los Angeles Commercial Fishermen's Association

Dear Jim:

I am preparing a submittal for the Council on behalf of the Los Angeles Commercial Fishermen. As discussed on the phone today, the main body of the item will be sent to you electronically on or before March 19. The materials enclosed with this letter are to be used as exhibits with that item. Please call me if you have any questions. Thanks.

Sincerely,

Mary L. Hudson

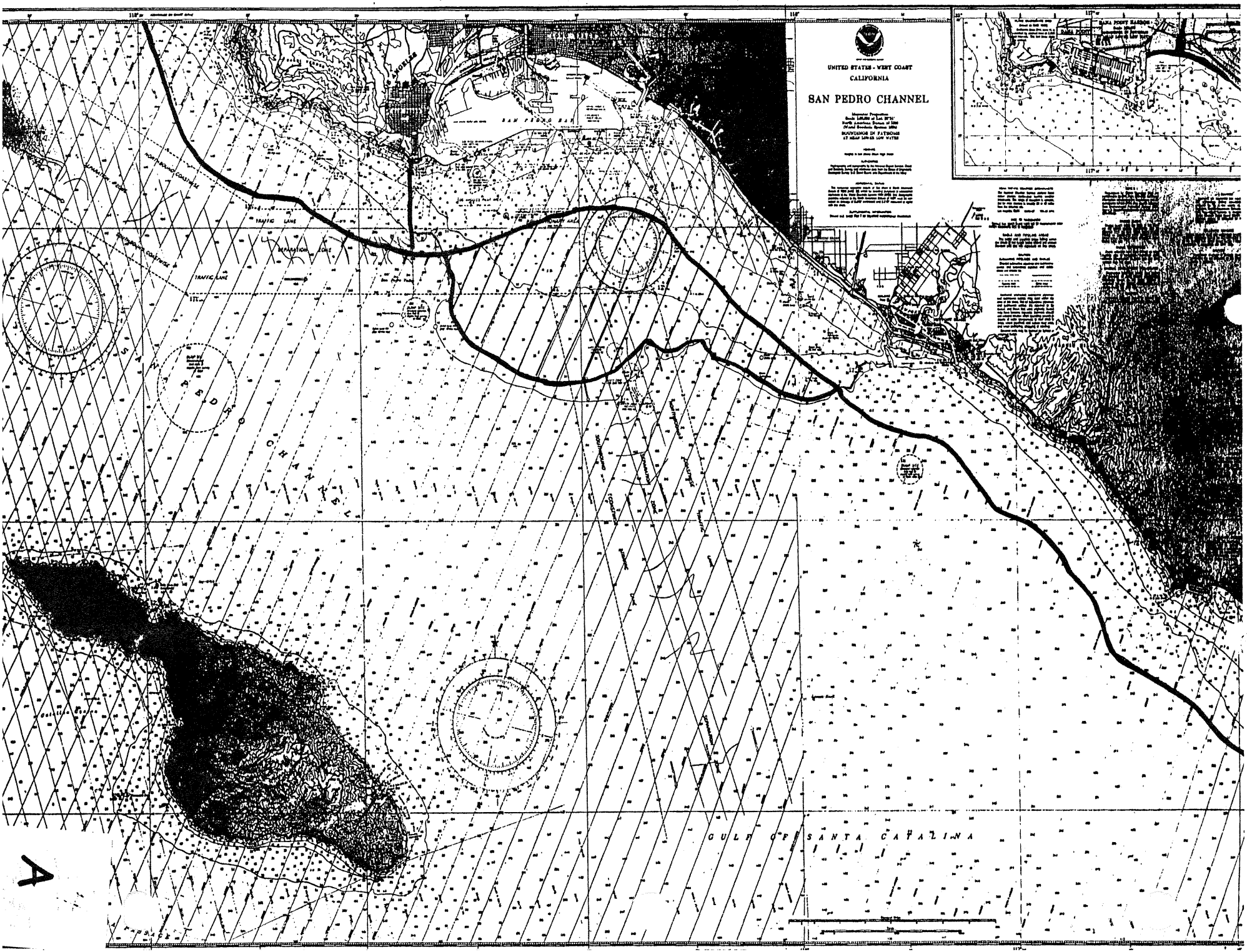
cc: Svein Fougner (letter only)

1505 Bridgeway, Suite 206, Sausalito, California 94965 □ (415) 331-7712 □ Fax (415) 331-7702

L.A. Commercial Fishermen submittal on
Request for reconsideration of
PFMC recommendation on
set net regulation for Huntington Flats

LIST OF ENCLOSURES

ENCL.	DATE	DOCUMENT
A		Map of San Pedro Channel w/ Vessel Traffic Lanes
B	1993	Cal. Marine Resources Protection Act of 1990 (Proposition 132)
C	4/29/89	CDFG Analysis Assembly Bill 1 (Prop. 132 Precursor)
D	7/10/91	PFMC/SSC Comments on Review of Cal. Measure to Prohibit Rockfish Gill Netting
E	8/23/96	Transcript (excerpt) PFMC Meeting
F	8/3/00	Letter from Pacific Coast Federation Fishermen's Associations to NMFS
G	11/22/00	Consent Decree in *Los Angeles Commercial Fishermen's Association, et al. v. Jacqueline Schafer, director CDFG*


UNITED STATES - WEST COAST
CALIFORNIA
SAN PEDRO CHANNEL
SOUNDINGS IN FATHOMS
AT MEAN LOW OR LOW WATER
SAN PEDRO BAY
TRAFFIC LANE
SEPARATION ZONE
TRAFFIC LANE
SAN PEDRO CHANNEL
GULF OF SANTA CATALINA
A

The Marine Resources Protection Act of 1990

INITIATIVE MEASURE TO BE SUMITTED DIRECTLY TO THE VOTERS

The Attorney General of California has prepared the following title and summary of the chief purpose and points of the proposed amendment: **MARINE RESOURCES. INITIATIVE CONSTITUTIONAL AMENDMENT.** Establishes Marine Protection Zone within three miles of coast of Southern California. Commencing January 1, 1994, prohibits use of gill or trammel nets in zone. Between January 1, 1991 and December 31, 1993 requires additional permit for use of gill nets or trammel nets in zone. Requires purchase of $3 marine protection stamp for fishermen in zone. Establishes permit fees and $3 sportfishing marine protection stamp fee to provide compensation to fishermen for loss of permits after January 1, 1994. Directs Fish and Game Commission to establish four new ocean water ecological reserves for marine research. Summary of estimate by Legislative Analyst and Director of Finance of fiscal impact on state and local governments: Required fees and additional permits would result in total revenue of up to $4.9 million to the Marine Resources Protection Account by 1995. Compensation for compliance with January 1, 1994 prohibition on the use of gill nets and trammel nets estimated to be a $3.4 million one-time cost. New enforcement costs of $1.5 million annually could result. Annual loss of less than $100,000 from reduced fishing license, permit, and tax revenues likely to result.

The People of California find and declare that:

The marine resources of the State of California belong to all of the people of the state and should be conserved and managed for the benefit of all users and people concerned with their diversity and abundance for present and future generations' use, needs and enjoyment. Current state laws allow the use of indiscriminate and destructive gear types (gill nets and trammel nets) for the commercial take of fish in our near shore waters that entangle thousands of mammals (whales, dolphins, sea otters, sea lions, porpoise, etc.) sea birds and hundreds of thousands of non-targeted fish annually. These indiscriminate gear types result in the tragic death of many non-targeted species unfortunate enough to be caught in them. It has been reported that seventy-two (72) percent of what is entangled and caught in a gill net or trammel net is unmarketable, and it is returned to the ocean dead or near dead, thereby depleting our ocean resources at an accelerated rate.

In order to restore and maintain our ocean resources, increased scientific and biological research and reliable data collection is urgently needed to provide credible information as to the long-term protection and management of the mammal and fish populations in our coastal waters. Therefore, the law governing the use of gill nets and trammel nets in our coastal waters, as well as law establishing ecological reserves for scientific and biological studies and data collection to ensure abundant ocean resources should be permanently established as follows:

Marine Resources Protection Act of 1990 Amendment to the California Constitution adding Article XB as follows:

SECTION 1. This article shall be known and may be cited as the Marine Resources Protection Act of 1990.

SEC. 2. (a) "District" means a fish and game district as defined in the Fish and Game Code by statute on January 1, 1990.

(b) Except as specifically provided in this article, all references to Fish and Game Code sections, articles, chapters, parts, and divisions are defined as those statutes in effect on January 1, 1990.

(c) "Ocean waters" means the waters of the Pacific Ocean regulated by the state.

(d) "Zone" means the Marine Resource Protection zone established pursuant to this article. The zone consists of the following:

(1) In waters less than 70 fathoms or within one mile, whichever is less, around the Channel Islands consisting of the Islands of San Miguel, Santa Rosa, Santa Cruz, Anacapa, San Nicolaus, Santa Barbara, Santa Catalina, and San Clemente.

(2) The area within three nautical miles offshore of the mainland coast, and the area within three nautical miles off any manmade breakwater, between a line extending due west from Point Arguello and a line extending due west from Mexican border.

(3) In waters less than 35 fathoms between a line running 180 degrees true from Point Fermin and a line running 270 degrees true from the south jetty of Newport Harbor.

SEC. 3. (a) From January 1, 1991 to December 31, 1993, inclusive, gill nets or trammel nets may only be used in the zone pursuant to a nontransferable permit issued by the Department of Fish and Game pursuant to Section 5.

(b) On and after January 1, 1994, gill nets and trammel nets shall not be used in the zone.

SEC. 4. (a) Notwithstanding any other provision of law, gill nets and trammel nets may not be used to take any species of rockfish.

(b) In ocean waters north of Point Arguello on and after the effective date of this article, the use of gill nets and trammel nets shall be regulated by the provisions of Article 4 (commencing with Section 8660), Article 5 (commencing with Section 8680) and Article 6 (commencing with Section 8720) of Chapter 3 of Part 3 of Division 6 of the Fish and Game Code, or any regulation or order issued pursuant to these articles, in effect on January 1, 1990, except that as to Sections 8680, 8681, 8681.7, and 8682, and subdivisions (a) through (f), inclusive of Section 8681.5 of the Fish and Game Code, or any regulation or order issued pursuant to these sections, the provisions in effect on January 1, 1989, shall control where not in conflict with other provisions of this article, and shall be applicable to all ocean waters. Notwithstanding the provisions of this section, the Legislature shall not be precluded from imposing more restrictions on the use and/or possession of gill nets or trammel nets. The Director of the Department of Fish and Game shall not authorize the use of gill nets or trammel nets in any area where the use is not permitted even if the director makes specified findings.

SEC. 5. The Department of Fish and Game shall issue a permit to use a gill net or trammel net in the zone for the period specified in subdivision (a) of Section 3 to any applicant who meets both of the following requirements:

(a) Has a commercial fishing license issued pursuant to Section 7850-7852.3 of the Fish and Game Code.

(b) Has a permit issued pursuant to Section 8681 of the Fish and Game Code and is presently the owner or operator of a vessel equipped with a gill net or trammel net.

SEC. 6. The Department of Fish and Game shall charge the following fees for permits issued pursuant to Section 5 pursuant to the following schedule:

Calendar Year	Fee
1991	$250
1992	$500
1993	$1,000

SEC. 7. (a) Within 90 days after the effective date of this section, every person who intends to seek the compensation provided in subdivision (b) shall notify the Department of Fish and Game, on forms provided by the department, of that intent. Any person who does not submit the form within that 90-day period shall not be compensated pursuant to subdivision (b). The department shall publish a list of all persons submitting the form within 120 days after the effective

B.1

form within 120 days after the effective date of this section.

(b) After July 1, 1993, and before January 1, 1994, any person who holds a permit issued pursuant to Section 5 and operates in the zone may surrender that permit to the department and agree to permanently discontinue fishing with gill or trammel nets in the zone, for which he or she shall receive, beginning on July 1, 1993, a one time compensation which shall be based upon the average annual ex vessel value of the fish other than any species of rockfish landed by a fishermen, which were taken pursuant to a valid general gill net or trammel net permit issued pursuant to Section 8681 and 8682 of the Fish and Game Code within the zone during the years 1983 to 1987, inclusive. The department shall verify those landings by reviewing logs and landing receipts submitted to it. Any person who is denied compensation by the department as a result of the department's failure to verify landings may appeal that decision to the Fish and Game Commission.

(c) The State Board of Control shall, prior to the disbursement of any funds, verify the eligibility of each person seeking compensation and the amount of the compensation to be provided in order to ensure compliance with this section.

(d) Unless the Legislature enacts any required enabling legislation to implement this section on or before July 1, 1993, no compensation shall be paid under this article.

SEC. 8. (a) There is hereby created the Marine Resources Protection Account in the Fish and Game Preservation Fund. On and after January 1, 1991, the Department of Fish and Game shall collect any and all fees required by this article. All fees received by the department pursuant to this article shall be deposited in the account and shall be expended or encumbered to compensate persons who surrender permits pursuant to Section 7 or to provide for administration of this article. All funds received by the department during any fiscal year pursuant to this article which are not expended during that fiscal year to compensate persons as set forth in Section 7 or to provide for administration of this article shall be carried over into the following fiscal year and shall be used only for those purposes. All interest accrued from the department's retention of fees received pursuant to this article shall be credited to the account. The accrued interest may only be expended for the purposes authorized by this article. The account shall continue in existence, and the requirement to pay fees under this article shall remain in effect, until the compensation provided in Section 7 has been fully funded or until January 1, 1995, whichever occurs first.

(b) An amount, not to exceed 15 percent of the total annual revenues deposited in the account excluding any interest accrued or any funds carried over from a prior fiscal year may be expended for the administration of this article.

(c) In addition to a valid California sportfishing license issued pursuant to sections 7149, 7149.1 or 7149.2 of the Fish and Game Code and any applicable sport license stamp issued pursuant to the Fish and Game Code, a person taking fish from ocean waters south of a line extending due west from Point Arguello for sport purposes shall have permanently affixed to that person's sportfishing license a marine resources protection stamp which may be obtained from the department upon payment of a fee of three dollars ($3). The subdivision does not apply to any one-day fishing license.

(d) In addition to a valid California commercial passenger fishing boat license required by Section 7920 of the Fish and Game Code, the owner of any boat or vessel who, for profit, permits any person to fish from the boat or vessel in ocean waters south of a line extending due west from Point Arguello, shall obtain and permanently affix to the license a commercial marine resources protection stamp which may be obtained from the department upon payment of a fee of three dollars ($3).

(e) The department may accept contributions or donations from any person who wishes to donate money to be used for the compensation of commercial gill net and trammel net fishermen who surrender permits under this article.

(f) This section shall become inoperative on January 1, 1995.

SEC. 9. Any funds remaining in the Marine Resources Protection Account in the Fish and Game Preservation Fund on or after January 1, 1995, shall, with the approval of the Fish and Game Commission, be used to provide grants to colleges, universities and other bonafide scientific research groups to fund marine resource related scientific research within the ecological reserves established by Section 14 of this act.

SEC. 10. On or before December 31 of each year, the Director of Fish and Game shall prepare and submit a report to the Legislature regarding the implementation of this article including an accounting of all funds.

SEC. 11. It is unlawful for any person to take, possess, receive, transport, purchase, sell, barter, or process any fish obtained in violation of this article.

SEC. 12. To increase the state's scientific and biological information on the ocean fisheries of this state, the Department of Fish and Game shall establish a program whereby it can monitor and evaluate the daily landings of fish by commercial fishermen who are permitted under this article to take these fish. The cost of implementing this monitoring program shall be borne by the commercial fishing industry.

SEC. 13 (a) The penalty for a first violation of the provisions of sections 3 and 4 of this article is a fine of not less than one thousand dollars ($1,000) and not more than five thousand dollars ($5,000) and a mandatory suspension of any license, permit or stamp to take, receive, transport, purchase, sell, barter or process fish for commercial purposes for six months. The penalty for a second or subsequent violation of the provisions of sections 3 and 4 of this article is a fine of not less than two thousand five hundred dollars ($2,500) and not more than ten thousand dollars ($10,000) and a mandatory suspension of any license, permit or stamp to take, receive, transport, purchase, sell, barter, or process fish for commercial purposes for one year.

(b) Notwithstanding any other provisions of law, a violation of Section 8 of this article shall be deemed a violation of the provisions of Section 7145 of the Fish and Game Code and the penalty for such violation shall be consistent with the provisions of Section 12002.2 of said code.

(c) If a person convicted of a violation of Section 3, 4, or 8 of this article is granted probation, the court shall impose as a term or condition of probation, in addition to any other term or condition of probation, that the person pay at least the minimum fine prescribed in this section.

SEC. 14. Prior to January 1, 1994, the Fish and Game Commission shall establish four new ecological reserves in ocean waters along the mainland coast. Each ecological reserve shall have a surface area of at least two square miles. The commission shall restrict the use of these ecological reserves to scientific research relating to the management and enhancement of marine resources.

SEC. 15. This article does not preempt or supersede any other closures to protect any other wildlife, including sea otters, whales, and shore birds.

SEC. 16. If any provision of this article or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provision or application, and to this end the provisions of this article are severable.

B. 2

132 Marine Resources. Initiative Constitutional Amendment

Official Title and Summary:

MARINE RESOURCES.
INITIATIVE CONSTITUTIONAL AMENDMENT

No mention Huntington Flats

- Establishes Marine Protection Zone within three miles of coast of Southern California.
- Commencing January 1, 1994, prohibits use of gill or trammel nets in zone.
- Between January 1, 1991 and December 31, 1993 requires additional permit for use of gill nets or trammel nets in zone.
- Requires purchase of $3 marine protection stamp for fishermen in zone.
- Establishes permit fees and $3 sportfishing marine protection stamp fee to provide compensation to fishermen for loss of permits after January 1, 1994.
- Directs Fish and Game Commission to establish four new ocean water ecological reserves for marine research.

Summary of Legislative Analyst's Estimate of Net State and Local Government Fiscal Impact:

- Permit fees and marine protection stamp would provide approximately $5 million to Marine Resources Protection Account by 1995.
- Compensation for fishermen who surrender gill and trammel nets between July 1, 1993 and January 1, 1994, could total up to $3.4 million, if necessary legislation enacted.
- Enforcement of measure could cost up to $1.5 million annually.
- Loss of $100,000 annually from reduced fishing license, permit, and tax revenues may result; losses offset in unknown amount by measure's increased fines.

B.3

BILL ANALYSIS

RESOURCES AGENCY

DEPARTMENT FISH AND GAME	AUTHOR ALLEN	BILL NUMBE AB 1
SUBJECT MARINE RESOURCES PROTECTION ACT OF 1989		DATE LAST AMENDE 3/1/89
SPONSORED BY AUTHOR		

SUMMARY:

Would reduce, by an estimated 90-100 percent, the use of gill and trammel nets within a newly created Marine Resources Protection Zone encompassing nearshore waters south of Point Arguello (Santa Barbara County) as a result of new prohibitions upon the issuance of gill and trammel net permits, restrictions upon the length and mesh size of gill and trammel nets, and increased fees for gill and trammel nets. An unspecified amount in compensation is proposed for gill and trammel net fishermen voluntarily surrendering their gill and trammel net permits. Compensation would be derived from increased fees upon recreational ocean anglers and owners of commercial passenger fishing vessels (party/charter boats).

Would increase the minimum trawl cod end (closed end) mesh size within the California halibut trawl grounds, from 7-1/2 inches to 9-1/2 inches, resulting in the probable elimination of that trawl fishery. Would prohibit the use (including testing) of unspecified types of alternative commercial fishing gear within the Marine Resources Protection Zone.

ANALYSIS:

A. Specific Findings: The bill involves three major issues (numbered in the analysis) associated with 1) major new restrictions upon nearshore gill and trammel net fisheries, including a proposed buy-out of commercial gill and trammel net fishermen utilizing revenues derived from sport fishing; 2) a proposed change in the minimum trawl net mesh size authorized for use in the California halibut trawl grounds; and 3) a prohibition upon unspecified types of alternative fishing gear in the Marine Resources Protection Zone.

1) Under existing law, set and drift gill nets and trammel nets are generally authorized for use under revocable, nontransferable permits costing $50.00 for a permit year (April 1 through March 31). Within ocean waters from Point Arguello (the northern boundary of the area affected by AB 1), south to the U.S.-Mexico border, several area, season and gear restrictions regarding the use of gill and trammel nets already exist to deal with identified problems (see Attachments 1, 2 and 3). In addition, a temporary moratorium upon the further issuance of any new general gill and trammel net permits has been in effect since January 1, 1986, pending completion of a report by the Department regarding the need for a limited entry gill and trammel net fishery (Fish and Game Code Section 8681.5). The aforementioned report with recommendations for creating a limited-entry gill and trammel net permit program was provided to the Legislature in November of 1988.

This bill would change existing law by creating a Marine Resources Protection Zone (MRPZ) in state waters (zero to three miles from shore) along the mainland shore from Point Arguello (Santa Barbara County)

Contact: Vern Goehring 445-9880

C.1

POSITION OPPOSE				Governor's office use
DEPARTMENT	DATE 4/17/89	AGENCY Original Signed By	DATE APR 24 1989	Position noted
				Position approved ✓
				Position disapproves

south to the U.S.-Mexico border (approximately 280 miles of coastline) and in waters less than 70 fathoms (420 feet) at the southern California offshore islands (San Miguel, Santa Rosa, Santa Cruz, Anacapa, San Nicolas, Santa Barbara, Santa Catalina and San Clemente Islands) (approximately 250 miles of additional coastline) (proposed Fish and Game Code Section 8601). Within the proposed MRPZ, only gill and trammel net fishermen landing an, as yet, unspecified amount of fish during three of the past five years would be authorized to fish in the MRPZ until December 31, 1992. Fishing with gill and trammel nets would only be authorized in the MRPZ under authority of permits issued for a calendar year and costing $250.00, $500.00, and $1,000.00, respectively, during 1990, 1991 and 1992 (proposed Fish and Game Code Sections 8902, 8904, 8905).

On and after January 1, 1993, the bill requires an unspecified number of permits to be issued by lottery for a $1,000 annual fee to use set (anchored) gill and trammel nets [not to exceed 750 fathoms (4,500 feet) in length and with meshes not less than 9-1/2 inches] within the MRPZ during the period from May 1 through November 30 (a five-month reduction in the existing fishing season for most species). The use of drift gill and trammel nets would not be authorized in the MRPZ (proposed Fish and Game Code Section 8908).

Fishermen successful in the lottery to fish within the MRPZ would be required to surrender their general gill and trammel net permit, thereby preventing them from fishing with gill and trammel nets in ocean waters outside of the MRPZ. In addition, the bill requires a permit to be offered to any fisherman, with unspecified landings in three of the last five years, without having to go through the lottery.

Also, as proposed in the bill, during 1990 through 1992, fishermen qualifying for a permit to fish with gill and trammel nets in the MRPZ could surrender their permit for an unspecified amount in compensation (proposed Fish and Game Code Section 8906). Fishermen receiving compensation for surrendering their general gill and trammel net permit could not receive compensation for surrendering one of the 50 lottery permits previously mentioned. The compensation is proposed to be derived from a four-year $3.00 increase in the cost of the existing $1.00 ocean enhancement stamp (Fish and Game Code Section 6596) now required of ocean anglers, and the $10.00 stamp required of commercial passenger fishing vessels. The increase, however, would not be charged to those persons purchasing a one-day fishing license in southern California (approximately 125,000 one-day Pacific Ocean only licenses are sold each year).

The proposed $3.00 increase in the cost of an ocean enhancement stamp represents a 15 percent increase in the cost of a resident sport fishing license (current $20.25 including $19.25 basic license, plus $1.00 enhancement stamp; proposed $23.25 including $19.25 basic license, plus $4.00 enhancement stamp), and a 24 percent increase in the resident ocean only sport fishing license (current $12.75 including $11.75 basic license, plus $1.00 enhancement stamp; proposed $15.75 including $11.75 basic license, plus $4.00 enhancement stamp).

2) Also under existing law, the use of trawl nets is not authorized within state waters, with the exception of the California halibut trawl grounds located in waters one to three miles from the mainland shore from Point Arguello (Santa Barbara County) south to Point Mugu (Ventura County). Within the California halibut trawl grounds, trawl nets with meshes not less than 7-1/2 inches in length may be used from June 16 through March 14. This bill would change existing law by prohibiting the use of trawl nets with less than 9-1/2 inch (mesh) cod end in the proposed MRPZ, on and after January 1, 1993.

C.2

There is no evidence supporting the need for an increase in trawl net mesh size to 9-1/2 inches. Experiments conducted by the Department using different trawl net cod ends with meshes ranging in length from 4-1/2 to 9-1/2 inches, demonstrates that almost no California halibut are taken in cod ends with meshes as large as 8-1/2 - 9-1/2 inches.

3) Under existing law (Fish and Game Code Section 8606), fishermen may apply to the Fish and Game Commission for experimental gear permits to test new or alternative kinds of fishing gear or techniques, or existing fishing gear in areas where its use is not presently authorized. Also, recent legislation [AB 2915, Chapter 910, Statutes 1986) (SB 40, Chapter 1298, Statutes 1987)], restricting the use of gill and trammel nets along the central coast, directs the Department to investigate alternatives to the use of gill and trammel nets.

This bill would change existing law by prohibiting, as yet, unspecified kinds of alternative gear from being used to take fish within the MRPZ.

Finally, the bill would establish fines for violation of its provisions at not greater than $5,000 and a mandatory six-month suspension of any license to take fish commercially for a first violation, and a fine not greater than $10,000 and a mandatory one-year suspension of any license to take fish commercially for a second violation. These maximum fines are five times higher than the maximum fines presently in force.

B. Fiscal Impact: The exact fiscal impact of the bill is unknown because the number of fishermen who could qualify to continue fishing in the MRPZ during 1990 through 1992 is unknown (the qualifying criteria are absent from the bill) as well as many other details which are not specified in the bill. Assuming one-half of the approximately 500 current gill and trammel net permittees affected by this bill qualified and continued fishing in the MRPZ in 1990, 200 in 1991 and 150 in 1992, the Department would collect increased revenues of $50,000, $85,000 and $132,000, respectively. Assuming 50 permits in 1993, this will decline to $25,000 additional revenue in 1993.

The increase in the ocean enhancement stamp fee would generate an additional $1,230,000 annually, beginning in 1990, assuming the fee increase does not cause a reduction in the number of stamps sold.

However, the Department would be faced with significant cost increases for enforcement starting in 1993, and continuing into the future. To effectively patrol the extensive closure and areas of relocated fishing activity, we feel doubling our current patrol capability and adding one new vessel is necessary. There would be additional unknown costs during 1990-93 to verify eligibility for a gill and trammel net permit to fish in the MRPZ (review landing records for the five previous years), and for administering the additional stamp revenues and the bill's provisions in general.

Increased Revenue:	1990	1991	1992	1993
Gill & Trammel Nets	$50,000	$85,000	$132,000	$25,000
Stamps	1,230,000	1,230,000	1,230,000	1,230,000
Total	$1,280,000	$1,315,000	$1,362,000	$1,255,000

C.3

	1990	1991	1992	1993
Increased Cost:				
Enforcement	0	0	0	1,532,000
Administration	20,000	20,800	21,600	22,500
Total	20,000	20,800	21,600	1,554,500
Net Increased Revenue:	$1,260,000	$1,294,200	$1,340,400	-$ 299,500

After the third year following passage of the bill, the Department would lose an estimated $150,000 each year as a result of lost license, permit, and boat registration fees, and landing taxes. This assumes that no fishing with gill and trammel nets, or trawl nets would occur in the MRPZ after January 1, 1993 because of the major new restrictions proposed regarding gill and trammel net length and mesh size restrictions in the MRPZ, and increasing trawl net mesh size in the halibut trawl grounds.

The table above indicates that the net revenue increase generated by the bill, during the four-year increase in the stamp fee, would be approximately $3,600,000. This revenue would be available to fund the proposed buy-back of existing gill and trammel net permits.

HISTORY/BACKGROUND:

Efforts by recreational fishing interests to further prohibit the use of gill and trammel nets have intensified during recent years. This bill is simply the most recent effort at effecting further restrictions.

The language of AB 1 is very similar to one of the author's 1988 bills (AB 2954).

Also, during 1988, SB 2020 (which failed to pass) was introduced. SB 2020 was virtually identical to a 1987 ballot-initiative to ban gill, trammel and trawl nets in nearshore waters (zero to three miles from shore) off of California. The 1987 ballot initiative and a similar 1986 ballot initiative which would have banned gill and trammel nets and longlines within 75 miles of the California coast, failed to qualify for the ballot.

SUPPORT AND OPPOSITION:

Most recreational fishing interests can be expected to support the bill, such as the Alliance for Resource Management (ARM), United Anglers and the National Coalition for Marine Conservation-Pacific Region (NCMC-PR).

Commercial gill and trammel net fishermen and fish processors can be expected to oppose the bill through the California Gillnetters Association, Pacific Coast Federation of Fishermen's Association (PCFFA), the Western Fishboat Owners Association, and the California Fisheries and Seafood Institute. The California Gillnetters Association and the Sportfishing Association of California (partyboat operators) have already gone on record in opposition.

C.4

JUSTIFICATION OF POSITION:

X

The Department recommends a position of OPPOSE because:

1. The bill largely addresses a policy issue of access to a marine fishery resource rather than resource protection and managment. We feel strongly that available biological resource information warrants continued use by both sport and commercial users. Other traditional management tools are being used to address specific resource conservation needs (e.g., seasons, quotas, limited numbers of permits and specific limits on gear types).

2. The bill raises several policy questions appropriate for the Legislature to address, including the change generated by the bill in a long standing policy enumerated in Section 1700 of the Fish and Game Code. This policy states that marine resources are to be conserved, maintained and utilized for the benefit of all citizens including non-extactive uses, sport fishing and commercial fishing based on scientific management principles.

3. One resource issue resulting from this bill is the likely relocation of major commercial fishing activity as a consequence of the extensive closure areas proposed. Fishermen impacted by this bill will either stop fishing or shift their efforts elsewhere. The most likely area of emphasis is the offshore rockfish fishery which is already generating resource concerns. The bill provides insufficient data to adequately evaluate this potential resource impact.

4. An unknown number of fishermen impacted by this bill possess equipment that cannot easily be used in other areas (e.g. vessel size precludes long distance fishing trips). These individuals would either be forced to make potentially significant capital investment in new equipment and/or modifications or they would be excluded from commercial fishing activities.

5. In recent years, even relatively modest increases in sportfishing license fees have generated loud complaints that they would have significant negative economic impacts on the industry. It is unknown what effect the $3.00 increase proposed by this bill would have.

6. As part of the broader discussions regarding this bill, there have been suggestions that federal funds would be available to assist displaced fishermen (especially minorities). The Department is unaware of any such funds; marine fishery funds available to the Department have significantly declined in recent years.

7. The Department's cost to enforce the bill's provisions could range from zero to $1.5 million depending on the level of enforcement the Legislature desires. The author, in the past, has been a very vocal critic of the Department's lack of commercial fishing enforcement, therefore we feel the higher level would be necessary to appropriately respond to the legislation's intent. The bill does not provide any funds for enforcement.

8. The bill will also result in a loss to the Department of revenue from landing taxes, vessel permit fees and license fees which only partially will be offset by increased permit fees for those persons authorized to continue fishing in the MRPZ.

9. The bill will establish the major precedent or policy of buying back fishing permits to ostensibly address a resource conservation problem, thereby preempting traditional accepted resource management tools.

C.5

10. The Department has been cooperating with legislative efforts to deal with gill and trammel net-related issues on a case-by-case, area-by-area, and species-by-species basis. The large-scale closures proposed in this bill would be in conflict with a course of action that has been highly successful in the past. More than 25 bills in recent years have resolved specific problem areas while still allowing commercial fishing to exist. plus 3 — 1984

11. The Department is working this year with the gill and trammel net fishing industry and others to develop a limited entry gill and trammel net permit program to achieve reasonable controls on the use of gill and trammel nets (AB 1652). The provisions of AB 1 would negate that effort.

was done

MRD:DS

C.6

July 1991

SCIENTIFIC AND STATISTICAL COMMITTEE (SSC) COMMENTS ON
REVIEW OF CALIFORNIA MEASURE TO PROHIBIT ROCKFISH GILL NETTING

The SSC was not presented with convincing scientific information to justify the prohibition of rockfish gill nets on conservation grounds. As the SSC stated in April, the Groundfish Management Team report indicates that elimination of the rockfish gill net fishery would not be an effective rockfish conservation measure. Reports based on the California Department of Fish and Game observer program off central California indicate that incidental catches of sea birds and marine mammals by rockfish gill nets are minor.

In accordance with our obligation to review the consistency of proposed actions with the National Standards, as outlined in the Council's operating procedures, the SSC believes that the proposed ban would not be (1) based on the best scientific data available (National Standard 2), (2) fair and equitable to all such fisherman (National Standard 4a), and (3) reasonably calculated to promote conservation (National Standard 4b).

PFMC
7/10/91

D

PACIFIC FISHERY MANAGEMENT COUNCIL

GENERAL MEETING

FRIDAY, AUGUST 23, 1996

PORTLAND OREGON

GENERAL SESSION AGENDA ITEM F-8.

E.1

BOB FLETCHER: AGENDA ITEM F-8 GROUNDFISH MANAGEMENT. CALIFORNIA GILLNET REGULATIONS AND EXCLUSIVE ECONOMIC ZONES. WE'LL START WITH A SUMMARY OF THE PRELIMINARY ANALYSIS AND I'LL TURN TO L.B. BOYDSTUN FOR DISCUSSION OF THE ISSUE.

L.B. BOYDSTUN: THANK YOU MR. CHAIRMAN. I BELIEVE IT WAS THE GAP, MADE A COMMENT THAT THEY WOULD LIKE TO SEE THIS PROCESS EXPEDITED AND WE WILL ATTEMPT TO DO THAT. THE ISSUE HERE IS THAT CALIFORNIA HAS ADOPTED A NUMBER OF STATUTES, WELL STATUTES AND OR CONSTITUTIONAL AMENDMENTS AFFECTING FEDERAL GROUNDFISH FISHERIES. PARTICULARLY THOSE.... THE SET NET FISHERY OF CENTRAL AND SOUTHERN CALIFORNIA. THERE..: ITS TAKEN PLACE AT VARIOUS TIMES OVER THE YEARS, BUT MOST RECENTLY IT WAS A BALLOT INITIATIVE, PROPOSITION 132, THAT HAD SOME PRETTY SEVERE PROVISIONS FOR SET NET FISHING IN CALIFORNIA SOUTH OF 38. WE HAVE A COUPLE OF TIMES COME TO THE COUNCIL REQUESTING A CONSISTENCY DETERMINATION, WITH REGARD TO THOSE STATUTES THAT EXTEND INTO FEDERAL WATERS. UH, WE'RE BACK! BUT THIS TIME WE'RE ASKING TO GO EVEN A STEP BEYOND THE CONSISTENCY DETERMINATION AND ASKING THAT THE COUNCIL CONSIDER A RECOMMENDATION FOR THE ADOPTION OF REGULATION OF CALIFORNIA REGULATIONS, AS THEY APPLY TO FEDERAL WATERS, AND PARTICULAR TO THE AREA OFF THE LOS ANGELES HARBOR KNOWN AS THE HUNTINGTON FLATS. WE'VE PREPARED A PACKAGE THAT'S IN YOUR BOOKLET, IT'S FAIRLY THICK AND MOST RECENTLY THEY'VE HANDED OUT A MAP THAT SHOWS THE VARIOUS AREAS THAT HAVE THESE STATE REGULATIONS THAT EXTEND INTO FEDERAL WATERS. OUR PROPOSAL FOR THESE REGULATIONS, TAKE TWO

E.1.a

FORMS, TWO OPTIONS, AT THIS POINT.

THE FIRST WOULD BE TO.... AND WE CALL IT OPTION 2, OPTION 1 BEING THE STATUES QUO, BUT OPTION 2 WOULD BE TO ADOPT A SPECIFIC SET OF REGULATIONS, OF CALIFORNIA REGULATIONS AS THEY APPLY TO FEDERAL WATERS.

THE THIRD OPTION, WOULD BE... YOU MIGHT CALL IT A BLANKET PROVISION, THAT RECOGNIZES CALIFORNIA AUTHORITY TO REGULATE SET NET FISHING SOUTH OF 38TH. SET NET FISHING FOR FEDERAL GROUNDFISH SPECIES, EXCEPT, OR EXCEPT AS AMENDED BY THIS COUNCIL, THE NATIONAL MARINE FISHERY SERVICE, OTHERWISE THOSE STATUTES THAT IT DID NOT FEEL WERE APPROPRIATE WOULD BE ACCEPTED. I'VE ASKED MR. DON SHULTZ FROM THE DEPARTMENT OF FISH AND GAME TO COME UP FROM SACRAMENTO TO MAKE A PRESENTATION TO YOU WITH REGARD TO THESE CALIFORNIA REGULATIONS AND TO TRY AS BEST WE CAN, TO EXPLAIN THEM TO YOU, GIVE YOU SOME UNDERSTANDING HERE OF WHAT'S GOING ON. THE MAIN THING WE WANT TO DO TODAY, IS HOPEFULLY GET CONCURRENCE ABOUT GOING FORWARD WITH THE IDEA OF ADOPTING THESE REGULATIONS FOR FEDERAL WATERS, CONSISTENT WITH THE STATE STATUTES, NUMBER 1, THAT WE WANT TO DO THAT.

THE OTHER OPTION IS OBVIOUSLY DON'T DO ANYTHING AND JUST LET IT ROLL THE WAY IT IS. THE OTHER OPTION IS JUST TO GO THE CONSISTENCY ROUTE. THE CONSISTENCY ROUTE IS WHAT WE'VE DONE IN THE PAST, AND THAT'S KIND OF LIKE PATTING US ON THE SHOULDER AND

E.2

SAY YEAH, THAT'S A GOOD THING, NOW GO AWAY. THE PROBLEM IS THAT THERE'S NOTHING IN FEDERAL LAW THAT WE CAN POINT TO AND SAY, THERE IT IS IN FEDERAL LAW TO ENFORCE IT IN FEDERAL WATERS. THE PREFERENCE IS TO GET IT IN REGULATION. WITH THAT I'LL TURN TO DON TO MAKE A PRESENTATION HERE WITH REGARD TO WHAT ALL THESE PROPOSED REGULATIONS ARE.

DON SHULTZ: THANKS L.B., YOU DIDN'T LEAVE ME MUCH LEFT TO SAY. THANK YOU MR. CHAIRMAN, COUNCIL MEMBERS. I'M DON SHULTZ WITH THE CALIFORNIA DEPARTMENT OF FISH AND GAMES MARINE RESOURCE DIVISION HEADQUARTERS OFFICE IN SACRAMENTO. MY RESPONSIBILITIES INCLUDE ISSUES RELATED TO CALIFORNIA'S GILL AND TRAMMEL NET FISHERIES AND IMPLEMENTING CALIFORNIA BALLOT PROPOSITION 132, GENERALLY REFERRED TO AS THE GILLNET INITIATIVE. THIS INITIATIVE WAS APPROVED BY CALIFORNIA VOTERS IN 1990, AND FURTHER RESTRICTED THE USE OF GILL AND TRAMMEL NETS OFF OF CALIFORNIA IN BOTH STATE AND FEDERAL WATERS. THE ISSUE CALIFORNIA IS CONCERNED WITH IS THE STATES ABILITY TO REGULATE SET NETS IN FEDERAL WATERS, INVOLVING THE TAKE OF GROUNDFISH, AND IDENTIFYING AN OPTION FOR ADOPTION OF FEDERAL REGULATIONS THAT CAN HELP ASSURE ENFORCEMENT OF CALIFORNIA'S SET NET LAWS INVOLVING THE TAKE OF GROUNDFISH IN FEDERAL WATERS SOUTH OF 38 DEGREES NORTH LATITUDE. 38 DEGREES IS LOCATED AT POINT REYES AND MARINE COUNTY, SHOWING AT THE TOP OF AREA MAP 1, THAT WAS PROVIDED TO YOU. WE HAVE IDENTIFIED THREE OPTIONS, INCLUDING THE STATUS QUO FOR DEALING WITH THIS ISSUE. BUT BEFORE DISCUSSING THOSE OPTIONS I'LL PROVIDE SOME BACKGROUND ON THE

E.3

DON SCHULTZ: GROUNDFISH OTHER THAN ROCK FISH AND LING COD, DEPENDING ON....

BOB FLETCHER: SO WHAT WE'RE TALKING ABOUT, AS I UNDERSTAND IT IS, A DECISION BY THE COUNCIL TO DETERMINE WHETHER OR NOT FISHERS SHOULD BE ABLE TO FISH IN THERE FOR STOCKS OF FISH OTHER THAN THE STATE MANAGED SPECIES.

DON SCHULTZ: AND OUR CONTINGENT IS THAT WOULD.....

BOB FLETCHER: AND THAT PERCENTAGE OF THAT NORMAL CATCH IS TEN PERCENT OR SOMETHING ALONG THAT.....

DON SCHULTZ: LESS, YES.....

BOB FLETCHER: LESS THAN TEN PERCENT, THAT'S WHY I WAS ASKING, O.K. THANK YOU. OTHER QUESTIONS OF DON?.... ROD McINNIS

ROD McGINNIS: THANK YOU MR. CHAIRMAN. DON, A LOT OF THESE CLOSURES THAT ARE DISPLAYED HERE AS YOU SAID ARE RELATED TO PROTECTION OF BIRDS AND MARINE MAMMALS.

DON SCHULTZ: A NUMBER OF THEM, YEAH.

ROD McGINNIS: AND I KNOW THE NATIONAL MARINE FISHERIES SERVICE AND THE FISH AND WILDLIFE SERVICE WERE INVOLVED IN DESCRIBING THOSE AREAS AND THE STATE PUT THOSE AREAS INTO

E.4

EFFECT, THEY EXTENDED INTO FEDERAL WATERS. AND I HAVEN'T HEARD MUCH IN THE WAY OF CONTENTION ABOUT THOSE AREAS. IS THE HUNTINGTON FLATS AREA, THAT'S UNDER DISCUSSION HERE, IS THAT AREA RELATED AT ALL TO A BIRD OR MAMMAL PROTECTION?

DON SCHULTZ: NO. I WOULD HAVE TO SAY THAT THE BIRD AND MAMMAL ISSUE HAS NOT BEEN AN ISSUE IN THAT AREA. THANK YOU.

BOB FLETCHER: OTHER QUESTIONS FOR DON? DON, THANK YOU. STAND BY, WE MIGHT NEED YOU AGAIN. WE DO NOT HAVE ANY TEAM COMMENTS ON THIS AGENDA ITEM AND WE DO NOT HAVE ANY S.S.C. COMMENTS SO I'LL TURN TO THE COMMENTS OF THE GROUNDFISH ADVISORS, IS THERE SOMEONE HERE REPRESENTING THE ADVISORS THIS MORNING? IF NOT I CAN READ IT FOR THEM BECAUSE IT'S PRETTY SHORT. THE GROUNDFISH ADVISORY SUB-PANEL COMMENTS ON THE CALIFORNIA GILLNET REGULATIONS IN THE EXCLUSIVE ECONOMIC ZONE. THE GAP HAS NO COMMENT ON THE ISSUE OF CALIFORNIA SET NET REGULATIONS, OTHER THAN, TO NOTE THE INORDINATE AMOUNT OF TIME THE COUNCIL HAS SPENT ON THIS ISSUE OVER THE PAST FEW YEARS. THE GAP RECOMMENDS THAT WHICHEVER PATH THE COUNCIL CHOOSES IT SHOULD BE INTENDED TO REDUCE THE NEED FOR FURTHER COUNCIL INVOLVEMENT.
ANY QUESTIONS OR COMMENTS OF THE GAP?..... WE'LL MOVE ON THEN TO THE ENFORCEMENT CONSULTANTS. UH, DAYNA.

DAYNA MATTHEWS: THANK YOU MR. CHAIRMAN, COUNCIL. ENFORCEMENT CONSULTANTS HAVE CONSIDERED THE THREE OPTIONS

E.5

2-4-0

PACIFIC COAST FEDERATION of FISHERMEN'S ASSOCIATIONS

PCFFA

WEB: http://www.pond.net/~pcffa

Please Respond to:
☒ Southwest Office
P.O. Box 29910
San Francisco, CA 94129-0910
Tel: (415)561-5080
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☐ Office of the President
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☐ Northwest Office
P.O. Box 11170
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BY FAX AND BY MAIL

3 August 2000

Mr. Rodney McInnis
Acting Regional Administrator
Southwest Region - National Marine Fisheries Service
501 West Ocean Boulevard, Suite 4200
Long Beach, CA 90802

RE: Proposed EEZ Closure of Set Net Fishery in Huntington Flats Area Offshore California

Dear Mr. McInnis:

The Pacific Coast Federation of Fishermen's Associations (PCFFA), representing working men and women in the west coast professional fishing fleet, has reviewed the proposal by the National Marine Fisheries Service, prepared pursuant to an earlier request by the Wilson Administration of the State of California, to close the Huntington Flat area in the federal Exclusive Economic Zone (EEZ) offshore southern California, the traditional drift net fishery for groundfish and California halibut. PCFFA strongly opposes this proposal and urges the National Marine Fisheries Service not pursue it for the following reasons:

DANGEROUS PRECEDENT FOR FISHERIES MANAGEMENT

The sole reason PCFFA can determine for the proposed closure is to make federal law consistent with state law. This is a strange twist on existing management of federal fisheries. First there is no provision in the Magnuson-Stevens Act requiring federal fishery management consistency with state fishing laws, nor any suggestion of that as even an option for consideration. Indeed, Congress provided for federal preemption of state regulations where they conflict with federally-approved fishery management plans. Here on the west coast, of course, NMFS has preempted the State of Oregon on salmon regulations and threatened to do the same with California.

F.1

The California Department of Fish & Game argues that it is pursuing the closure of Huntington Flat, because of a state ballot initiative - "to carry out the will of the people." If that is their logic, do not statutes passed by the Legislature carry similar weight? Are they, too, not the "will of the people?" If the logic persists that the Department of Fish & Game is advancing that the closure of Huntington Flats is to "pursue the will of the people," shouldn't the Department also be requesting federal regulations of salmon and other fisheries be made to comply with statutes passed by the Legislature to regulate those fisheries? (Should not the Department of Fish & Game also be pursuing a change in federal salmon regulation to comply with those California's statutory season dates for the salmon season of 15 April to 30 September for the commercial fishery from the Oregon Border to the Mexican Border?) In fact, it is obvious, the Department is choosing to selectively enforce state laws, or in this instance, seek federal compliance with some state fishing laws, rather than "carrying out the will of the people." And, the Department is seeking to make the National Marine Fisheries Service an accomplice in this selective, inequitable enforcement of the state's fishery laws that would clearly deny the fishing men and women whose livelihoods would be affected by such a closure a denial of equal protection under our laws.

The fact is, the Magnuson-Stevens Act sets up specific standards and processes by which fisheries are to be managed in the EEZ, including language requiring state fishery regulations not be in conflict with federal fishery plans. The Magnuson-Stevens Act does not require, or even make optional, that regional fishery management councils and NMFS follow state fishery regulations, statutes, or ballot initiatives. Indeed, if it were required, or even made an option, that federal fishery management follow state fishery laws, including ballot initiatives, than what would be the purpose of federal fishery management plans?

PCFFA would also remind NMFS of the history of ballot initiatives in California and other states, specifically that many have fostered bad public policy. Simply because these initiatives were passed at a given time by a majority of a state's electorate, does not make them either good policy, Constitutional, or sound conservation practices. There is even a question as to whether many, as a result of confusing language or campaigns of misinformation could honestly be called "the will of the people." California voters have, for example, passed ballot initiatives allowing discrimination in housing, discrimination against immigrants, and limitations on campaign spending. We note this because in many instances those statutes were subsequently stricken or in other instances the State has simply refused to mount a full defense of them in the courts, or seek federal compliance with the state law created by such initiatives.

F. 2

EXACERBATING AN ALREADY BAD GROUNDFISH FISHERY SITUATION

The proposed closure of the Huntington Flat set net fishery will affect approximately 35 small family owned businesses. There is no evidence that the fishery with this gear in this area results in: a) overfishing; b) unacceptable levels of bycatch of other species; or c) destroying essential fish habitat. In fact, the "crime" this fleet appears to be guilty of is that some elements of the sportfishing fleet want the driftnet fishery at Huntington Flat eliminated. The Department of Fish & Game, in deference to some of those sport fishing advocates, is now pursuing the driftnet closure federal waters attempting to use the National Marine Fisheries Service and the Magnuson-Stevens Act.

If NMFS is looking to reduce or eliminate overfishing of groundfish stocks, if it is looking to reduce bycatch of immature fish and non-target species, or if it is looking to protect essential fish habitat, it is looking at the wrong fleet of boats and the wrong gear type by seeking to close the driftnet fishery at Huntington Flats.

It is true that part of the catch by the driftnet fleet, in addition to federally-managed groundfish, is California halibut, a state-managed fishery. PCFFA would note here, however, that there is no evidence of California halibut stocks being overfished or the population is depressed. Indeed, these stocks appear to be healthy. Moreover, the State of California does not even have a management plan for California halibut. But it wants to use federal law to close the driftnet fishery at Huntington Flats - a fishery having no conservation problems, that supports a number of small businesses out of the Port of San Pedro. Does NMFS really want to be party to the closure of a relatively healthy fishery when there are so many problem fisheries in the region and nationally that will require harsh restrictions in order to conserve stocks?

Under the Pacific Fishery Management Council's proposed Strategic Plan for Groundfish, nearly half of that fleet may have to be eliminated in the effort to conserve and rebuild many of the groundfish species. The driftnet fleet, however, has a relatively small catch of groundfish and its take appears relatively benign. So why put out of business more family fishing operations than will already be required in any groundfish rebuilding effort?

Further, if the closure proceeds, some members of this small, traditional fleet will either be forced out of business or forced to fish further out in other areas of the EEZ almost exclusively on groundfish, rather than the current mix of groundfish and California halibut. This simply takes the fleet from fishing on healthy stocks of California halibut and puts additional pressure on groundfish. Is that good fishery management?

F.3

CONCLUSION

PCFFA respectfully requests the National Marine Fisheries Service not to proceed with the proposal for the closure of the driftnet fishery at Huntington Flats. Such a closure would be bad policy, bad law and bad management of our fisheries.

If you or staff have any questions regarding this above comments, please contact our offices in San Francisco. Your attention to this matter is appreciated.

Sincerely,

W.F. "Zeke" Grader, Jr.
Executive Director

WFG:rtd

6-0-0

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RICHARD W. WIEKING
CLERK
U.S. DISTRICT COURT
NO. DIST OF CA

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

LOS ANGELES COMMERCIAL FISHERMEN'S ASSOCIATION, DONNA PANTO, STEVE MARDESICH, Jr., Plaintiffs, v. JACQUELINE SCHAFER, individually and in her capacity as Director of the California Department of Fish and Game, and Successor Directors, Defendants.	Case No.: No. C-96-04190-WHA (JCS) CONSENT DECREE ENTERED ON CIVIL DOCKET 11/22/00

CONSENT DECREE

This Consent Decree is made and entered into by and among the following parties: plaintiffs Los Angeles Commercial Fishermen's Association, Donna Panto, and Steve Mardesich, Jr. (collectively, the "Plaintiffs"); and defendant Jacqueline Schafer and her successor in trust, in their capacity as Director of the California Department of Fish and Game ("Defendant").

//

9.1

INTRODUCTION

The case arises from state enforcement of two California laws affecting the use of set nets for commercial fishing in a portion of the United States exclusive economic zone commonly called Huntington Flats. These laws are § 4(a) of the Marine Resources Protection Act of 1990, which bars all grill net fishing at Huntington Flats, and California Fish and Game Code § 8693(b)(4), which bars use of gill nets to take rockfish and lingcod in the same area. On November 19, 1996, the original plaintiffs filed a Complaint for Declaratory and Injunctive Relief seeking relief under the Supremacy and Commerce Clauses of the United States Constitution from State enforcement of these laws at Huntington Flats.

On November 22, 1996, in response to the plaintiffs' application, this Court issued a Temporary Restraining Order enjoining original defendant California Department of Fish and Game and its director from enforcing the subject state gill net laws at Huntington Flats. On March 20, 1997, the Court issued an Order granting the plaintiffs' Motion for Preliminary Injunction. The Order also granted, in part, the defendants' Motion to Dismiss, dismissing the California Department of Fish and Game based upon state sovereign immunity under the Eleventh Amendment of the United States Constitution, and dismissing three individual plaintiffs on grounds on waiver of their right to challenge State enforcement of the gill net laws in federal waters. Counsel for plaintiffs has filed a Declaration giving notice that original plaintiff California Gillnetters Association has disbanded and has received from the Secretary of State, a Notice of Dissolution. Based on this information, California Gillnetters Association is hereby dismissed. The remaining parties to the action are: Plaintiffs Los Angeles Commercial Fishermen's Association, Donna Panto, Steve Mardesich, Jr., and Defendant Director of the California Department of Fish and Game in his or her official capacity. All of these remaining parties ("Parties") are covered by the Consent Decree.

The Order Granting Preliminary Injunction was based upon the Court's finding that it was probable the plaintiffs would succeed on the merits of their claim that, pursuant to the Supremacy Clause of the United States Constitution, the State gill net laws for the federal portion of Huntington Flats are preempted by federal regulation under the Magnuson Fishery

Conservation and Management Act, 16 U.S.C. Sections 1801-1882 ("Magnuson Act"), which allow use of set nets, including gill nets, in the same area. The Court relied, in part, upon Vietnamese Fishermen of America v. California Department of Fish & Game, 816 Fed. Supp. 1468 (1993), in which this Court permanently enjoined State enforcement in federal waters of another state law prohibiting use of gill nets in federal waters because it conflicted with the federal regulatory scheme and was thus preempted.

Since October 1997, the National Marine Fisheries Service, the agency charged with implementing the Magnuson Act, has proposed to modify subsection (d) of 50 CFR § 660.322, which prohibits use of set nets to fish commercially for groundfish in certain areas. 65 Fed. Reg. 31871. Under the proposal, subdivision (5) would be added to Section 660.322 (d), prohibiting use of set nets at Huntington Flats and thus eliminating the inconsistency with State laws on which the preliminary finding regarding preemption has been based.

The parties now agree to settle this case as set forth herein. Entry of this Consent Decree is the most appropriate means to resolve the matters covered herein.

NOW, THEREFORE, IT IS HEREBY ORDERED, ADJUDGED, AND DECREED AS FOLLOWS:

DEFINITIONS

1. "Huntington Flats" means waters less than 35 fathoms between a line running 180 degrees true from Point Fermin and a line running 270 degrees true from the south jetty of Newport Harbor. (Cal. Fish & Game Code § 8610.2(d)(3).)

2. "Set net" means a stationary, buoyed, and anchored gill net (50 CFR § 660.302(17))

3. "Gill net" means a panel of netting, suspended vertically in the water by floats along the top and weights along the bottom, to entangle fish that attempt to pass through it. (50 CFR § 600.10.)

JURISDICTION AND VENUE

4. This Court has jurisdiction over the subject matter of this action and over the Parties to this Consent Decree pursuant to 16 U.S.C. § 1802-1882, 28 U.S.C. §§ 1331 AND 1343, 28 U.S.C. § 2001, and 42 U.S.C. § 1983, 1988. Defendant originally raised an issue concerning

venue, but subsequently stipulated to venue in this Court.

EFFECT OF CONSENT DECREE/ENTRY OF JUDGMENT

5. This Consent Decree was negotiated and executed in good faith and at arms' length to avoid the continuation of expensive and protracted litigation, and is a fair and equitable resolution of claims that were vigorously contested. The execution of this Consent Decree is not, and shall not, constitute or be construed as an admission or denial of any of the factual allegations set out herein or in the complaint or motions herein, or an admission of violation of any law, rule, regulation, standard, or policy by any of the Parties.

6. Upon the Court's approval and entry of the Order that appears at the end of this Consent Decree, and subject only to the provisions set forth in Paragraphs 9, 10, 11, and 12, this Consent Decree shall constitute a final judgment between and among Plaintiffs and Defendant.

7. The provisions of this Consent Decree shall be binding upon and inure to the benefit of the Parties and their successors and assigns. Any change in the organizational form or status of any party shall not affect any rights or obligations under this Consent Decree. This Consent Decree shall act as res judica for those bound and their privies.

PERMANENT INDUCTION; DISSOLUTION

8. The Defendant, in her capacity as director of the California Department of Fish and Game, and her successors in that capacity are permanently enjoined from enforcing § 4(a) of the Marine Resources Protection Act of 1990 and Fish and Game Code § 8693(b)(4) against all otherwise lawful set net fishing within the federal portion of Huntington Flats, subject to the provisions of Paragraphs 9, 10, and 11.

9. In the event that the National Marine Fisheries Service finally adopts subdivision (5) of Section 660.322 (d), as currently proposed, the Defendant may make application to this Court to dissolve the permanent injunction, and the Plaintiffs will not oppose such an application. In the event that the National Marine Fisheries Service adopts some other provision which has the effect of closing Huntington Flats to set net fishing, the Defendant may make application to this Court to dissolve the permanent injunction and the Plaintiffs may oppose such application. In the event that the Court dissolves the injunction, the parties will meet to discuss and cooperate in

an attempt to work out a plan, subject to applicable law, which makes reasonable provision for minimizing the adverse economic and safety effects of transitioning the affected vessels and fishers away from reliance on fishing at Huntington Flats. Nothing in this section pre-obligates the Defendant to support a particular plan, or support Plaintiff's attempts, if any, to secure funding or seek changes in law or regulations for this purpose.

10. In the event that National Marine Fisheries adopts subdivision (5) of Section 660.332 (d) or a similar rule closing Huntington Flats to use of set nets for commercial take of groundfish, and the rule is successfully challenged in a separate legal action so that Huntington Flats remains open under federal regulation to set net fishing for groundfish, the Plaintiffs or any of them may make application to this Court to reinstate the permanent injunction, and the Defendant will not oppose such an application or appeal a resulting Court order enjoining the State from enforcing the disputed state gill net laws at Huntington Flats.

CONTINUING JURISDICTION OF THIS COURT

11. The Court shall retain jurisdiction to modify the injunction on motion of the Defendant of the Plaintiffs as set forth in Paragraphs 6 and 7, to determine attorney fees and costs, or for such other proceeding as the Court may determine is appropriate to resolve any dispute concerning the effect of any new federal rule pertaining to use of set nets at Huntington Flats.

ATTORNEYS FEES AND LITIGATION EXPENSES

12. The parties will attempt to reach agreement on an appropriate award of attorneys fees and litigation expenses to the Plaintiffs covering the period to the date of the Consent Decree. If the parties are unable to reach agreement, the Plaintiffs may make application to this Court through a motion for attorneys fees and litigation expenses. If the National Marine Fisheries Service decides not to adopt a rule closing Huntington Flats to set net fishing, the Plaintiffs shall be deemed prevailing parties for all purposes in this litigation and may apply for additional attorneys fees and litigation expenses.

AUTHORIZED REPRESENTATIVES

13. Each undersigned representative of the Plaintiffs and Defendant certifies that he or

she is fully authorized to enter into the terms and conditions of the Consent Decree and to legally execute and bind that party to this Consent Decree. The Defendant represents that she and her successor in trust are fully authorized to enter into this Consent Decree. Plaintiffs certify that they have obtained all necessary approvals for this Consent Decree and that they are fully authorized to enter into this Consent Decree.

TERMINATION

14. Subject to Paragraphs 9, 10, 11, and 12, above, this action and all claims asserted by or against each party to this Consent Decree shall be dismissed with prejudice.

SEVERABILITY

15. The provisions of this Consent Decree are severable. The invalidation of any provision shall not invalidate any other provision.

APPROVED AS TO FORM BY:

LAW OFFICES OF MARY L. HUDSON

Mary L. Hudson, Attorney for Plaintiffs
Los Angeles Commercial Fishermen's Association,
Donna Panto, Steve Mardesich, Jr.

BILL LOCKYER, ATTORNEY GENERAL

By: Charles W. Getz, IV, Deputy Attorney General,
Attorneys for Defendant Director,
California Department of Fish & Game

SO ORDERED:

Dated: 11/20, 2000

WILLIAM H. ALSUP
United States District Judge

CWG:csc

she is fully authorized to enter into the terms and conditions of the Consent Decree and to legally execute and bind that party to this Consent Decree. The Defendant represents that she and her successor in trust are fully authorized to enter into this Consent Decree. Plaintiffs certify that they have obtained all necessary approvals for this Consent Decree and that they are fully authorized to enter into this Consent Decree.

TERMINATION

14. Subject to Paragraphs 9, 10, 11, and 12, above, this action and all claims asserted by or against each party to this Consent Decree shall be dismissed with prejudice.

SEVERABILITY

15. The provisions of this Consent Decree are severable. The invalidation of any provision shall not invalidate any other provision.

APPROVED AS TO FORM BY:

LAW OFFICES OF MARY L. HUDSON

Mary L. Hudson, Attorney for Plaintiffs
Los Angeles Commercial Fishermen's Association,
Donna Panto, Steve Mardesich, Jr.

BILL LOCKYER, ATTORNEY GENERAL

By: Charles W. Getz, IV, Deputy Attorney General,
Attorneys for Defendant ~~Director~~,
California Department of Fish & Game

SO ORDERED:

Dated: 11/2, 2000

WILLIAM H. ALSUP
United States District Judge

CWG:csc

Exhibit F.3.c
Public Comment 2
April 2001

MARY L. HUDSON
ATTORNEY AT LAW

March 18, 2001

Jim Lone, Chair, and Members of the Council
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

Re: Los Angeles Commercial Fishermen's Association,
Request for Withdrawal of Rule-making Recommendation on
Huntington Flats, California

Dear Chairman Lone and Members of the Council:

Thank you for giving the Los Angeles Commercial Fishermen's Association (LACFA) the opportunity to bring the Council up to date on the Huntington Flats matter. The members of LACFA have asked me to provide you with this update and to explain why, in light of changed circumstances, the Council should modify the position it adopted on this matter in October 1997.

A discussion of these points is attached. Also accompanying this submittal is a set of enclosures, A through G. Various letters and declarations have been submitted to Council staff for the record but, in the interest of conciseness, have not been included in our materials for Council reading.

Sincerely,

Mary L. Hudson
for
Los Angeles Commercial Fishermen's Association

1505 Bridgeway, Suite 206, Sausalito, California = (415)331-7712 = Fax(415)331-7702

Wednesday, April 4, 2001
Agenda Item # F.3

L.A. Commercial Fishermen submittal on Request for reconsideration of PFMC recommendation on set net regulation for Huntington Flats

I. OVERVIEW

Action Requested:

LACFA requests the Council to withdraw its October 1997 recommendation that the National Marine Fisheries Service adopt a rule closing federal waters at Huntington Flats to use of set nets for commercial take of groundfish.

Current Status:

NMFS' proposed rule closing Huntington Flats to commercial set net fishing for groundfish was published on May 19, 2000. NMFS has taken no further formal action on the proposed rule.

Fishing by the set net vessels at Huntington Flats has continued under federal court order since November 1996. The court has permanently enjoined the State of California from barring these boats from Huntington Flats based on the preemption of state law by federal regulations which allow set net fishing in that area. If NMFS' proposed rule is allowed to become final, the basis for preemption will be eliminated and the State will be free to move to exclude the boats from these federal waters.

Summary of Background:

This issue goes back to legislation proposed in 1989 (AB 1) to close state waters south of Santa Barbara to the use of gill and trammel nets for commercial fishing. The California Department of Fish and Game (CDFG) opposed the bill on grounds that it addressed allocation rather than resource protection and management issues, and that dislocated fishers would be put out of business or forced into waters where they would most likely impact rockfish fisheries. In its analysis of the bill, CDFG also explained that it was working on specific area closures and a gill net limited entry program (since adopted) that would better address the issues. See Enclosure C, page 5, where these and other reasons for the Department's opposition are stated.

After the bill died in the Legislature, its sponsor (Assemblywoman Doris Allen, deceased) converted it to a state initiative measure, Proposition 132, and mounted a well funded campaign to portray it as a conservation measure. After the measure passed, CDFG dropped its opposition

and began efforts to expand the domain of the state initiative.[1] First CDFG tried to enforce the set net ban throughout federal waters but was stopped by a federal court on the basis that the state law was preempted by NMFS regulation allowing set nets. At the same time, CDFG asked the Council to determine that the set net closure was consistent with the Groundfish FMP, but the Council found instead that it was inconsistent. CDFG then tried to enforce the ban at Huntington Flats, which was specifically mentioned in Proposition 132. Again, in November 1996, state enforcement was stopped by a federal court order saying the state was preempted by the federal regulations. CDFG then requested the Council to recommend that NMFS amend its regulations to mirror the California initiative measure. This change would sweep away the basis for preemption. In October 1997, after several hearings, the Council voted as CDFG had requested, resulting in NMFS' May 2000 publication of a proposed rule to close Huntington Flats to set nets.[2]

Overview of LACFA and Huntington Flats:

The LACFA fleet is a small but vigorous component of the Pacific Coast commercial fishing fleet. LACFA is made up of about family-owned 25 fishing vessels operating out of San Pedro.[3] The boats are mostly family owned and operated and are in the 26-to-38 foot range.[4] Using bottom-set nets with large mesh (in the 6-to-8 ½-inch range), they fish on a mix of federally managed groundfish, state-managed fin fish with an emphasis on halibut, and other species, supplying live and dead catch principally to local markets, processors, and restaurants. The set net fleet and most of its active fishers have long histories in the San Pedro fishing community and are a vital part of the local economy.[5]

The LACFA boats that have survived the steadily shrinking access to fishing grounds are

---

[1] Proposition 132, the so-called Marine Resources Protection Act of 1990, was codified in relevant part at California Fish and Game Code section 8693(b)(4), which bars use of gill nets to take rockfish and lingcod at Huntington Flats.

[2] 65 Fed. Reg. 31871. The proposed rule is bundled with three other proposed closures in federal waters. Unlike the proposal for Huntington Flats, the other three are based on a showing of adverse impacts on marine mammals and/or birds. LACFA raises no objections to these other proposals.

[3] LACFA's numbers have diminished by about 50 boats in recent years, due mainly to closure of state waters to set nets under Proposition 132.

[4] LACFA believes that one or two set net vessels which do not belong to LACFA members may be fishing at Huntington Flats. This information follows up on a question asked by a Council member during public comment session on March 6, 2001.

[5] Many letters of support from local buyers, markets, and suppliers speak of the importance to San Pedro of keeping this fishing fleet viable. These letters, as well as various declarations and other materials mentioned below, have been submitted to Council staff but, in the interest of keeping the Council's reading packet short, are not included in LACFA's material for Council reading.

now heavily dependent on Huntington Flats. Most, if not all of them that fish at or near a full-time level operate mainly at Huntington Flats. It is hard to get exact information, but indications are that many of them fish there exclusively. Because of the small size and condition of these vessels, the distance to other fishing grounds, the risks of going there, and the very limited fishing opportunities within even theoretical steaming range, most of these boats would not survive loss of access to Huntington Flats. Conversion to other gear is not feasible for most because of limited size, configuration, and the economic need to keep operations on a one-person basis. A few could be expected to invest in increased capacity and range and make the transition into deeper water fisheries.

Huntington Flats covers approximately 32 square miles of federal waters. It is a relatively shallow area lying seaward of Los Angeles Harbor from 3 miles to between 6 and 11 miles, generally ending along the 35-fathom contour. It is bordered and transected in some areas by vessel traffic lanes heavily used by large ships. Enclosure A.

Summary of Changed Circumstances Since 1997 Which Warrant Withdrawal of the Council's Request to Change the Rules:

A rethinking of this matter and reversal of the Council's recommendation is justified based on many significant changes in relevant circumstances. Discussion of these is provided below. In summary, they are as follows:

- Heightened Importance of Preserving Healthy Fisheries as 1996 Sustainable Fisheries Act is Implemented. Council action to preserve any segment of the Pacific Coast commercial fleet which targets healthy stocks and uses low impact gear has become critically important at this time of depleted stocks, increased restrictions, and economic crisis in the fishery.

- Rockfish decline. New information about declining rockfish stocks shows the need to protect against new fishing pressure on these stocks, rather than to increase pressure.

- Strategic Plan. The Council has adopted a Strategic Plan for the groundfish fishery. Closing out the set net fishers at Huntington Flats would be contrary to some basic principles of the new Strategic Plan.

- Change in LACFA Catch. The proportion of groundfish in LACFA vessel landings has increased significantly since 1997.

- Absence of User Conflict. Predictions about user conflicts at Huntington Flats have proved unfounded. Cooperative and harmonious conditions have prevailed between commercial and recreational fishers as set net fishing has continued under court order.

- Entry of Consent Decree. LACFA and CDFG have entered into a consent decree under which the federal court has permanently enjoined the State from enforcing its set net ban at Huntington Flats. Enclosure G. The court order puts an end to long-standing legal issues and provides a way of finally resolving the Huntington Flats dispute -- unless NMFS reopens the dispute by changing the federal regulation.

- Legal Weakness of Rule Change Revealed. Publication of NMFS' rule-making documents in May 2000 showed the lack of legal support for the proposal, including conflicts with virtually all of the National Standards.

II. DISCUSSION

1996 Sustainable Fisheries Act and the Need to Preserve Healthy Fisheries. In the last four years, as implementation of the 1996 amendments to the Sustainable Fisheries Act (SFA) got underway, the Council has had to transition into near-crisis management, as news of stock depletions, excess harvest capacity, conflicts with protected species, and necessary closures have become the stuff of each meeting. In this context, the little San Pedro gill net fleet is unusual. It has modest landings of stocks which mainly appear to be healthy. It fishes with a clean gear, free from marine mammal or bird conflicts and bycatch or discard wastage, close to home where nets can be pulled daily and high quality fish are delivered to eager local markets. Under the existing circumstances, there is no incentive for these boats to gear up for greater capacity and put further pressure on stocks. This is a group of fishers with deep roots in one of the quintessential fishing communities on the West Coast. Given the Council's new knowledge about depleted stocks and bottom habitat damaged by mobile gear, this should be one of the last fisheries to be considered for regulatory extinction.

The proposal to close Huntington Flats to this group of boats has nothing to do with conservation of either fish stocks or marine mammals or birds. NMFS has now published its acknowledgment of this point in connection with the rule-making, explaining:

> "[A]t Huntington Flats, the primary emphasis [of the rule-making] was on public concern for state species, particularly California halibut, rather than protected species or targeted groundfish."[6]

NMFS's concession echoes CDFG's own statement to the Council in 1996 that "the bird and mammal issue has not been an issue in that [Huntington Flats] area." Enclosure E, p. 5. Nor would this proposal result in conservation of fish stocks. As NMFS also concedes, the proposal

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[6] 65 Fed. Reg. 31872 (May 19, 2000). NMFS did argue that discard wastage was occurring because the set net fishers were forced by state law to discard the state-managed fish. This is erroneous. Because of the federal court rulings on preemption, no such discard occurs. Declarations submitted to NMFS and Council staff by LACFA members confirm that virtually all marketable fish taken at Huntington Flats is retained.

includes no provision to reduce catch limits by the amount once taken by the set netters. Their share simply would become available to the commercial trawlers who fish at Huntington Flats as well as the recreational fishers.

The new imperatives for Council management under the SFA require a fresh look at old decisions. The Huntington Flats decision deserves reversal in light of the new realities of fisheries management by the Council.

Rockfish Decline. Knowledge about decline in rockfish stocks has increased dramatically since 1997. The Council and NMFS work urgently to adopt and implement rebuilding plans for depleted rockfish species. At the same time, the Huntington Flats closure, by NMFS and CDFG's own accounting, will force dislocated boats out into deeper waters. As far back as 1989, CDFG understood that this would result in added pressure on the offshore rockfish fishery. Enclosure C, p. 5. NMFS' recent analysis of the proposed regulation's economic impacts (Initial Regulatory Flexibility Analysis) relies on the assumption that boats closed out of Huntington Flats will be able to fish in nearby deeper waters. Declarations submitted to NMFS by LACFA fishers confirm their experience that the main species available in deeper waters close to Huntington Flats are rockfish. In light of new evidence of overfishing of rockfish species, a decision such as this to increase pressure on these stocks is insupportable.

Strategic Plan. The Council's Huntington Flats recommendation deserves reconsideration in light of the new Strategic Plan for the groundfish fishery. Each of the following allocation principles contained in the Plan points to the need for reversal of the Council's recommendation:

> #6. Community economic impacts and the benefits and costs of allocation should be fairly distributed coast-wide. Allocations should attempt to avoid concentration and assure reasonable access to nearby resources. The diversity of local and regional fisheries, community dependency on marine resources and in processing capacity, and infrastructure will be considered in Council allocation decisions.
>
> #7. Council changes to allocations between sectors and/or gears within sectors should not encourage or result in increased capitalization (investment) and capacity (need or ability to increase harvest).
>
> #8. Impacts to habitat and recovery of overfished stocks .... will be considered when allocation changes are made.
>
> #9 Council capacity reduction measures wil consider and attempt to minimize transfer of effort into other fishery sectors potentially complicating allocation issues for Council managed fisheries....

The Plan represents a comprehensive vision for responding to the economic hardship and uncertainty being experienced as groundfish landings decline. Any decision to change the

existing allocation of resources at Huntington Flats should be taken in light of the principles and long-term goals of this Plan. That can happen only if the Council's recommendation is pulled back.

Change in LACFA Catch. LACFA landings of federally managed groundfish have changed in the years since the Council's recommendation. Based on landing receipt data from seven of LACFA's most active boats during 1996 - 1999, the changes include an increased proportion of groundfish, a diminished proportion on halibut and other state-managed species, and increased landings of underutilized species. The percentage of groundfish landings for these boats ranged between 11 and 67 percent of total landings for the three years. Groundfish species being taken are principally soupfin shark, leopard shark, dogfish, kingfish, sole, lingcod, cabezon, ratfish, skates, and a relatively small component of yellowtail and other rockfish. One of the boats, the 38-foot Sandy Bea, targets dogfish most of the time and has developed a strong market for use of the fish in research and teaching institutions across the country. Others species landed include California halibut, white seabass, black seabass, pacific mackerel, sculpin, thresher shark, white croaker, and hake.

While California halibut continues to be the most commonly landed species for most of the boats, this provides no legal or practical reason for NMFS to extinguish the federal component of the fishery. As with most small fishing businesses, the flexibility for these boats to move from one fishery to another, responding to seasonal and market factors is essential to economic survival.[7] Such flexibility is commonplace among West Coast fishing vessels. Many, if not most boats fishing for federally managed salmon and groundfish part of the year also fish for Dungeness crab, California halibut, or other state-managed species at other times. A system which totaled up the number of state fish versus the number of federal fish landed from an area, with the winner taking regulatory control, would produce instability, uncertainty, and conflict. The Council's Strategic Plan does not contemplate such a system of management.

Absence of User Conflicts. Concerns about user conflicts at Huntington Flats have proved unfounded. Since November 1996, as the LACFA boats fished under protection of federal court order, they and the recreational boating interests in the area have cooperated in working out ways of sharing the resources. Relations have been harmonious. User conflicts that existed around the time of Proposition 132 have long since been solved through a state limited entry program gill and trammel net fisheries, and through area closures where shown to be warranted on a case-by-case basis. See Enclosure C, p. 6.

Effect of Consent Decree. As a result of the consent decree entered last December, the U. S. District Court for Northern California has permanently enjoined CDFG from enforcing the State's set net ban at Huntington Flats. Enclosure G. The court order is based on the preemptive effect of the existing federal regulations which allow set nets. The court order will remain

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[7] In declarations submitted to NMFS and council staff, LACFA members describe precisely this pattern of operation.

controlling and provide a way of finally resolving the Huntington Flats dispute, unless NMFS reopens the dispute by changing the federal regulation. That action would likely reopen litigation and involve the Council and NMFS in new rounds of legal proceedings.

Legal Weaknesses of the Rule Change Revealed by NMFS' Analysis. With the proposed rule, NMFS published an Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/IRFA). This document stunningly displays the absence of legal foundation for the proposal. These "support" documents show the proposal to be in conflict with virtually all of the national standards and to find support in none of them, to wit:

NS # 1: The objective of preventing overfishing will not be furthered by the new regulation and may be undercut by it . The EA identifies no overfishing on affected stocks. The measure contains no provision to reduce harvest of affected stocks, but *de facto* reallocates the set net harvest to other fishers. Pushing the set net boats out into deeper water will force those that can make the transition to target more on rockfish, which provide one of the few stocks available to set nets in the deeper waters. Given the depleted condition of many of these stocks, forcing the set net boats into deeper waters would violate NS 1.

NS # 2: The requirement for basing management measures on best scientific information is not met. The EA/IFRA contains very little scientific information, and none that supports a conclusion to close Huntington Flats to set nets. In 1991, when considering the CDFG proposal to close the whole EEZ to set nets under the banner of Proposition 132, the Council's Scientific and Statistical Committee made the following report:

> "The SSC was not presented with convincing scientific information to justify the prohibition of rockfish gill nets on conservation grounds. As the SSC stated in April, the Groundfish Management Team report indicates that elimination of the rockfish gill net fishery would not be an effective rockfish conservation measure. Reports based on the California Department of Fish and Game observer program off central California indicate that incidental catches of sea birds and marine mammals by rockfish gill nets are minor. [Reference is to 1984, 1986, and 1987 Progress Reports on the Central CA Gill and Trammel Net Investigations.]
>
> "In accordance with our obligation to review the consistency of proposed actions with the National Standards, as outlined in the Council's operating procedures, the SSC believes that the proposed ban would not be (1) based on the best scientific data available (National Standard 2), (2) fair and equitable to all such fishermen (National Standard 4a), and (3) reasonably calculated to promote conservation (National Standard 4b).

In 1990, commenting on AB 1, the Proposition 132 precursor, CDFG was reported in legislative committee to have this to say: "According to the [DFG], this measure would eliminate major commercial gill and trammel net fisheries in Southern California, without the benefit of any biological evidence or demonstrated need to impose such restrictions." (Assembly Committee on Water, Parks, and Wildlife, Digest on AB 1, p. 6, January 9, 1990. See also

Enclosure C, p. 5 (CDFG analysis of AB 1.): "We feel strongly that available biological resource information warrants continued use by both sport and commercial users."

The NMFS documents show that the passage of time has not brought any new science to bear on these issues. The proposal still does not meet the test of NS 2.

NS # 3: The proposal is said to represent federal coordination with the state to support management of state species throughout their range, both inside and beyond state waters. NS 3 is cited. This reasoning stands the principle on its head. NS 3 is concerned with management of federal species under an FMP and therefore with federal species as a unit, not with state-managed species. It is well known that the recreational fishery at Huntington Flats takes substantial numbers of federally managed fish, including rockfish, lingcod, skates, Pacific sandab, Dover sole, and others. Under a proper application of NS 3, it is these federal stocks, and not the state-managed species, which would be candidates for management as a unit throughout their range. That has been the case under the existing regulatory scheme, and properly so. Interagency cooperation is admirable, but it is not an objective warranting waiver of federal law.

NS # 4: The proposed rule would allocate fishing privileges from one group of fishermen to another. Accordingly, it is required by NS 4 to be fair and equitable to all such fishermen. Clearly it fails this test. Where one group would be shut out of their last remaining good fishing ground, a large area rich with shallow water fish and close to home, and offered the uncertain possibility of an inadequate number of distant fishing berths with doubtful fishing value and certainty of hazards, the deal is not fair or equitable. NS 4 also requires that any such allocation measure be reasonably calculated to promote conservation. The EA/IFRA provides not a shred of evidence that it does.

NS # 5: This requires consideration, where practicable, of efficiency in utilization of fishery resources and bars economic allocation as its sole purpose. No purpose other than economic allocation has been identified here. And on the efficiency issue, it is hard to think of a more contrary proposal than this one. Closing out a successful, highly efficient near-port fishery and relocating it to distant territory (even if that could be done) would increase all operating costs, decrease abundance and quality of product, and cut off supply of live fish to eager markets. Not to mention the decreased harvest efficiency that goes with tending nets far from home port.

NS # 6: The proposal does not allow for variations among, and contingencies in, fisheries, resources, and catches, as required by this standard. The proposed regulation would exchange the nearshore mix of possible target species for only one or two, and exchange proximity to port which allows short and frequent trips for distant and hazardous fishing grounds. Clearly margin of flexibility for meeting contingencies and variations in fishing opportunity and market demand would be greatly reduced.

NS # 7: Obviously harvest costs would go up if the vessels were required to travel to more distant fishing grounds, contrary to this standard.

NS # 8: This standard looks to a management measure's impacts on fishing communities. San Pedro has already been buffeted by the decimation of its commercial fishing base. The remaining gill net fleet enjoys a special niche, both as a prime supplier of fresh and live fish to restaurants and markets, and as the embodiment of families and traditions deeply rooted in that place. Throughout the struggle against Proposition 132, boat builders and repairmen, restaurant operators, marine suppliers, fish buyers, and other members of the fishing community have come forward with letters, personal testimony, and contributions to try to save this fishing fleet and head off the new economic blow that would come with its demise. Much of this material is in the record of the Council's consideration of Proposition 132-related matters and more has recently been submitted to NMFS as part of the rule-making record.. The EA/IFRA and NMFS' Supplementary Information on the proposed rule give no evidence of having taken these considerations into account in its decision to propose the rule. These requirements of NS 8 can be moderated by conservation requirements, but as noted, this measure has no conservation purpose or effect.

NS # 9: This standard calls for minimizing bycatch and, where that can't be avoided, for minimizing mortality of bycatch. As noted, there is no issue here about incidental catch of marine mammals or birds. Nor is there an issue about regulatory discards, as explained above. The EA/IFRA makes some other vague references to bycatch, or possible future bycatch, but there is no evidence that it is occurring or will occur. On the contrary, the evidence provided by the LACFA vessels is that, under the SFA's new and more stringent section 1802 definition of bycatch, the standard is being met at an exceptionally high level. What the proposed rule could do, however, is increase the level of bycatch in the harvest of Huntington Flats stocks formerly harvested by the set net boats. Because neither trawl gear nor hook and line can avoid catching undersized fish, and some mortality occurs with fish thrown back, the overall rate of bycatch and mortality in this sector could go up. Similarly, bycatch and mortality could well increase with the set nets placed in deeper, more distant water and tended with less frequency.

NS # 10: The EA/IFRA gives no indication that this standard concerning safety of human life at sea has been considered in connection with the proposed rule. Increased risk would come to fishers aboard the small set net vessels fishing in deeper waters because of two factors. One set of risks would involve these small vessel's vulnerability to heavy weather and the added time to safe harbor if they were fishing beyond 35 fathoms (starting about 9 miles out). Another is that the area contemplated by NMFS as available fishing grounds, where Huntington Flats slopes off beyond 35 fathoms, is in the vessel traffic lanes heavily used by ships accessing Los Angeles and Long Beach Harbors. Enclosure A.

NEPA and RFA. In addition to the failure show the proposed rule's consistency with the National Standards, the NMFS documents also show a failure to undertake even minimally adequate analysis of environmental and economic impacts. The EA/IRFA analysis states conclusions that such impacts won't occur, but fails to provide supporting evidence or reasoning. Plainly, significant impacts of both kind are likely to occur. Adverse effects on sensitive rockfish resources, increased pressure on Huntington Flats stocks, increased wastage from moving commercial fishing farther off-shore -- these and a number of other adverse impacts discussed

invalidate the a no significant environmental impact conclusion that NMFS has drawn. Consequently, an environmental impact statement is warranted under the National Environmental Policy Act and should have been prepared.

Similarly, NMFS's conclusion that there will be no significant economic impact is clearly wrong, as the record abundantly shows. The supporting explanation falls far short of requirements of the Regulatory Flexibility Act for disclosure and analysis of economic impacts on small businesses.

III. CONCLUSION

Since the Council's 1997 recommendation on Huntington Flats, voter initiatives affecting marine resources have been passed in several states. It is time for the Council to pull back and reconsider the wisdom of allowing federal fishery management to be governed by state voter initiative. The template for federal management decisions is set by federal law against a backdrop of Congressional concern for larger-than-local values. The need for a perspective focused on regional and national interests has been the mainspring of fishery management under the Magnuson Act and the Magnuson-Stevens Act. Ballot box proposals which affect federal fisheries have served, and will continue to serve such special interests as oil producers, anti-tribal advocates, sport fishers, commercial fishers, wood products producers, shippers, and more. Some of the proposals may be good, and some may not. Once enacted, all will bind the state agencies, and the stage will be set for pressure at regional fishery councils to bring the federal regulations into conformity. For some thoughtful comments on this issue and its relationship to the Huntington Flats situation, please see the letter of Pacific Federation of Fishermen's Associations, Enclosure F.

It is plain that the proposed closure of Huntington Flats has no justification beyond the values of yielding to local interests who want to see gill net boats out of this fish-rich piece of federal waters. In advocating for this measure, CDFG has done what it apparently perceives it must do as the representative of local interests to the Council. However, under the federal authorities that govern the Council, the regional and national interests must prevail. In light of currently available information, those authorities as well as good fisheries management principles to which the Council is devoted call reconsideration and reversal of the Council's old recommendation to NMFS on Huntington Flats.

End

Exhibit F.3.c
Supplemental Public Comment 3
April 2001

SPORTFISHING ASSOCIATION OF CALIFORNIA
2917 CANON STREET
SAN DIEGO, CALIFORNIA 92106
(619) 226-6455 FAX (619) 226-0175

ROBERT C. FLETCHER
PRESIDENT

W. A. NOTT
PRESIDENT-EMERITUS

March 28, 2001

RECEIVED
MAR 2 [illegible] 2001
PFMC

Dr. Don McIsaacs, Exec. Dir.
Pacific Fishery Management Council
2130 SW Fifth Ave., Suite 224
Portland, OR 97201

Subject: Agenda Item F. 3. Huntington Flats Closure.

Dear Dr. McIsaacs:

The Sportfishing Association of California (SAC) has since 1972 represented the interests of the Commercial Passenger Fishing Vessel (CPFV) fleet in southern California. A number of SAC vessels have had conflicts with the set gill net fleet fishing the waters of the Huntington Flats area, and it is obvious to my members that the target species of those set gill netters is NOT Council managed groundfish! A glance at the California Department of Fish & Game's 'Attachment 3' will show you that 92.3 % of the fish landed are state managed. Rejecting the request of the Los Angeles Commercial Fishermen's Association (LACFA) will allow the state to appropriately manage and regulate the take of state managed species.

Under National Standard 9 of the Magnuson-Stevens Fishery Conservation & Management Act, it is a requirement that, ".....to the extend practicable, [you should] (A) minimize bycatch...". As state law prohibits the use of set gill nets in the Huntington Flats area, it would be logical that the state should prohibit the take of state-managed species by gill nets in that area and so require the discard of those species. As it would be ludicrous for any Council member to authorize a fishery with a 92.3 % discard rate, it only stands to reason that the PFMC should reject this request by the LACFA and allow NMFS to proceed with the final rule that would close the federal portion of the Huntington Flats to set gill nets.

SAC encourages you to support the request made by L.B. Boydstun of the California Department of Fish & Game and allow NMFS to take what is clearly the appropriate action, closing the Huntington Flats to set gill nets.

Sincerely,

Bob Fletcher

Bob Fletcher, President

Mary L. Hudson

ATTORNEY AT LAW

March 19, 2001

Mr. Jim Glock
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

Re: Los Angeles Commercial Fishermen's Association,
Agenda Item #F.3, April 4, 2001

Dear Jim:

Here is a set of materials relevant to the memorandum I previously submitted for distribution to the Council in the above-captioned matter. These materials are for inclusion in your file and for provision of background information in the event of any inquiries. I do not consider it necessary to distribute these materials to the Council.

Sincerely,

Mary L. Hudson

1505 Bridgeway, Suite 206, Sausalito, California 94965 □ (415) 331-7712 □ Fax (415) 331-7702

Los Angeles Commercial Fishermen's Association
Mariners Oil Spill Team
Harbor Building
1300 Beacon Street
San Pedro, California 90731
Room 221
(310) 831-5467 FAX (310) 831-9283

AUGUST 1, 2000

TO: RODNEY R. McINNIS, ACTING REGIONAL ADMINISTRATOR
SOUTHWEST REGION, NATIONAL MARINE FISHERIES SERVICE
501 WEST OCEAN BOULEVARD, SUITE 4200
LONG BEACH, CA 90802-4213

FROM: LOS ANGELES COMMERCIAL FISHERMEN'S ASSOCIATION

SUBJECT: COMMENTS ON PROPOSED SET NET CLOSURES
AT HUNTINGTON FLATS (FEDERAL REGISTER, MAY 19, 2000)

INTRODUCTION:

I WRITE THIS LETTER AS THE SECRETARY-TREASURER OF LOS ANGELES COMMERCIAL FISHERMEN'S ASSOCIATION (LACFA), THE PROGRAM MANAGER OF LACFA'S MARINER'S OIL SPILL TEAM, AND AS THE OPERATOR OF OUR FAMILY FISHING BUSINESS, WHICH INCLUDES MY HUSBAND AND MYSELF, WITH OUR FISHING BOAT, AND MY SON AND HIS BOAT. I KNOW ABOUT GILL NET FISHING OUT OF SAN PEDRO. I AM CLOSELY FAMILIAR WITH EACH OF THE _____ BOATS IN OUR GROUP AND WITH OUR FISHING COMMUNITY.

PURPOSE: I AM WRITING TO TELL YOU WHY NMFS MUST SAY NO TO THIS PROPOSAL TO SHUT US OUT OF THE FEDERAL PORTION OF HUNTINGTON FLATS. THE CAMPAIGN AGAINST GILL NETS GOT STARTED WITH A STATE INITIATIVE THAT WAS BUILT ON LIES. IT WAS PAID FOR BY RECREATIONAL FISHING INTERESTS AND PEOPLE WHO WERE LED TO BELIEVE THEY WERE SAVING SEALS AND DOLPHINS. THE INITIATIVE CLOSED ALL STATE WATERS TO GILL NETS, LEAVING OUR SMALL BOATS ONLY HUNTINGTON FLATS.

NOW THEY WANT TO TAKE HUNTINGTON FLATS. I'VE READ THROUGH THE PROPOSAL, AND I CAN HARDLY FIND ANY MEAT TO IT. THE REASONS FOR DOING THIS CAN'T REALLY BE FOUND IN THE PUBLISHED WORDS. THERE IS NOT MUCH TALK ABOUT MARINE MAMMALS ANYMORE. THERE CAN'T BE, SINCE THERE ISN'T ANY PROBLEM WITH MARINE MAMMAL ENTANGLEMENTS WITH OUR NETS. THERE'S SOME TALK ABOUT BYCATCH OR POTENTIAL BYCATCH, BUT THE EVIDENCE ISN'T THERE. WHAT IT BOILS DOWN TO IS THAT CALIFORNIA'S DEPARTMENT OF FISH AND GAME IS ASKING FOR THIS CLOSURE. I SUPPOSE THE DEPARTMENT HAS TO DO WHAT IT'S TOLD TO DO. BUT NMFS DOESN'T HAVE TO FOLLOW. NMFS IS SUPPOSED TO LEAD IN TAKING CARE OF OUR FISHERIES. NMFS IS SUPPOSED TO FOLLOW THE RULES SET UP UNDER THE MAGNUSON ACT.

I AM WRITING TO EXPLAIN TO YOU THE MANY WAYS THIS PROPOSAL DOES NOT FOLLOW THOSE RULES. I WANT TO TELL YOU THE REAL STORY ABOUT OUR FISHING BOATS, THE PEOPLE WHO WORK ON THEM, AND THE COMMUNITY THAT DEPENDS ON THEM.

FOR DECADES THE WATERS OFF SAN PEDRO AND LONG BEACH HAVE BEEN SHARED BY ALL USER GROUPS. THERE WERE OCCASIONAL CONFLICTS, AND THEY WERE WORKED OUT COOPERATIVELY. BUT IN THE PROCESS, THE FISHING GROUNDS AVAILABLE TO OUR GILL NETS KEPT GETTING REDUCED. WE LOST SANTA MONICA BAY, THE ISLANDS, AND EVENTUALLY UNDER PROPOSITION 132, WE LOST ALL OF STATE WATERS. WE WERE DRIVEN INTO THE ONLY GOOD FISHING GROUND THAT COULD BE REACHED BY OUR SMALL BOATS, AND THAT WAS HUNTINGTON FLATS. (WE HAD TO GO TO COURT TO ESTABLISH OUR RIGHT TO FISH AT THE FLATS.) FISHING AT THE FLATS FROM 3 TO 9 MILES, OUR BOATS CAN STILL MAKE DAY TRIPS, TEND THEIR NETS DAILY, AND DELIVER VERY FRESH FISH TO THE RESTAURANTS, MARKETS, AND EXPORTERS THAT DEPEND ON US.

EVEN SO, MANY OF OUR BOATS HAVE BEEN FORCED OUT OF BUSINESS BY LOSS OF ACCESS TO THE STATE WATER FISHING AREAS. WITHIN THREE YEARS AFTER PROPOSITION 132 TOOK EFFECT, HALF OF LACFA'S 70 BOATS HAD BEEN DRIVEN OUT OF BUSINESS. MORE HAVE DROPPED OUT SINCE THEN. OF APPROXIMATELY 20 THAT WE NOW HAVE FISHING FULL TIME OR NEARLY FULLY TIME, I WOULD EXPECT ABOUT HALF TO IMMEDIATELY GO OUT OF BUSINESS IF HUNTINGTON FLATS IS CLOSED TO SET NETS. MOST OF THE BOATS ARE TOO SMALL OR

TOO OLD OR BOTH TO FISH OUTSIDE. WE HAVE ONE 50-FOOT BOAT AND THE REST ARE UNDER 38 FEET. BEYOND 35 FATHOMS, THERE ARE A FEW SPOTS WHERE NETS CAN BE SET, BUT THE FISHING IS USUALLY POOR. THE DISTANCES TO THESE SPOTS ARE GREAT, AND FUEL COSTS CUT INTO PROFITS. AND IT IS A LOT MORE DANGEROUS FOR THE MEN IN THE LITTLE BOATS.

BEFORE YOU BUY INTO THE IDEA THAT HUNTINGTON FLATS SHOULD BE CLOSED AND WE CAN JUST GO FISH SOMEWHERE ELSE, PLEASE CONSIDER THESE SPECIFIC POINTS.

GEAR: SET NETS ARE HIGHLY SELECTIVE, EFFECTIVE, AND EFFICIENT. THE MESH SIZE IS REGULATED BY STATE LAW SO THAT THE YOUNG FISH ARE NOT TAKEN. THE NET DOES NOT DAMAGE THE FISH, SO THAT NONE ARE LOST. OUR FISHERMEN TEND THEIR NETS REGULARLY, SO THAT THE FISH ARE IN VERY GOOD CONDITION WHEN THEY ARE LANDED. SINCE ABOUT 1995, MORE AND MORE OF OUR FISH ARE BEING SOLD LIVE. THERE IS A STRONG MARKET FOR LIVE FISH. I KNOW THAT THERE IS CONTROVERSY ABOUT THE LIVE FISH THAT ARE BEING CAUGHT IN NEARSHORE STATE WATERS BY HOOK AND LINE, AND I UNDERSTAND THAT FISHERY MAY BE CLOSED. OUR SET NETS PROVIDE THE ONLY OTHER SOURCE OF SUPPLY FOR THESE HIGH QUALITY FISH THAT THE RESTAURANTS WANT.

QUITE A FEW OF THE BOAT OWNERS HAVE LOOKED INTO CHANGING TO OTHER GEAR. THIS TURNS OUT NOT TO BE FEASIBLE. TRAWL IS REALLY THE ONLY OPTION IN THIS AREA, AND MOST OF OUR BOATS ARE TOO SMALL FOR THE ENGINES AND EQUIPMENT NEEDED TO TRAWL. STRUCTURAL STRENGTH IS ALSO A PROBLEM FOR SOME. THE COST OF CONVERSION WOULD BE PROHIBITIVE. THE NEED FOR A LIMITED ENTRY PERMIT WOULD BLOCK ENTRANCE INTO TRAWLING ANYWAY.

SPECIES, LANDINGS:

OUR BOATS CATCH A WIDE VARIETY OF FEDERALLY MANAGED GROUNDFISH, STATE MANAGED FISH, AND SOME OTHER SPECIES THAT DON'T APPEAR TO BE MANAGED BY ANYONE. THE SPECIES INCLUDE SOUPFIN SHARK, LEOPARD SHARK, SCULPIN, HALIBUT, BARRACUDA, KINGFISH, SOUL, FLOUNDER, SKATE, DOGFISH, MACKEREL, YELLOWTAIL, SHOVELNOSE SHARK, BLACK SEABASS, WHITE SEABASS, RATFISH, THRESHER SHARK, CABAZON, AND VARIOUS ROCKFISH.

SINCE OUR LANDINGS ARE ALL A MATTER OF RECORDS THAT NMFS HAS ACCESS TO, I AM NOT SUBMITTING LANDING RECEIPTS. BUT WE COULD PROVIDE MANY OF THEM UPON REQUEST. WHAT OUR LANDING RECEIPTS AND YOUR COMPUTER RECORDS SHOW IS THAT WE ARE BRINGING TO MARKET VIRTUALLY EVERY FISH THAT IS CAUGHT. YOU CAN TELL THAT BECAUSE THE RECEIPTS SHOW LANDINGS OF VERY SMALL NUMBERS OF DIFFERENT FISH. THERE IS NO WASTE IN OUR FISHERY. WE ARE SMALL BUSINESSES AND EVERY FISH COUNTS. BECAUSE WE MAKE DAY TRIPS, AND BRING IN SMALL LOADS, WE HAVE THE SPACE TO KEEP EVERY FISH ON OUR BOATS. (IF OUR BOATS WERE GOING TO MORE DISTANT GROUNDS ON MULTIPLE-DAY TRIPS, THE FISHERMEN WOULD PROBABLY HAVE TO DISCARD SOME FISH TO SAVE SPACE.)

WITH THIS LETTER, I AM SENDING SUMMARIES OF LANDINGS OF SEVEN OF OUR MOST ACTIVE BOATS FROM NOVEMBER 26, 1996 THROUGH DECEMBER 31, 1999. ALL BUT ONE OF THESE SUMMARIES IS DERIVED ENTIRELY FROM LANDING RECEIPTS. THE ONE IS BASED PARTLY ON ESTIMATES BECAUSE LANDING RECEIPTS WERE NOT AVAILABLE. THESE RECORDS SHOW THE HEAVY INVOLVEMENT OF LACFA BOATS IN FISHING FOR THE FEDERALLY MANAGED SPECIES AT HUNTINGTON FLATS. OF THE TOTAL LANDINGS FOR THESE SEVEN BOATS, THESE BOATS' FEDERAL GROUNDFISH LANDINGS RANGED BETWEEN 11 AND 67 PERCENT OF TOTAL LANDINGS OVER THE THREE YEAR PERIOD.

AS YOU CAN SEE, NMFS' STATEMENTS ABOUT THE MINOR ROLE GROUNDFISH PLAY FOR SET NET BOATS AT HUNTINGTON FLATS ARE WRONG. THE GROUNDFISH ARE AN INCREASINGLY IMPORTANT PART OF OUR BUSINESS. THE MARKET FOR THESE FISH IS GROWING, PARTICULARLY FOR THE HIGH QUALITY FISH WE CAN DELIVER. ALSO, EVEN A RELATIVELY SMALL PERCENTAGE OF TOTAL LANDINGS CAN BE CRITICAL TO A SMALL FISHING BUSINESS. IF SOMEONE WERE TO TAKE AWAY THE ACCESS TO GROUNDFISH FOR OUR BOATS, MOST OF THEM WOULD BE HURT BADLY. AS THE SUMMARIES SHOW, SOME OF THEM PROBABLY WOULDN'T SURVIVE.

SO THE FACT THAT OUR BOATS TAKE A LOT OF STATE-MANAGED FISH SHOULD NOT DECIDE THINGS. THERE IS NO STATE LAW SAYING OUR BOATS CAN'T CATCH HALIBUT OR SEABASS. IN FACT, NMFS SEEMS TO BE ASSUMING WE COULD GO RIGHT ON CATCHING THEM, BUT AT 35 FATHOMS. WHAT IS IMPORTANT IS THAT THE LACFA BOATS ARE FISHING IN FEDERAL WATERS AND ARE TAKING A MIX OF

STATE AND FEDERAL FISH. THIS IS THE SAME WITH MANY OTHER BOATS ALL ALONG THE PACIFIC COAST. THE FACT THAT OUR LANDINGS INCLUDE LOTS OF STATE FISH DOESN'T MEAN THAT NMFS SHOULD GIVE UP ITS ROLES UNDER THE MAGNUSON ACT OF PROTECTING AND MANAGING FISHERIES.

MARINE MAMMALS:

WE WERE GLAD TO SEE THAT NMFS RECOGNIZES THAT HARM TO MARINE MAMMALS AND BIRDS IS NOT A PROBLEM WITH OUR SET NETS AT HUNTINGTON FLATS. WE HAVE A CLEAN RECORD ON THIS ISSUE, AS SEVERAL STUDIES HAVE SHOWN AND AS EVEN CALIFORNIA FISH & GAME EXPLAINED TO THE COUNCIL. EVEN SO, NMFS SEEMS TO BE SAYING THAT THE AREA SHOULD BE CLOSED TO NETS ANYWAY JUST IN CASE A MARINE MAMMAL PROBLEM SHOULD DEVELOP IN THE FUTURE. THIS OBVIOUSLY MAKES NO SENSE WHEN THERE IS NO EVIDENCE THAT THIS PROBLEM WILL EVER EXIST.

IT IS WORTH NOTING THAT IN RECENT YEARS, OUR GEAR HAS BEEN MODIFIED IN SEVERAL WAYS TO REDUCE ANY POTENTIAL FOR DEATH OF MARINE MAMMALS OR BIRDS. IN ADDITION TO MODIFIED MESH SIZES, WE HAVE THINNER MESH MATERIAL WHICH BREAKS EASIER, AND THE NETS ARE HUNG WITH BREAKAWAYS. THE FLOAT ROPES AND ANCHORS HAVE ALSO CHANGED. ALL OF THESE CHANGES ARE DESIGNED TO ALLOW ESCAPE OF ANY MARINE MAMMAL THAT MIGHT BECOME ENTANGLED.

DATA: MOST DISTURBING OF ALL IS THE BAD DATA USED TO JUSTIFY CLOSING HUNTINGTON FLATS TO OUR BOATS. THE CLAIMS ABOUT A MINOR ECONOMIC IMPACT ON OUR BOATS ARE JUST COMPLETELY WRONG. YOU NEED TO LOOK AT WHAT WOULD HAPPEN TO INDIVIDUAL BOATS, AND NOT JUST AVERAGE OUT SOME NUMBERS OVER ALL THE BOATS THAT HAPPEN TO BE REGISTERED IN THE AREA. AND YOU NEED SOME UPDATED, BETTER DATA. YOUR CHARTS AND EXPLANATIONS ABOUT HOW YOU GOT TO THE CONCLUSION THAT BOATS WOULD SUFFER ONLY A 1.5% LOSS OF REVENUE ARE COMPLETELY INCOMPREHENSIBLE. THE DATA IS OLD. IT IS NOT POSSIBLE TO TELL WHAT BOATS WERE BEING USED FOR THE NUMBERS, WHERE THEY WERE FISHING WITHIN THE FOUR FISH CATCH BLOCKS (NOT ALL OF THEM IS HUNTINGTON FLATS), WHAT SPECIES THEY WERE FISHING ON, OR ANY OF SEVERAL OTHER NECESSARY POINTS.

LET ME GIVE YOU SOME ACTUAL NUMBERS FROM ONE BOAT, THE BLAZER II, WHICH BELONGS TO MY HUSBAND AND ME. IN 1993, WHEN WE HAD ACCESS TO HUNTINGTON FLATS, WE EARNED $40,000. IN 1994, WHEN WE WERE SHUT OUT, WE MADE ONLY $29,000. IN 1995, STILL SHUT OUT AND TRYING TO FISH OUT AT 35 FATHOMS AND BEYOND, WE MADE $23,000. IN 1996, WE MADE $33,000. $10,000 OF THAT AMOUNT WAS MADE DURING DECEMBER, AFTER THE FEDERAL JUDGE ISSUED AN ORDER THAT LET US GO BACK TO HUNTINGTON FLATS. DURING THE SHUT OUT YEARS, WE WORKED LIKE DOGS, TRAVELING LONG DISTANCES IN SEARCH OF FISH, SPENDING 16 TO 18 HOURS A DAY ON THE WATER, RUNNING UP COSTS, CATCHING FEWER AND FEWER FISH, AND RISKING OUR LIVES TO DO IT. I CAN TELL YOU THAT A FISHING BUSINESS CANNOT SURVIVE UNDER THOSE CIRCUMSTANCES. OURS MIGHT NOT BE ONE OF THE BOATS THAT WOULD GO UNDER IMMEDIATELY, BUT IF THE FLATS ARE CLOSED, WE WILL UNDOUBTEDLY BE AMONG THE ONES THAT IS SOON GROUND DOWN TO THE POINT OF FAILURE.

RISK TO LIVES:

I DON'T SEE ANYTHING IN NMFS' WRITE-UP ABOUT THE INCREASED RISK TO THE FISHERMEN IF THEY HAVE TO FISH OUTSIDE 35 FATHOMS. THE DEEPER WATERS WEST OF HUNTINGTON FLATS ARE CROSSED BY MAJOR VESSEL TRAFFIC LANES. THESE ARE HEAVILY USED AND ARE A REAL THREAT TO SMALL BOATS IN THAT AREA.

EVEN MORE OF A THREAT IS THE SEA CONDITIONS WE COULD EXPECT TO GET IN THE DEEP WATERS OUTSIDE HUNTINGTON FLATS. HEAVY WEATHER CAN BE EXPECTED THROUGH MANY MONTHS OF THE YEAR, BUT CAN COME UP UNEXPECTEDLY AT ANY TIME. MOST OF THE LACFA BOATS AREN'T SAFE IN THESE KINDS OF CONDITIONS. THE BOATS ARE TOO SMALL TO TAKE THE BIG SWELLS AND MANY OF THEM ARE NOT STRONG ENOUGH FOR THE BATTERING YOU GET IN A STORM. AT THE FLATS, IT IS AN EASY RUN TO SAFETY IF A STORM COMES UP. THAT WOULD NOT BE TRUE BEYOND 35 FATHOMS.

THIS FACTOR, ALONE, WOULD FORCE SOME OF THE BOATS OUT OF BUSINESS IF THEY WERE SHUT OUT OF THE FLATS. SOME OF THE OTHERS WOULD TRY TO FISH OUTSIDE AND TAKE THE RISKS THAT GO WITH IT. THE CHANCE OF LOSING SOME OF THESE BOATS WOULD BE VERY REAL.

HERE ARE MY CLOSING THOUGHTS:

The people that would be crushed by this regulation are hard working people who have inherited their fishing life and cherish it. These men and women believe in who they are and what they do for a living. The fishermen are a rare breed of people. They take much pride in harvesting the oceans seafood for other people to enjoy. They have done nothing wrong and their set nets have done nothing wrong. Proposition 132 was a railroad job on these fishermen. So much ocean has been taken from them because of this initiative. Please do not fall into the same trap that the state was pushed into. Find out what really happened here. Talk to all of the agencies involved, the attorneys, and other people, and read the judges' decisions on all this. Read all the paperwork submitted, ask the hard questions, and make sure you get real answers before you make a decision.

Sincerely,

DONNA PANTO, PROGRAM MANAGER

Los Angeles Commercial Fishermen's Association
Harbor Building
1300 Beacon Street
San Pedro, California 90731
Room 221
(310) 831-5467 FAX (310) 831-9283

SUMMARY OF FISHING ACTIVITY AT HUNTINGTON FLATS FROM NOVEMBER 26,1996 THRU DECEMBER 31,1999

F/V PACIFIC SUN #24723
STEVEN J. PANTO L25775

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(7,397 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 13,390 POUNDS)
(DEAD HALIBUT= 9,452 POUNDS)
TOTALS ON HALIBUT (22,842 POUNDS)

TOTAL ON OTHER FISH WEIGHT EQUALS
(1,962 POUNDS)

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F/V FROG #39670
STEVE MARDESICH SR. L25915

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(19,087 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 16,874 POUNDS)
(DEAD HALIBUT= 27,078 POUNDS)
TOTALS ON HALIBUT (43,952 POUNDS)

TOTAL ON OTHER FISH WEIGHT EQUALS
(11,490 POUNDS)

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F/V FORTUNA #24382
JOHN EMIRZIAN L25509

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(33,650 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 12,434 POUNDS)
(DEAD HALIBUT= 15,883 POUNDS)
TOTALS ON HALIBUT (28,317 POUNDS)

TOTAL ON OTHER FISH WEIGHT EQUALS
(11,913 POUNDS)

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F/V SEA RAIDER #27067
FRANK TRAMA L25583

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(2,991 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 0 POUNDS)
(DEAD HALIBUT= 13,581 POUNDS)
TOTALS ON HALIBUT (13,581 POUNDS)

TOTAL ON OTHER FISH WEIGHT EQUALS
(2,416 POUNDS)

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SUMMARY OF FISHING ACTIVITY AT HUNTINGTON FLATS FROM NOVEMBER 26,1996 THRU DECEMBER 31,1999

F/V BLAZER II #34162
STEVE A. PANTO L25774

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(18,178 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 15,309 POUNDS)
(DEAD HALIBUT= 14,782 POUNDS)
TOTALS ON HALIBUT (30,091 POUNDS)

TOTAL ON OTHER FISH WEIGHT EQUALS
(9,826 POUNDS)

TOTAL ON OTHER FISH WEIGHT EQUALS (82,778 POUNDS)

LACFA
PROGRAM MANAGER

Donna Panto

DONNA PANTO

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SUMMARY OF FISHING ACTIVITY AT HUNTINGTON FLATS FROM NOVEMBER 26,1996 THRU DECEMBER 31,1999

F/V SANDY BEA
F/V MELISSA MARIE
F/V FROG
F/V BLAZER II
F/V PACIFIC SUN
F/V FORTUNA
F/V SEA RAIDER

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(185,203 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 81,068 POUNDS)
(DEAD HALIBUT= 115,098 POUNDS)
TOTALS ON HALIBUT (196,166 POUNDS)

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SUMMARY OF FISHING ACTIVITY AT HUNTINGTON FLATS FROM NOVEMBER 26,1996 THRU DECEMBER 31,1999

F/V SANDY BEA
F/V MELISSA MARIE
F/V FROG
F/V BLAZER II
F/V PACIFIC SUN
F/V FORTUNA
F/V SEA RAIDER

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(185,203 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 81,068 POUNDS)
(DEAD HALIBUT= 115,098 POUNDS)
TOTALS ON HALIBUT (196,166 POUNDS)

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SUMMARY OF FISHING ACTIVITY AT HUNTINGTON FLATS FROM NOVEMBER 26,1996 THRU DECEMBER 31,1999

F/V SANDY BEA #24498
NICK GUGLIELMO L24498

ESTIMATED WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(95,000 POUNDS)

ESTIMATED WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 15,000 POUNDS)
(DEAD HALIBUT= 14,000 POUNDS)
TOTALS ON HALIBUT (29,000 POUNDS)

ESTIMATED WEIGHT ON OTHER FISH WEIGHT
(22,000 POUNDS)

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SUMMARY OF FISHING ACTIVITY AT HUNTINGTON FLATS FROM FEBRUARY 5,1997 THRU DECEMBER 31,1999

F/V MELISSA MARIE #33030
STEVE MARDESICH JR. L66923

WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(8,900 POUNDS)

WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 8,061 POUNDS)
(DEAD HALIBUT= 20,322 POUNDS)
TOTALS ON HALIBUT (28,383 POUNDS)

TOTAL ON OTHER FISH WEIGHT EQUALS (23,171 POUNDS)

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SUMMARY OF FISHING ACTIVITY AT HUNTINGTON FLATS FROM NOVEMBER 26,1996 THRU DECEMBER 31,1999

F/V SANDY BEA #24498
NICK GUGLIELMO L24498

ESTIMATED WEIGHT OF FEDERALLY MANAGED GROUNDFISH LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(95,000 POUNDS)

ESTIMATED WEIGHT OF HALIBUT LANDED IN FEDERAL WATERS AT HUNTINGTON FLATS
(LIVE HALIBUT= 15,000 POUNDS)
(DEAD HALIBUT= 14,000 POUNDS)
TOTALS ON HALIBUT (29,000 POUNDS)

ESTIMATED WEIGHT ON OTHER FISH WEIGHT
(22,000 POUNDS)

& D SEAFOOD CO.

June 11, 2000

TO: THE DEPARTMENT OF COMMERCE

FROM: Joseph Ciaramitaro/Owner J & D Seafoods

RE: Local Gill-Netter Issue/Proposition 132

To Whom It May Concern

Please reconsider your position on the gill-netters fishing in our local waters.

J & D SEAFOODS, INC. started business 11 years ago in San Pedro with the primary goal of restoring and rebuilding our local fishing community to what it was years ago. My father and grandfather was both local fisherman in San Pedro as were many others in their generation. Fishing was the primary trade here and many of us like myself grew up in the business. In the past years, local laws and restrictions have virtually killed the entire industry. What was once a bustling harbor of fishing boats has become a ghost town of parked vessels because these fishermen haven't been able to do what they know best.

My partner and I started this business with the intention of getting these boats going and supporting our local community by providing jobs. We made a niche for ourselves in the local seafood market by being one of the few distributors that sold "live fish" such as halibut and local sea bass. We have supported these local boats and they in turn have helped our business to grow.

We export much of this fish to the East Coast and also JAPAN for the local auctions. By eliminating the gill-netters, you not only take away their livelihood but also ours and the people that work for us. Out business depends on these gill-netters. We have devoted 11 years to this business and we need these local boats in order to survive.

P.O. BOX 1346 • SAN PEDRO, CALIFORNIA 90733 • (310) 831-5655 • FAX (310) 831-9674

& D SEAFOOD CO.

I have included several copies of invoices/bills for reference. Please let me know what other type of documentation might be needed.

Please reconsider. The future of many people depends on this decision.

Joseph Ciaramitaro
President J & D SEAFOODS, INC.

P.O. BOX 1346 • SAN PEDRO, CALIFORNIA 90733 • (310) 831-5655 • FAX (310) 831-9674

MARINE HARDWARE COMPANY
345 NORTH BEACON STREET · SAN PEDRO, CA 90731
(310) 831-9261 · (310) 775-6381 · FAX (310) 831-4442

June 13, 2000

National Marine Fisheries

In reading the Federal Register for May, 2000, I noticed probability of closing federal waters to our set net fishermen.

San Pedro being a fishing community, businesses are depending on the commercial industry. Would you please reconsider.

My business being a Marine Supply store would suffer economical losses.

Yours truly,

Bud Falsetta

Bud Falsetta
President

SAN PEDRO FISH MARKET & RESTAURANT

June 16, 2000

National Marine Fishery Services

SUBJECT: CLOSURE OF HUNTINGTON FLATS TO COMMERCIAL SET-NET FISHERMAN

San Pedro Fish Market & Restaurant has been in business for 40 years. San Pedro was founded by commercial fishing and is still today dependent upon the fishing industry in this port. Several of the local small boat set-net fishermen supply my fish market every day with varieties of fresh local seafood. My business looks forward to and depends on the set-net industry for fish catch of scupin, skates, sea bass, rock fish, sharks of variety, shovel nose, halibut, barracuda, etc... all varieties of seafood.

State waters and inland waters are closed to these men. They need a place to work and harvest our seafood. They fish out in the federal waters to supply the needs of so many. If you close Huntington Flats, the entire San Pedro community loses. These set-net fishermen have dedicated their lives to fishing. This area is their only survival. If you close the area, not only does that put the fisherman out of business, but I suffer loses at my business along with the rest of the San Pedro business community.

Please leave Huntington Flats open for the commercial Set-Net Fisherman.

Thank You!

Sincerely,

Thomas Amalfitano

1190 NAGOYA WAY, BERTH 78
SAN PEDRO, CA 90731
(310) 832-4251 FAX (310) 831-0817

MIKE [illegible] MARINE
San Pedro, CA 90731
(310) 832-0848
Fax (310) 832-0348
Diesel
76
Lube Oil
Mike Albano, Distributor
(310) 831-9934 (res)
Mark Sh
(310) 547-2653 (re

June 16, 2000

National Marine Fisheries Service.

The Federal Register in May stated that the Set Net Fishery is possibly on its way out. Proposition 132 isn't worth giving the State. Federal Waters. The Fishing Community in San Pedro has suffered enough due to that ballot initiative. Ten years later we are still having to wonder if our businesses will survive. Our Set Net Fishermen, who serve this community so well, do not deserve this nor do any of us who need them to help out with our businesses. We all Work together.

There has been no problems at Huntington Flats where these men fish. I service many different vessels in this area, no one is complaining. Why again does our Commercial Fishing Industry have to worry about tomorrow? Why do I have to worry about possible losses in my business, and who's job would be at risk?

If the fish stocks are in trouble, consider alternatives. If cut backs are needed, cut everyone in all fishing. If marine life has gotten so bad in that area, close it to everyone, not just the commercials.

All of us in San Pedro thought the small boats were back in business at the Federal Water area of Huntington Flats. After Proposition 132's devastation to everyone, we felt better about Federal Water Rights. Please don't let this happen again. Consider all the alternatives. Consider the Business Community of San Pedro, who was founded on Commercial Fishing. If you close the area all of us are hurt from it. Don't let this happen.

Thank you for letting me have the right to answer back.

Mike Albano

Office Phone
832-0241
833-3196
Night Phone
832-7239

Catalina Fish Co., Inc.

Blue Sea Brand

2210 SIGNAL PLACE, SAN PEDRO, CALIFORNIA

IMPORTERS AND EXPORTERS
WHOLESALE DEALERS IN FRESH AND FROZEN SEAFOODS OF ALL KINDS

JUNE 14, 2000

TO WHOM IT MAY CONCERN,

FOR MANY YEARS CATALINA FISH CO., INC. HAS PURCHASED HALIBUT, BARRACUDA, YELLOWTAIL, WHITE SEA BASS, VARIOUS TYPES OF SHARK, SKATE, SQUID, AND OTHER KINDS OF FISH AND SEAFOOD FROM THE FISHING AREAS 738,739, 718, 740, ALSO KNOWN AS THE HUNTINGTON FLATS.

THE LOSS OF THIS SUPPLY OF FRESH FISH WHICH IS ABOUT 65% OF MY BUSINESS WOULD MEAN DRASTIC ECONOMIC BURDON ON MY COMPANY AND ITS EMPLOYEES. WE ALL DEPEND ON THESE TABLE FISH FOR OUR ORIENTAL TRADE AND WHITE TABLE CLOTH RESTORANTES THAT DEMAND QUALITY SEAFOOD.

ALSO THE SMALL BOATS THAT DEPEND ON THESE AREAS TO FISH WILL BE ECONOMICALLY IMPAIRED BY THIS AND MANY MAY LOSE THERE BOATS AND LIVELY HOOD BECAUSE THEY CAN NOT COMPETE WITH LONG RANGE BOATS FISHING FROM OTHER AREAS.

THERE-FOR YOU WOULD BE PLACING THESE SMALL BOATS IN UNSAFE AND ECONOMIC LOSS CONDITIONS FOR THEM AND THEIR FAMILYS.

THANK YOU

Nick V. Vitalich

NICK V. VITALICH
PRESIDENT

MIKE'S MAIN CHANNEL MARINE
Berth 78
San Pedro, CA 90731
(310) 832-0648
Fax (310) 832-0348

Diesel

Lube Oil

Mike Albano, Distributor
(310) 831-9934 (res)

Mark She
(310) 547-2853 (re

June 16, 2000

National Marine Fisheries Service,

The Federal Register in May stated that the Set Net Fishery is possibly on its way out. Proposition 132 isn't worth giving the State, Federal Waters. The Fishing Community in San Pedro has suffered enough due to that ballot initiative. Ten years later we are still having to wonder if our businesses will survive. Our Set Net Fishermen, who serve this community so well, do not deserve this nor do any of us who need them to help out with our businesses. We all Work together.

There has been no problems at Huntington Flats where these men fish. I service many different vessels in this area, no one is complaining. Why again does our Commercial Fishing Industry have to worry about tomorrow? Why do I have to worry about possible losses in my business, and who's job would be at risk?

If the fish stocks are in trouble, consider alternatives. If cut backs are needed, cut, everyone in all fishing. If marine life has gotten so bad in that area, close it to everyone, not just the commercials.

All of us in San Pedro thought the small boats were back in business at the Federal Water area of Huntington Flats. After Proposition 132's devastation to everyone, we felt better about Federal Water Rights. Please don't let this happen again. Consider all the alternatives. Consider the Business Community of San Pedro, who was founded on Commercial Fishing. If you close the area all of us are hurt from it. Don't let this happen.

Thank you for letting me have the right to answer back,

Mike Albano

SAN PEDRO FISH MARKET & RESTAURANT

June 16, 2000

National Marine Fishery Services

SUBJECT: CLOSURE OF HUNTINGTON FLATS TO COMMERCIAL SET-NET FISHERMAN

San Pedro Fish Market & Restaurant has been in business for 40 years. San Pedro was founded by commercial fishing and is still today dependent upon the fishing industry in this port. Several of the local small boat set-net fishermen supply my fish market every day with varieties of fresh local seafood. My business looks forward to and depends on the set-net industry for fish catch of scupin, skates, sea bass, rock fish, sharks of variety, shovel nose, halibut, barracuda, etc... all varieties of seafood.

State waters and inland waters are closed to these men. They need a place to work and harvest our seafood. They fish out in the federal waters to supply the needs of so many. If you close Huntington Flats, the entire San Pedro community loses. These set-net fishermen have dedicated their lives to fishing. This area is their only survival. If you close the area, not only does that put the fisherman out of business, but I suffer loses at my business along with the rest of the San Pedro business community.

Please leave Huntington Flats open for the commercial Set-Net Fisherman.

Thank You!

Sincerely,

Thomas Amalfitano

1190 NAGOYA WAY, BERTH 78
SAN PEDRO, CA 90731
(310) 832-4251 FAX (310) 831-0817

4-4-0

& D SEAFOOD CO.

June 11, 2000

TO: THE DEPARTMENT OF COMMERCE

FROM: Joseph Ciaramitaro/Owner J & D Seafoods

RE: Local Gill-Netter Issue/Proposition 132

To Whom It May Concern

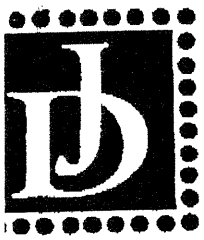
Please reconsider your position on the gill-netters fishing in our local waters.

J & D SEAFOODS, INC. started business 11 years ago in San Pedro with the primary goal of restoring and rebuilding our local fishing community to what it was years ago. My father and grandfather was both local fisherman in San Pedro as were many others in their generation. Fishing was the primary trade here and many of us like myself grew up in the business. In the past years, local laws and restrictions have virtually killed the entire industry. What was once a bustling harbor of fishing boats has become a ghost town of parked vessels because these fishermen haven't been able to do what they know best.

My partner and I started this business with the intention of getting these boats going and supporting our local community by providing jobs. We made a niche for ourselves in the local seafood market by being one of the few distributors that sold "live fish" such as halibut and local sea bass. We have supported these local boats and they in turn have helped our business to grow.

We export much of this fish to the East Coast and also JAPAN for the local auctions. By eliminating the gill-netters, you not only take away their livelihood but also ours and the people that work for us. Out business depends on these gill-netters. We have devoted 11 years to this business and we need these local boats in order to survive.

P.O. BOX 1346 • SAN PEDRO, CALIFORNIA 90733 • (310) 831-5655 • FAX (310) 831-9674



D SEAFOOD CO.

I have included several copies of invoices/bills for reference. Please let me know what other type of documentation might be needed.

Please reconsider. The future of many people depends on this decision.

Joseph Ciaramitaro
President J & D SEAFOODS, INC.

P.O. BOX 1346 • SAN PEDRO, CALIFORNIA 90733 • (310) 831-5655 • FAX (310) 831-9674

July 25, 2000

Dear National Marine Fisheries Service:

I have been a commercial fisherman for the past 25 years. I was born and raised in a fishing family in San Pedro and am now one of the little group of small set net boats remaining in this harbor. I fish full time to support myself and my family. I have been married for 18 years and we have three great kids who are all in school. I am writing you because of NMFS proposal to close Huntington Flats to boats, like mine, which fish with set nets.

Being able to fish at Huntington Flats is an absolutely critical part of my fishing business. I have a 38 foot boat, Sandy Bea, and it isn't big enough to take outside during the heavy weather. Also there isn't anything to go outside for. Huntington Flats is where the fish are. About 80 percent of my landings come from Huntington Flats. The main exception is some of the lobster we take during winter.

For several years now I have been targeting on dogfish most of the time. I started developing this market about four years ago, and now I sell lots of these fish for use in research and teaching in colleges and high schools all over the United States. Over the last two years, I landed about _____ pounds of dogfish. For dogfish I set nets with 6 inch mesh. It pretty successfully targets the adult dogfish and doesn't bring in any of the smaller ones. When the dogfish are running, there usually aren't any other fish in the nets. Occasionally we pick up something else, like a rabbit fish or shark, but we market almost everything except sometimes the snails and spider crabs. Even those are usually sold now.

Other times of year I fish on other species -- mainly lobster. In late winter and early spring and sometimes later, I fish on halibut some of the time. These nets have 8 ½ inch mesh and they are pretty good at selecting for size. There is some bycatch with these nets, but none of it is wasted. We get some shovel nose shark and skates, and we well these or sometimes throw the skates back live. We also get occasional stingrays which we use for crab bait and blue mackerel which we use for lobster bait. We rarely get any smaller fish.

This time of year, we take yellowtail and sea bass. We use 6 to 6 3/4 inch mesh nets. Again, these are good at taking just the size of fish we are targeting, unlike hooks and drag nets. Judging from what has been published in the Federal Register, people seem to think that our nets catch a lot of fish that are thrown away and die. This is not true. I don't do that, and I don't know anybody in our small boat fleet that does. We are able to sell almost everything we catch, and we do sell it. Because our boats and businesses are small, the extra money that comes for selling even the low value fish is important.

A few year ago, National Marine Fisheries Service put observers on our boats on every trip for a couple of years. They were watching mainly for marine mammal interactions, but they also recorded everything we caught and threw back. Their records showed that just about the only thing being discarded was sea snails and spider crabs and some mackerel. Since then, the market for those has opened up some, and a lot of the snails and spider crabs are now sold. I no longer have any copies of these records, but NMFS must have them. NMFS should check its own records, and it will find out that the stories about wasting of fish at Huntington Flats aren't true, at least not as far as our little boats are concerned. By the way, the observers also found that we had almost no marine mammal interactions. Our nets are very selective.

I am deeply concerned about how the proposed closing of Huntington Flats is going to effect me and my family. Being able to fish there is a very vital part of our income, and closing the Flats would be financially devastating to me and to quite a few other fishing families that I know. For me it will wipe out about 80 percent of my income.

I do not understand why the federal government wants to do this or why the California Department of Fish and Game is asking to have this done. If there is a concern about too many fish being caught, this closure won't change that. The fish our small boat net fleet catches will just be caught by other fishermen. The proposal doesn't seem to include any measure to keep that from happening. All of the other types of gear used by both commercial and sport fishermen have a much worse record of bycatch and wasting of non-targeted fish. Driving our boats out of business is going to achieve just the opposite of what NMFS ought to be trying to do, to promote efficient fishing with little wasting of fish.

My family and I want to ask NMFS to reconsider this proposal and to study it carefully in light of the real

evidence about our fishing boats. It doesn't look like you have accurate information about what is going on in the Huntington Flats fisheries, and you should not be making a decision until you do. Thank you for your time and for listening to my concerns.

Sincerely,

Nick Guglielmo
San Pedro, California

LHCB
2-4-0

Frank Frama
F/V Sea Raider
1839 Walker Avenue
San Pedro, California 90731
(310) 514-0806

National Marine Fisheries Service
Southwest Region
501 West Ocean Blvd. Suite 4200
Long Beach, California 90802-4213

July 17, 2000

Rodney McInnis:

I Frank Frama, own and operate the 32 foot vessel Sea Raider. F&G # 27067 and Fishing License # 25583. I have been fishing out of San Pedro since 1982. I use set nets in the Huntington Flats Fishing Grounds. Since the law with Prop. 132 passed, which gave the Anglers and Sportfishing Groups the total in-shore water area and 1 mile around all the Islands, the Huntington Flats Area is all that is left for me to fish at. My little boat is unable to travel any further before it would become unsafe for me to operate. Prop. 132 had no bearing on me doing wrong by fishing with my set nets, the other user groups just wanted the whole piece of pie. This is wrong. It hurt a lot of innocent,hard working people. Since my Federal Rights came into this, and the court said I could fish again where it is safe for me to fish, and where it is profitable for me to fish, I went to the Huntington Flats Fishing Grounds to fish for my Federal Groundfish and my State fish. I fish for a variety of sharks, skates, halibut, seabass, soles and trollies, yellowtail,and a variety of rock fish. More than 95 per cent of my catch is all sold to the fish markets. I use the un-marketed mackerel and lizardfish and damaged fish for bait in my traps. The 200 Mile Federal Law has given me a chance once again to provide fish for people to eat, a chance to make a living again in fishing, and the opportunity to fulfill my heritage.

Thank You Kindly,

Frank Frama

Exhibit F.3
Situation Summary
April 2001

RECONSIDERATION OF 1997 HUNTINGTON FLATS DECISION

Situation: At the April 1997 meeting, the Council adopted a motion to recommend that NMFS implement federal regulations to prohibit the use of setnets to take groundfish species in four areas of federal waters (the most controversial of which is inside 35 fathoms in the Huntington Flats area). This would mirror state law prohibiting the use of set gillnets to take state-managed species in that area. At that meeting, California Department of Fish and Game (CDFG) staff summarized the analysis behind the department's request for federal regulations. CDFG data showed that federal groundfish species were only 16% of the gillnet catch in the exclusive economic zone (EEZ), and only 5% of the value of the catch. Ms. Eileen Cooney explained the legal challenge brought by the Los Angeles Commercial Fisherman's Association (LACFA) in federal district court and reviewed relevant portions of the preliminary injunction in that case. She pointed out that the preliminary injunction prevents CDFG from enforcing its gillnet regulations in the EEZ and that the judge in that case was awaiting Council action.

The Council considered three options:

Option 1. Maintain the status quo. Under this option, federal regulations would not be adopted, but a determination could be made that state regulations are consistent, or not consistent, with the Council's groundfish plan.

Option 2. Implement federal regulations that are the same as California state laws prohibiting the use of setnets to take groundfish species in four areas of federal waters (the most controversial of which is inside 35 fathoms in the Huntington Flats area between Point Fermin and the Newport jetty).

Option 3. Implement federal regulations to *provide for* setnet fishing for federal groundfish species in the Huntington Flats area out to 35 fathoms, or alternatively out to 70 fathoms, and implement federal regulations that are the same as California state laws that *prohibit* setnet fishing in three Central California areas.

CDFG supported adoption of Option 2 due to concern about discard of state-managed fish if gillnetting for federal species were to be allowed in the EEZ. The Council agreed and adopted Option 2. However, the final rule has been delayed. Meanwhile, in November 2000, the court issued a Consent Decree establishing a permanent injunction against the state preventing it from enforcing its prohibition on retention of state-managed species, subject to the outcome of the NMFS rulemaking. Under the terms of the Consent Decree, if NMFS closes the Huntington Flats area, then the state can apply to the court to have the injunction dissolved. The LACFA agreed not to oppose this action. However, this would not preclude the LACFA from filing a separate legal challenge against the NMFS rules.

At the March 2001 meeting, the Council agreed to consider whether to reconsider their April 1997 action on this matter. If the Council withdraws its support for implementation of federal setnet regulations, it would recommend NMFS not implement the final rule. If the Council does not withdraw its support, NMFS will proceed with the rulemaking.

CDFG plans to compare 1998-2000 setnet landings data for the area to the data used in the 1997 recommendation. That report should be available in supplemental material distributed at the Council meeting. In addition, CDFG is expected to produce a formal recommendation prior to the Council meeting.

Council Action:

1. Recommendations to NMFS on regulations closing Huntington Flats to setnets.

Reference Materials:

1. Exhibit F.3, Supplemental CDFG Report, CDFG landings data analysis.
2. Exhibit F.3.c, Public Comment 1, letter from Mary L. Hudson dated March 16, 2001.
3. Exhibit F.3.c, Public Comment 2, letter from Mary L. Hudson dated March 18, 2001.

Groundfish Fishery Strategic Plan Consistency Analysis

This agenda item is expected to require Council decision making that raises issues of consistency with the bycatch and capacity reduction objectives in the plan. However, the allocation recommendation plan contains language in principle #5 to "consider the diversity of local and regional fisheries, community dependency on marine resources and processing capacity and infrastructure in allocation decisions."

PFMC
03/20/01

Exhibit F.4.b
Supplemental GAP Report
April 2001

GROUNDFISH ADVISORY SUBPANEL STATEMENT ON DISCARD ADJUSTMENT FOR BOCACCIO AND LINGCOD

The Groundfish Advisory Subpanel (GAP) met with the Groundfish Management Team (GMT) to review the GMT's proposed adjustments for discard rates for bocaccio rockfish and ling cod.

The GAP agrees with the GMT that discard percentages need to be assigned for these species and that the proposed discard percentages are appropriate. However, the GAP believes there is a need to examine and assign the appropriate discard percentages for all fisheries, both commercial and recreational, in order to appropriately account for discards.

PFMC
04/04/01

Groundfish Management Team Statement on Landed Catch Targets for Bocaccio and Lingcod in the 2001 Fishery

When the Groundfish Management Team (GMT) calculated landed catch targets for commercial groundfish fisheries at the November 2000 Council meeting, the report unintentionally included landed catch targets for lingcod and limited-entry bocaccio that were the same as total catch. In other words, no assumed discard was included in the calculation of landed catch. The GMT recommends the Council correct these oversights at this time, and offers the following comments.

Bocaccio: At the beginning of the 2000 fishing year, the bocaccio OY had not been adjusted to account for anticipated discard. At the April 2000 meeting, the Council adopted a 16% discard adjustment for the bocaccio commercial landed harvest target, and an inseason change in the landed catch targets for 2000 was implemented accordingly. The GMT included this 16% discard rate in its calculation of the open access landed catch target for the 2001 season, but omitted the adjustment in the limited entry calculation. To correct this, the limited entry landed catch target for bocaccio in 2001 should be reduced from 29 mt to 24 mt.

Lingcod: In the fall of 1998, the GMT recommended implementing a 20% discard mortality reduction in the limited entry lingcod target for 1999. This recommendation was based on a Washington Department of Fish and Wildlife analysis of estimated unavoidable discard mortality in the trawl fisheries for shelf species. Through oversight, this discard adjustment was not included when the GMT calculated lingcod landed catch targets for 2000 and 2001. Although targeting opportunities for all shelf species have been reduced dramatically since the first application of this analysis, the GMT believes the overfished status of lingcod warrants continued application of the 20% discard mortality assumption. Accordingly, we recommend that the limited entry landed catch target for lingcod be changed from 203 mt to 163 mt.

Although errors were made in the specifications for these fisheries, the GMT would like to emphasize two things. First, a review of landings in recent years (shown in the accompanying table) indicates that total catches, adjusted using the proposed discard assumptions above, did not exceed the commercial total catch OYs for these species in 1999 and 2000. Second, cumulative limits for these species did not change from 2000 to 2001, and continue to be set so as to discourage targeting on these species and encourage the release of live fish, where possible.

Landings, estimated catch, and total commercial catch OYs for bocaccio and lingcod, 1998-2000 (assuming previously used discard mortality percentages).

	1998	1999	2000
Lingcod			
Open access			
Landings	100	101	56
OA total catch OY	76	80	31
Limited-entry			
Landings	247	254	84
Estimated total catch (using 20% discard mortality)	309	317	106
LE total catch OY	324	339	132
Total commercial			
Landings	347	354	141
Estimated total catch	409	418	162
Total catch OY	400	419	163
Bocaccio			
Open access			
Landings	64	23	5
Est. total catch (16% discard)	76	27	6
OA total catch OY	84	49	24
Limited-entry			
Landings	70	45	18
Est. total catch (16% discard)	84	54	21
LE total catch OY	106	101	31
Total commercial			
Landings	135	68	22
Estimated total catch	160	81	26
Total catch OY	190	150	55

PFMC
03/19/01

Exhibit F.4
Situation Summary
April 2001

DISCARD ADJUSTMENT FOR BOCACCIO AND LINGCOD

Situation: At the November 2000 meeting, the Council adopted its final acceptable biological catch (ABC) and optimum yield (OY) recommendations for 2001. OYs may be set for total catch or for landed catch; a landed catch OY has been reduced to account for anticipated discards. When a total catch OY is adopted, the Groundfish Management Team (GMT) typically calculates the landed catch equivalent so inseason landings estimates can be directly compared to the appropriate target. In November, the Council adopted total catch OYs for lingcod and bocaccio. However, the GMT inadvertently did not factor in appropriate discard adjustments. On the GMT report regarding total catch and landed catch, both OY numbers are for total catch, and no discard assumption had been factored in. The Council should fix this oversight by applying an appropriate discard factor. In previous years, the Council used 16% for bocaccio; for lingcod, the rate was 20% of the limited entry allocation. The attached GMT report (Exhibit F.4, GMT Report) provides the necessary information.

Council Action:

1. Adopt Discard Adjustments for Bocaccio and Lingcod.

Reference Materials:

1. GMT Statement on Landed Catch Targets for Bocaccio and Lingcod in the 2001 Fishery (Exhibit F.4, GMT Report).

PFMC
03/19/01

Exhibit F.5.b
Supplemental EC Report
April 2001

ENFORCEMENT CONSULTANTS REPORT ON STATUS OF FISHERIES AND CONSIDERATION OF INSEASON ADJUSTMENTS

Enforcement Consultants (EC) reviewed the inseason management measures and I will be referring to Exhibit F.5.b, Supplemental EC Report.

We have comments in two areas.

The first area deals with the proposed trip limit change for salmon troll for yellowtail.

The EC believe the GMT's recommendation of 2 yellowtail for every salmon is clear and enforceable.

We recommend it be made clear in the salmon regulations that salmon vessels landing groundfish must keep their fishtickets on their vessel for their cumulative period. This could be included in the footnotes where they list the halibut incidental catch restrictions.

States must also reinforce with dealers that they record numbers of fish as well as poundage of fish for salmon trollers. We are not aware of any state fishticket that currently lists numbers of groundfish on their fishtickets.

The other issue we discussed was the language on fish excluders in the state-managed pink shrimp fishery. We are encouraged that all three states appear to be adopting the same excluder devices. However, there are several additional rules that need to be implemented to make this rule more enforceable as we proceed (based on language provided by California). Some examples would be:

1. No shrimp trawl net may be possessed on board a vessel that do not include excluders.

2. No shrimp trawl nets may be removed from the vessel prior to the off loading of pink shrimp.

3. Discussion of the language that includes "hand pressure". Enforcement does not know what this means or what industry would interpret this to mean.

4. Current language is not clear that the escape opening for excluders is actually placed forward of the device designed to direct the fish.

5. Language may need to be included in federal rules or by the states that recognizes regulations may be implemented at different times by different states.

   The language would prohibit the taking of groundfish by a vessel in federal waters off the states that require excluders by nonresident vessels that do not comply with that states rules.

We are encouraged the states are working in concert to adopt similar regulations and encourage a tri-state agreement to adopt the same regulation package when implemented by individual states.

PFMC
04/05/01

GROUNDFISH ADVISORY SUBPANEL STATEMENT ON STATUS OF FISHERIES AND CONSIDERATION OF INSEASON ADJUSTMENTS

The Groundfish Advisory Subpanel (GAP) met with the Groundfish Management Team (GMT) to discuss inseason adjustments to the groundfish fishery. The GAP and the GMT agree on the following changes:

Open Access Near Shore Rockfish - South
Beginning May 1, 2001, the trip limit will be reduced to 1,200 pounds per two-month period. This reduction is designed to allow the open access fishery to continue longer during the year.

Near Shore Rockfish - North
If the Council agrees that both the limited access and open access fisheries will be managed to the combined target, then beginning May 1, 2001, both the open access and fixed gear limited entry fisheries will have a cumulative limit of 7,000 pounds per two-month period. For open access, no more than 900 pounds may be species other than black or blue rockfish. For limited entry, no more than 4,000 pounds may be species other than black or blue rockfish.

This change is proposed to allow limited entry fishers to use open access gear without being penalized by a lower limit. As a matter of equity, open access fishers will be allowed the same limit. The sub-limits are those currently in effect and reflect fishing patterns of the two fisheries. The GAP notes that, under the current limits, annual harvest is not being achieved.

Limited Entry Flatfish - North
For the period May 1, 2001 through June 30, 2001, trawl fishers using small footropes may take 50,000 pounds per month of flatfish other than Dover sole, of which no more than 15,000 pounds may be petrale sole and no more than 10,000 pounds may be arrowtooth flounder.

From May 1, 2001 to May 31, 2001, trawl fishers using large footropes may take 15,000 pounds of arrowtooth flounder per trip. From June 1, 2001 to June 30, 2001, those fishers may take 5,000 pounds of arrowtooth flounder per trip.

These changes were recommended following analysis of logbook data examining bycatch of canary rockfish. These limits will allow prosecution of near shore and deep water flatfish fisheries without exacerbating canary bycatch. The GAP and the GMT will continue to review existing data and may recommend additional changes at the June Council meeting.

The GAP also reviewed a proposal from the Washington Trollers Association which would allow an increased yellowtail rockfish bycatch retention in the salmon troll fishery. While the GAP was sympathetic to the desire to avoid discards, a majority of the GAP believed the increased retention would provide an advantage to the salmon troll fishery which is not available to other fisheries. The GAP majority notes that other fisheries have been making efforts to reduce bycatch and have not sought a bycatch increase. Further, the GAP majority is concerned about the effect of the increased yellowtail bycatch limit on canary bycatch.

A minority of the GAP supported the Washington Trollers Association proposal. They believe that the record supports a need for an increased yellowtail bycatch allowance for these open access fishermen, so bycatch can be landed. They further believe the yellowtail bycatch will not have an impact on canary rockfish bycatch.

The GAP minority supports allowing an additional yellowtail bycatch in conjunction with the directed harvest of salmon, under the conditions which the GMT indicated could be accommodated.

PFMC
04/04/01

Exhibit F.5.b
Supplemental GMT Report
April 2001

GROUNDFISH MANAGEMENT TEAM REPORT ON
THE STATUS OF FISHERIES AND INSEASON ADJUSTMENTS

Inseason Progress

The Groundfish Management Team (GMT) reviewed a summary of the soft data for landings by the limited-entry and open-access fleets through February and by all vessels combined through March 17. By the end of March, the limited-entry fleet is expected to have taken one-quarter to one-third of its allocations for four species: Dover sole, widow and yellowtail rockfish, and shortspine thornyheads. The first three species (except for Dover sole south of 40°10') have planned reductions of at least 50% in cumulative limits scheduled to occur beginning May 1. As a result, the GMT has no recommended changes in scheduled cumulative limits for the limited-entry fleet, based on limit attainment. Yellowtail and widow rockfish are currently scheduled for limit increases during portions of the September-December period. We will report at the June meeting on the advisability of implementing these increases. Although bocaccio landings during the first three months are running ahead of this time last year, they still represent less than 20% of the limited-entry allocation. We will continue to monitor this situation, and will recommend appropriate action in June.

The open-access fishery has two species of potential concern at this time: Near-shore rockfish south of 40°10' and canary rockfish. The open-access fleet has a canary allocation of just 5 mt, and landings through March are likely to be close to 2 mt. Although the GMT is not recommending any changes relative to canary at this time, we will attempt to ascertain the species with which canary are being caught, and report back to the Council in June. Landings in the southern near-shore *Sebastes* sub-group through March will comprise more than one-quarter of the allocation. Several factors suggest a reduction in this limit may be appropriate: other near-shore species such as cabezon and greenling are under more restrictive management by the State of California than in the past, and this may be increasing the effort directed towards the rockfish species; effort in this fishery usually increases during the summer months; the industry has conveyed the importance of opportunities for these species during winter months, in order to access more lucrative seasonal markets. We believe that **lowering the open-access Southern Near-shore rockfish cumulative limit from 1,800 lb per two-months to 1,200 lb per two-months, beginning May 1**, will afford a much higher likelihood of extending this fishery through the end of the year.

Other recommendations

Limited-entry northern flatfish

The GMT considered three other issues for possible recommendations during this meeting. The first concerns limits for flatfish species north of 40°10' following April. At previous Council meetings, the GMT conveyed its intention to review available logbook information relative to managing this fishery and potential canary bycatch. Staff from Washington Department of Fish and Wildlife have provided generous assistance to the GMT in developing this analysis. Although the analysis is not complete at this time, examination of the general locations of trawl tows for arrowtooth flounder and other flatfish during the May-October period confirms that the fleet did relocate their activities in 2000 away from the areas of highest canary bycatch identified from the 1998-99 seasons, when canary limits were higher. Based on preliminary results from the analysis, the GMT recommends changing the current limits for flatfish other than Dover sole north of 40°10' during May-June. The current small-footrope limit would allow up to 30,000 lb per month during these months. Our recommendation is for a **small-footrope limit of 50,000 of flatfish other than Dover sole, no more than 15,000 lb of which can be petrale sole, and no more than 10,000 lb of which may be arrowtooth flounder**. We believe that this alternative is more conservative, with respect to canary bycatch than allowing all 30,000 lb of the current limit to be landed as either petrale or arrowtooth. We also hope that it provides a balance set of opportunities for the diverse group of fishers pursuing these species, however we acknowledge that it will not accommodate a directed arrowtooth fishery during these months. It is our

intent to refine the logbook analysis in the coming months, and evaluate the potential for a concentrated July-August arrowtooth fishery, as well as alternatives for the entire northern flatfish fishery following June.

In an effort to provide some additional arrowtooth opportunity and encourage pursuit of Dover sole on the slope rather than the shelf during May, we recommend that the reduction of the **large-footrope arrowtooth allowance**, from 20,000 lb per trip to 5,000 per trip, be phased in, allowing **15,000 lb per trip in May** and 5,000 lb per trip from June to October.

Northern Near-shore Rockfish

During the 2000 fishery, over 50% of the available commercial allocations of Near-shore rockfish went unharvested. As illustrated in Table 1, the limited-entry fleet took only 19% of its target poundage. One contributing factor to this situation is that limited-entry vessels using open-access line gear (those other than fixed longline) are constrained to the lower open-access limits. The current difference in limits is shown in Table 2. Raising the open-access limits to provide more opportunity for limited-entry fishers to utilize other gears would likely result in early closure of the open-access fishery.

Table 1.--2000 Northern Near-shore *Sebastes* landings

	Landed mt	Target mt	% Utilized
Limited entry	32	172	19%
Open access	142	193	74%
Total	174	365	48%

The GMT considered alternatives for managing access to these species, that could benefit most, if not all current participants. Under unusual circumstances, the Council has previously chosen to manage the sablefish daily-trip-limit fishery, for a period, by pooling the limited-entry and open-access amounts, and applying similar limits in both fisheries. In a similar manner, the GMT is presenting the Council with an alternative management proposal for this fishery, that would rely upon managing to a single Near-shore target, across both fisheries, with initial limits as indicated at the bottom of Table 2. This change would be viewed as an experiment intended to allow full utilization of this allocation. Maintaining the current differential caps on species other than black or blue rockfish, was intended to serve as additional protection for the species most commonly associated with the live-fish fishery.

Table 2.--Current/proposed Northern Near-shore *Sebastes* limits

	Overall 2-month cum. limit	Cap on species other than black or blue rockfish
Current		
Limited entry fixed-gear	10,000 lb	4,000 lb
Open access	3,000 lb	900 lb
Proposed for joint management		
Limited entry fixed-gear	**7,000 lb**	**4,000 lb**
Open access	**7,000 lb**	**900 lb**

Salmon bycatch of yellowtail rockfish

The GMT received a request from representatives of the Washington salmon troll fishery to consider increasing the retention of yellowtail rockfish while fishing for salmon. The GMT is neither promoting nor opposing such a change. The following discussion is intended to provide the Council with guidance on limit changes the GMT could support, should the Council wish to take action on this issue.

The current open-access limit for yellowtail rockfish is 100 lb per month. Analysis of landings data from 1997-99 reveals an average of 50-75 lb of yellowtail for all troll salmon landings where yellowtail were present. Many of the individual trips contained more than 100 lb yellowtail rockfish. The vast majority of salmon troll landings during this period contained no yellowtail rockfish. The data reveal that at least 85% of the yellowtail rockfish bycatch in this fishery were landed on trips where they represented less than 50% of the salmon poundage in the landing. Assuming an average salmon weight that is four times that for yellowtail rockfish, **the GMT would support allowing up to two yellowtail rockfish per salmon in a troll landing, with a monthly cumulative limit of 300 lb**. This 300 lb limit would not be additive with the existing 100 lb open-access limit. The GMT examined correlations between yellowtail and canary rockfish in salmon troll landings. While there is co-occurrence, the correlation is not particularly strong. We believe that a 300 lb monthly cap on salmon troll landings will allow most existing yellowtail rockfish bycatch to be landed in this fishery, without providing significant additional incentive to target yellowtail, thereby placing canary at greater risk. The per-trip requirements would also prevent individuals who do not routinely catch much yellowtail with their salmon from making yellowtail-directed trips at the end of a month.

Review of experimental delivery options in the 2000 sablefish daily-trip-limit fishery

During the last months of the 2000 season, the Council implemented an alternative in this fishery that allowed one landing per week, up to a higher poundage than the usual 300-lb daily limit. The GMT indicated it would review the consequences of this option, and report back to the Council regarding re-institution of this option. Due to the fact that complete fishticket data for 2000 were not available until very recently, our analysis of these impacts is not available at this meeting. We intend to provide that review to the Council and the industry for consideration in June.

APPLICATION FOR ISSUANCE OF AN EXPERIMENTAL FISHING PERMIT

A. Date of application: April 3, 2001

B. Applicant's names, mailing addresses, and telephone numbers:

Washington Department of Fish and Wildlife
600 Capitol Way North, Olympia, WA 98501-1091
Contacts: Philip Anderson (360) 902-2720
Brian Culver (360) 249-1205
Michele Robinson (360) 249-1211

C. A statement of the purpose and goals of the experiment for which an EFP is needed, including a general description of the arrangements for the disposition of all species harvested under the EFP.

The goals of the experiment are:

1. To measure bycatch rates for canary and other rockfish associated with the arrowtooth flounder fishery through an at-sea observer program, and

2. To provide fishers with an incentive to participate in the observer program by giving them the opportunity to land arrowtooth flounder in excess of the current monthly trip limit within acceptable bycatch limits of other species.

With regard to the disposition of the species harvested under the EFP:

- Species caught within current trip limits may be retained by the vessel.
- Species caught in excess of current trip limits, but permitted within the EFP, will be retained by the vessel.
- Rockfish species caught in excess of current trip limits, but required to be retained under the EFP, will be forfeited to the state consistent with the current forfeiture of overages in the shoreside whiting fishery.

D. Valid justification explaining why issuance of an EFP is warranted:

Arrowtooth flounder are an extremely important species in Washington groundfish fisheries. The stock is healthy and Washington fishers and processors have worked aggressively to develop strong markets for this species. A large component of the Washington trawl fleet, and at least two major processors, are heavily dependent upon arrowtooth flounder.

Fishers targeting arrowtooth are currently constrained by their limit of canary rockfish. As such, fishers are limited to 30,000 lbs/month for all flatfish which includes arrowtooth. This trip limit is based upon the assumed bycatch rate of canary rockfish. Fishers who have historically targeted arrowtooth have indicated that under this monthly trip limit, targeting arrowtooth will not be economically feasible. Further, these fishers believe that they can prosecute an arrowtooth fishery with a much lower canary bycatch rate, thereby allowing a higher arrowtooth catch.

E. A statement of whether the proposed experimental fishing has broader significance than the applicant's individual goals.

The applicant of this EFP believes that the information collected during this experiment will have broader significance than the applicant's individual goals by:

- Producing data on the amount and location of canary rockfish bycatch in the arrowtooth flounder fishery, and
- Providing valuable and accurate data on the species composition of the trawl flatfish fishery off the Washington coast.

These data could allow the Council to establish trip limits in the future that maximize fishing opportunities while meeting conservation goals.

F. Vessels covered under the EFP:

Fishers covered under the EFP will include those who have historically participated in the targeted arrowtooth fishery off Washington. These fishers must have:

- Cumulative landings of at least 200,000 lbs of arrowtooth flounder landed into Washington in one of the following calendar years: 1998, 1999, or 2000, and
- A valid Washington delivery permit

A list of the fishers (and their designated vessels) that meet these criteria will be provided as part of the final EFP application.

G. A description of the species (target and incidental) to be harvested under the EFP and the amount(s) of such harvest necessary to conduct the experiment:

- The targeted species is arrowtooth flounder which would not be subject to a monthly trip limit, but which would be constrained by the measured bycatch allowance of canary rockfish.
- Other species could be landed under current trip limit levels and fishers could land up to the current limit of other flatfish in addition to their arrowtooth flounder landings.
- Incidental catches of rockfish species in excess of trip limits must be retained.

H. For each vessel covered by the EFP, the approximate time(s) and place(s) fishing will take place, and the type, size, and amount of gear to be used:

- The EFP will be valid in Pacific Ocean waters adjacent to Washington outside three miles.
- Approximate time for the fishery is July - September of 2001 and 2002.
- All vessels fishing under the authority of the EFP must:
  - Carry a Washington Department of Fish and Wildlife-provided observer onboard all fishing trips
  - Land all fish caught under the authority of the EFP into the State of Washington.
  - Employ legal trawl gear as defined in current federal regulations. Vessels fishing under the EFP may experiment with flatfish selective gears as long as such gears comply with current footrope restrictions.

I. The signature of the applicant:

_____

Washington Department of Fish and Wildlife

Exhibit F.5.c
Public Comment
April 2001

Washington Trollers Association
PO Box 7431
Bellevue WA 98008
(425)747-9287; Fax (425)747-2568
Doug Fricke, President

Washington Trollers Association

March 5, 2001

MAR 1 2 2001

Mr. Don McIsaac, Executive Director
Pacific Fisheries Management Council
2130 SW Fifth Ave., Suite 224
Portland, OR 97201

Subject: Salmon Troll Incidental Catch of Yellowtail Rockfish

Dear Director McIsaac,

As the Washington Trollers mentioned in the "Strategic Groundfish Plan" letter dated 1-05-01, the "open access" category under which we have been managed has never been appropriate for the salmon troll incidental groundfish catch. We don't think salmon troll incidental groundfish catch is mentioned anywhere in the SAFE documents. Prior to 1999, the groundfish landing allowances were large enough that the salmon troll incidental catch never approached the maximum landing allowances. However, in 1999 and 2000, we found that some of the "open access" landing allowances did in fact force us to return a few of the managed species back to the ocean.

While salmon trolling, we encounter very few of the species noted in the SAFE document. Yellowtail rockfish is the specie that we most encounter and there was a landing limit of 100 pounds per month for the salmon troll incidental harvest under the "open access" management. We would like to set up a yellowtail salmon troll landing management regime in 2001 and beyond that prevents discards, avoids targeting on depressed stocks, and allows a fair allocation of the allowed landing allowance.

We obtained some preliminary information from the Staff of the Washington Department of Fish and Wildlife (WDFW) that shows there is little correlation between increased catches of yellowtail and canary which is the most closely associated depressed groundfish stock. The information also shows that in 1998 (1999 and 2000 data is skewed because of restrictive yellowtail landing allowances) which is the last year that yellowtail allowances exceeded salmon troll encounters, of the 686 coastwise landings that included both salmon and yellowtail, no landings exceeded 1000 pounds and 41 landings exceeded 200 pounds of yellowtail while delivering salmon. The remaining 645 landings delivered less than 200 pounds of yellowtail with their salmon. A person needs to remember that the monthly landing allowance of yellowtail was far in excess of the yellowtail landed with the troll salmon landings. It will be interesting to see what the total troll landings of yellowtail with salmon per year prior to 1999 when the yellowtail landings with salmon were unlimited.

However, with no tie to salmon, there is an incentive to target yellowtail which we want to avoid. Also, to be fair, there needs to be a small landing allowance with no salmon for the days when a

salmon troller fishes and encounters some yellowtail but is unsuccessful in catching a salmon.

Another difficulty we have is estimating weights at sea. Rather than basing the regulations on weight, it would be better for enforcement and fishermen if the regulation is based on the number of fish allowed to be retained.

We are requesting that the Groundfish Management Team (GMT) analyze the salmon troll yellowtail landings prior to 1999 and propose regulations that will prevent discards by the salmon trollers, prevent targeting when not salmon trolling, and allow a fair allocation of the allowed landings. We are guessing that an appropriate regulation may fall in the range of allowing a salmon troller to land 20 yellowtail plus five additional yellowtail per salmon for each delivery.

We would be happy to work with the GMT and/or answer any concerns regarding our proposal.

Sincerely,

Douglas F. Fricke (SBY)

Douglas Fricke, President

Cc: WDFW
ODFW
CDFG
GMT
GAP
SAS

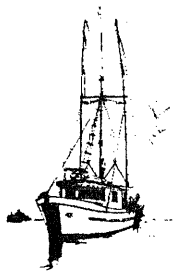


Table C2.--Distribution of troll salmon landings, that had some canary or yellowtail rockfish, among categories reflecting the amount of poundage for each species.

Year / Yellowtail lbs in landing	California					Oregon						Washington						Coastwide					
	Canary lbs in landing					Canary lbs in landing						Canary lbs in landing						Canary lbs in landing					
	None	1-25	26-50	51-100	All	None	1-25	26-50	51-100	> 100	All	None	1-25	26-50	51-100	> 100	All	None	1-25	26-50	51-100	> 100	All
1998																							
None		6	1	1	8		56	4	4	2	66				1		1		62	5	6	2	75
1-50 lb	17	3			20	195	135	6	2		338	4					4	216	138	6	2		362
51-100 lb	1	1			2	44	79	5	1		129	5					5	50	80	5	1		136
101-200 lb	1				1	19	40	9		1	69	2					2	22	40	9		1	72
>200 lb						10	18	6	1	1	36	2				3	5	12	18	6	1	4	41
All	19	10	1	1	31	268	328	30	8	4	638	13			1	3	17	300	338	31	10	7	686
1999																							
None		10			10		67	6	2	4	79		1		2	1	4		78	6	4	5	93
1-50 lb	10	4			14	18	73	14	2	1	108	21	2		1		24	49	79	14	3	1	146
51-100 lb	4				4	1	1	3	1	1	7	5					5	10	1	3	1	1	16
101-200 lb										2	2	6	1	1	3	1	12	6	1	1	3	3	14
>200 lb												9			1		10	9			1		10
All	14	14			28	19	141	23	5	8	196	41	4	1	7	2	55	74	159	24	12	10	279
2000																							
None		9	1		10		118	8	1		127		7	5			12		134	14	1		149
1-50 lb	26	2			28	92	119	14	2		227	5	10	2			17	123	131	16	2		272
51-100 lb	2	1	1		4	2		4			6	1	7	2			10	5	8	7			20
101-200 lb	1	1			2													1	1				2
All	29	13	2		44	94	237	26	3		360	6	24	9			39	129	274	37	3		443
1998-2000																							
None		25	2	1	28		241	18	7	6	272		8	5	3	1	17		274	25	11	7	317
1-50 lb	53	9			62	305	327	34	6	1	673	30	12	2	1		45	388	348	36	7	1	780
51-100 lb	7	2	1		10	47	80	12	2	1	142	11	7	2			20	65	89	15	2	1	172
101-200 lb	2	1			3	19	40	9		3	71	8	1	1	3	1	14	29	42	10	3	4	88
>200 lb						10	18	6	1	1	36	11			1	3	15	21	18	6	2	4	51
All	62	37	3	1	103	381	706	79	16	12	1,194	60	28	10	8	5	111	503	771	92	25	17	1,408

February 20, 2001

John Mellor
627 Pacific Ave.
Alameda, Ca.
94501
(510)814-8979

Lou Ferrari
17 Bretano Way
Greenbrae, Ca.
94904
(415)461-2008

We are two individuals who historically rely on the nearshore groundfish fishery. We use the traditional method of longlining to harvest nearshore rockfish, as well as deeper water rockfish and sablefish.

Longlining hasn't evolved much in the last 125 years or so that people have been doing it on the west coast. We've gone from using baskets to metal wash-tubs to keep the lines in other than that it is pretty much the same- there is a horizontal groundline with hooks spaced a certain distance apart. It is anchored on each end and each end has a buoyline and a buoy. It is very labor intensive. The groundline must be untangled and coiled perfectly and every hook baited before it can be set. Although we set what seems like a lot of hooks, only a small percentage of hooks catches a fish. Much of the bait is eaten by sand flees or comes back on the hook. Only the aggressive feeding fish are caught. This is very tiresome work- only the most dedicated fishermen want to be longliners.

Between the two of us we have a combined total of over 50 years experience fishing for rockfish in California. Although our gear type isn't in the majority in terms of fishing effort for rockfish, our's has been around the longest. There is a small group of longliners in just about every fishing port in Northern and Central California. We rely on rockfish to support our families for much of the year.

Recently, since the Pacific Fisheries Management Council (PFMC) has stopped the larger roller gear we have noticed improved fishing for the shelfrockfish species and the near shore rockfish species in the deeper water. We have also however, noticed a decline in nearshore rockfish abundance close to shore.

Recently the PFMC dumped the nearshore problem on the California Fish and Game Commission. The PFMC recommended certain closures for rockfish, but because certain members of the Council are involved with the sport fishing industry, they lobbied to keep fishing open inside 20 fathoms.

We believe that this will make a bad situation worse because it will focus all effort onto

the already beleaguered nearshore stocks close to shore.

It is our belief that in order to protect spawning nearshore rockfish there should be a closure of all rockfish fishing, sport and commercial, out to a quarter mile from shore on the California coast. This would exclude anglers fishing from shore and sport divers. If the Commission insists upon the 20 fathom rockfish fishery, it can still be accomplished with the quarter mile closure since 20 fathoms runs for several miles offshore in many areas.

Several years ago we switched from j-hooks to circle-hooks. We have noticed that with the circle-hook, 99% of the rockfish caught are lip hooked, making it easy to keep them alive or release them. With j-hooks a much larger percentage of rockfish swallow the hook, causing a much increased hook mortality rate.

We believe that if the Commission is serious about helping the nearshore rockfish, it should consider a circle-hook only fishery for sport and commercial fishing.

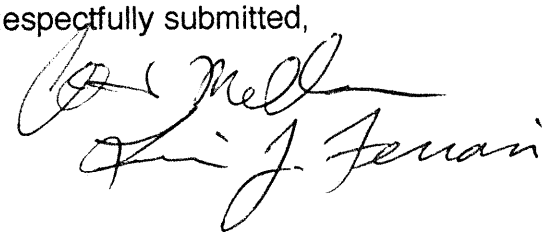
The California Fish and Game Commission has also proposed the closure of our traditional fishing grounds between Point Reyes and Bolinas point. We use this area primarily as a backup to clean our lines off when we can't reach offshore because of bad weather. Since there isn't much fishing pressure in this area, there would be very little benefit in terms of fish conservation by closing it. We would welcome however the quarter mile closure in this area as we've previously stated.

There is a misconception brought on by the recreational sector that the commercial nearshore fishery is a recent phenomenon.This is untrue!
The nearshore rockfish species have always been more valuable then other rockfish and have been harvested commercially, live and dead, for many years. The recent publicity regarding the live nearshore fishery is due to the recent influx of new participants in the fishery and because of the attention focused on the Asian live fish and animal market. It would be unfair to shut down the live fish fishery because certain individuals and groups don't approve of Asian customs. Historic reliance upon the fishery by longliners should also be considered.

We recommend that the Commission take no action on the proposal by sport fishers to change our traditional gear type. We see this as a ploy to grab the resource for themselves. It has nothing to do with fish conservation. They make no suggestions to limit themselves, such as banning treble-hooks and j-hooks.

Because of our dedication and our extensive experience in the nearshore rockfish fishery we believe that we are qualified to help the Commission to come up with a plan to preserve the nearshore stocks for future generations. We invite the Commission to work with us to achieve this goal.

Respectfully submitted,



Subject: Please Preserve our fisheries
Date: Wed, 14 Mar 2001 06:20:24 -0800
From: "Coston, Bob" <bob.coston@lmco.com>
To: "'sandra.krause@noaa.gov'" <sandra.krause@noaa.gov>

The Pacific Fishery Management Council

I, as a California recreational angler, find the increasing body of evidence indicating the severe depletion of California's groundfish stocks alarming. I believe the interim CDFG regulations will prove inadequate to stop further deterioration of the stocks and urge the department to implement the following measures.

Immediately end the use of traps for catching fish.

Restrict commercial fishing to the use of rod-and-reel gear in waters less than 60 fathoms, and radically reduce the number of fish caught per day per vessel.

Require all rockfish catches be landed at designated landing sites where DFG employees are present to monitor and sample the catch. Documentation of the catch by CDFG would be provided. Charging commercial vessels would fund the program.

Require all merchants to document purchases and sales of rockfish so they could be tracked back to the fisherman.

Seasonal closures should be timed when the majority of species in an area are spawning, such as banning ling cod fishing in water less than 20 fathoms in December and January.

Begin recruitment and training of an enforcement staff large enough to make the regulations effective.

Dramatically increase penalties for any violation of Fish & Game regulations associated with groundfish; including poaching and possession of undocumented catch, to include seizure of assets.

These emergency measures, if enacted and enforced, may allow us to save this valuable public resource while the while the long-term solutions and regulations required to create a sustainable fishery are established.

Thanks In advance for your preserving our heritage!

Bob Coston

Exhibit F.5.c
Public Comment
April 2001

From (Rodd Danpour) codrodd@aol.com
Date Monday, February 12, 2001 5:51 pm
To
Cc , , , , , , ,
Subject Tougher Groundfish Regulations Needed

I, as a California recreational angler, find the increasing body of evidence indicating the severe depletion of California's groundfish stocks alarming. I believe the interim CDFG regulations will prove inadequate to stop further deterioration of the stocks and urge the department to implement the following measures.

Immediately end the use of traps for catching fish.

Restrict commercial fishing to the use of rod-and-reel gear in waters less than 60 fathoms, and limit the number of fish caught per day per vessel. We are in agreement with, and support the United Anglers proposed limit of 20 fish per day per commercial fishing vessel.

Require all rockfish catches be landed at designated landing sites where DFG employees are present to monitor and sample the catch.
Documentation of the catch by CDFG would be provided. Charging commercial vessels would fund the program.

Require all merchants to document purchases and sales of rockfish so they could be tracked back to the fisherman.

Seasonal closures should be timed when the majority of species in an area are spawning, such as banning ling cod fishing in water less than 20 fathoms in December and January.

Begin recruitment and training of an enforcement staff large enough to make the regulations effective.

Dramatically increase penalties for any violation of Fish & Game regulations associated with groundfish; including poaching and possession of undocumented catch, to include seizure of assets.

Begin moving to a computer based licensing system such as in use by the State of Oregon. This would allow limiting the amount of days the recreational anglers could target rockfish through the use of stamps affixed to the license.

These emergency measures, if enacted and enforced, may allow us to save this valuable public resource while the while the long-term solutions and regulations required to create a sustainable fishery are established.

Sincerely,
Rodd Danpour
Walnut Creek

ARTICLE:
Tougher Interim Regulations Needed to Protect Rockfish Stocks

By: Richard Alves 2-12-01

Fishsniffer.com

"The West Coast groundfish fishery cannot ever reach sustainable levels, either biologically or economically, if it continues as is," wrote the Pacific Marine Conservation Council in their newsletter last summer. The PMCC is a non-profit group based in Astoria Oregon.

Government agencies, commercial fishermen and sport anglers agree the California groundfish fishery is in trouble. After years of inaction, and many species of rockfish being on the verge of collapse, the California Department of Fish and Game, at the insistence of the Pacific Fishery Management Council Commission have enacted interim regulations aimed at protecting the fishery while the long-term solutions are to be determined over the course of the year.

The caveat being, the regulations have been formulated without any accurate data regarding the fishery or the fishery harvest. I can't tell you how hard it has been to find any data on the fishery, and the information published by CDFG, http://www.dfg.ca.gov/mrd/mlma/reports/ (Only the Acrobat Files have the numbers), is unbelievable if given more than a cursory reading.

The problem with the Interim Regulations, http://www.fishsniffer.com/steelhead/020201rockfishregs.html, is they fail to address the most serious threats to the fishery, highly efficient commercial gear, blanket harvest (http://www.fishsniffer.com/steelhead/021201bgrockfish.html#fishtrap), and illegal catch, while at the same time create economic havoc for the sportfishing and coastal tourism industry.

Regulations enacted without effective enforcement and severe penalties will prove futile. Unfortunately the history of CDFG enforcement is not encouraging. They are simply understaffed for the challenges they are facing. Unless manpower is increased and the agency is better organized, whatever regulations are adopted, are doomed to failure.

For Example:

An interim rockfish species quota has been adopted by the California Fish And Game Commission, however, the CDFG has yet to establish verification methods or obtain the funding to pay for them.

Meanwhile, the commercial livefish boats are systematically cleaning out the nearshore fishery. "On Friday, October 27, 2000, five commercial livefish boats were working 50 traps in a kelp bed the size of a football field inside Noyo Cove. The traps were set five or ten yards apart," a Fish Sniffer Reader reported.

A 1996 NMFS study showed that most of the live fish sold in their sample of San Francisco fish markets and restaurants were sub legal and/or undocumented.

At this moment we are heading into another season where the documentation of the commercial catch will be spotty at best, while the unreported illegal catch goes completely undocumented. Current lack of enforcing reporting statutes for commercial passenger fishing vessels, party boats, also brings into question the validity of that source of data, http://www.fishsniffer.com/steelhead/021201bgrockfish.html#available.

But rest assured, the fishery will be hammered for another year while we attend endless hearings to develop another set of temporary regulations, which the State can't enforce. Unless California can find the courage and determination to make meaningful change stick, the future of the groundfish species in California is bleak.

Where do we go from here?

Immediately end the use of traps for catching fish.

Restrict commercial fishing to the use of rod-and-reel gear in waters less than 60 fathoms, and limit the number of fish caught per day per vessel. We are in agreement with, and support the United Anglers proposed limit of 20 fish per day per commercial fishing vessel.

Require all rockfish catches be landed at designated landing sites where DFG employees are present to monitor and sample the catch.
Documentation of the catch by CDFG would be provided. Charging commercial vessels would fund the program.

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Seasonal closures should be timed when the majority of species in an area are spawning, such as banning ling cod fishing in water less than 20 fathoms in December and January.

Begin recruitment and training of an enforcement staff large enough to make the regulations effective.

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Begin moving to a computer based licensing system such as in use by the State of Oregon. This would allow limiting the amount of days the recreational anglers could target rockfish through the use of stamps affixed to the license.

These emergency measures, if enacted and enforced, may allow us to save this valuable public resource while the while the long-term solutions and regulations required to create a sustainable fishery are established.

Tougher Interim Regulations Needed to Protect Rockfish Stocks

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By: Richard Alves
February 12, 2001

Send a prepared Action Alert letter

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Meanwhile, the commercial livefish boats are systematically cleaning out the nearshore fishery. "On Friday, October 27, 2000, five commercial livefish boats were working 50 traps in a kelp bed the size of a football field inside Noyo Cove. The traps were set five or ten yards apart," a Fish Sniffer Reader reported.

A 1996 NMFS study showed that most of the live fish sold in their sample of San Francisco fish markets and restaurants were sub legal and/or undocumented.

At this moment we are heading into another season where the documentation of the commercial catch will be spotty at best, while the unreported illegal catch goes completely undocumented. Current lack of enforcing reporting statutes for commercial passenger fishing vessels, party boats, also brings into question the validity of that source of data.

But rest assured, the fishery will be hammered for another year while we attend endless hearings to

develop another set of temporary regulations, which the State can't enforce. Unless California can find the courage and determination to make meaningful change stick, the future of the groundfish species in California is bleak.

Where do we go from here?

Immediately end the use of traps for catching fish.

Restrict commercial fishing to the use of rod-and-reel gear in waters less than 60 fathoms, and limit the number of fish caught per day per vessel. We are in agreement with, and support the United Anglers proposed limit of 20 fish per day per commercial fishing vessel.

Require all rockfish catches be landed at designated landing sites where DFG employees are present to monitor and sample the catch. Documentation of the catch by CDFG would be provided. Charging commercial vessels would fund the program.

Require all merchants to document purchases and sales of rockfish so they could be tracked back to the fisherman.

Seasonal closures should be timed when the majority of species in an area are spawning, such as banning ling cod fishing in water less than 20 fathoms in December and January.

Begin recruitment and training of an enforcement staff large enough to make the regulations effective.

Dramatically increase penalties for any violation of Fish & Game regulations associated with groundfish; including poaching and possession of undocumented catch, to include seizure of assets.

Begin moving to a computer based licensing system such as in use by the State of Oregon. This would allow limiting the amount of days the recreational anglers could target rockfish through the use of stamps affixed to the license.

These emergency measures, if enacted and enforced, may allow us to save this valuable public resource while the while the long-term solutions and regulations required to create a sustainable fishery are established.

Help restore the California groundfish fishery by urging the California Department of Fish & Game to adopt the emergency measures outlined here, by sending the following letter.

SEND THIS PAGE TO:

The Pacific Fishery Management Council

California Department of Fish & Game
Director, Robert Hight

Marine Life Management Act
Marija Vojkovich

State of California
Governor Gray Davis

California State Assembly Natural Resources Committee
Howard Wayne, Chair
Dennis Hollingsworth, Vice Chair

California State Senate Natural Resources and Wildlife Committee
Sheila James Kuehl, Chair
Thomas Oller, Vice Chair

It will be quoted in its entirety prefaced by your comments (should you wish to add any) and:

I, as a California recreational angler, find the increasing body of evidence indicating the severe depletion of California's groundfish stocks alarming. I believe the interim CDFG regulations will prove inadequate to stop further deterioration of the stocks and urge the department to implement the following measures.

Immediately end the use of traps for catching fish.

Restrict commercial fishing to the use of rod-and-reel gear in waters less than 60 fathoms, and limit the number of fish caught per day per vessel. We are in agreement with, and support the United Anglers proposed limit of 20 fish per day per commercial fishing vessel.

Require all rockfish catches be landed at designated landing sites where DFG employees are present to monitor and sample the catch. Documentation of the catch by CDFG would be provided. Charging commercial vessels would fund the program.

Require all merchants to document purchases and sales of rockfish so they could be tracked back to the fisherman.

Seasonal closures should be timed when the majority of species in an area are spawning, such as banning ling cod fishing in water less than 20 fathoms in December and January.

Begin recruitment and training of an enforcement staff large enough to make the regulations effective.

Dramatically increase penalties for any violation of Fish & Game regulations associated with groundfish; including poaching and possession of undocumented catch, to include seizure of assets.

Begin moving to a computer based licensing system such as in use by the State of Oregon. This would allow limiting the amount of days the recreational anglers could target rockfish through the use of stamps affixed to the license.

These emergency measures, if enacted and enforced, may allow us to save this valuable public resource while the while the long-term solutions and regulations required to create a sustainable fishery are established.

Required -- Your First Name:

Required -- Last Name:

Required -- Email Address:

Required -- City

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Exhibit F.5
Situation Summary
April 2001

STATUS OF FISHERIES AND CONSIDERATION OF INSEASON ADJUSTMENTS

Situation: In the current groundfish management program, the Council sets annual harvest targets (optimum yield [OY] levels) and individual vessel landing limits for specified periods. These vessel landing limits typically need to be adjusted periodically through the year so total landings reach, but do not exceed, the OYs. The initial vessel landing limits are based on predicted participation rates, estimates of how successful participants will be at achieving their limits for each period, and comparisons with previous years. The Groundfish Management Team (GMT) tracks landings data throughout the year and periodically makes projections based on all the information available. The GMT presents these landings data and projections to the Groundfish Advisory Subpanel (GAP), and they discuss adjustments that may be necessary to achieve, but not exceed, the annual limits. The Council considers GMT and GAP recommendations, along with public comment, before making recommendations to the National Marine Fisheries Service (NMFS) for inseason adjustments.

Several public comments are attached for Council consideration (Exhibit F.5.c, Public Comment). The Washington Trollers Association is requesting a change in the open access cumulative limit for yellowtail rockfish. The GMT will comment on this request. Two California longline fishers offer comments on nearshore rockfish and other issues. One California recreational angler suggests several emergency measures to protect groundfish.

The Council's task at this meeting is to review the available information and projections and make recommendations to NMFS for any appropriate adjustments. In addition, the Council may comment on proposed tier limits, including discard assumptions, for the primary nontrawl sablefish fishery.

Council Action: Adopt inseason adjustments.

Reference Materials:

1. Exhibit F.5.c, Public Comment.

Groundfish Fishery Strategic Plan Consistency Analysis

This agenda item requires Council decision making. Any proposed adjustments to trip limits or other measures should be evaluated for consistency with the Strategic Plan recommendations, such as bycatch reduction, harvest policies, and allocation.

PFMC
03/20/01

Considerations for Changing the PFMC Groundfish Management Process

Introduction

Over the past several years, development and adoption of groundfish fishery management specifications using the current process has become increasingly difficult. Management specifications include acceptable biological catch (ABC), optimum yield (OY), and management measures (allocations, gear restrictions, etc.). To ease this burden, the Council is evaluating the process and schedule used to develop groundfish management specifications, and has appointed an Ad Hoc Groundfish Management Process Review Committee (GMPC) to investigate alternatives. The committee has met twice and developed several ideas, which are detailed in this report.

The Council is seeking advice from its advisory bodies with regard to:

- preventing recent problems from re-occurring this year;
- developing new ideas for long-term solutions; and
- reviewing alternatives and ideas developed by the GMPC.

This report presents information to assist advisors with their consideration of how to improve the management process, including the recommendations of the GMPC.

The report is organized as follows:

1. **introduction** to explain the task at hand and information being presented;
2. discussion of the **current management process** (including history and recent problems);
3. discussion of confounding factors that will affect management for the near-term as well as implementation of possible changes;
4. description of approaches using a three or four **meeting sequence**;
5. description of approaches using two alternative **regulation durations**;
6. description of two alternative **fishing year definitions**;
7. description of **elements essential to developing management specifications**; and
8. **concluding thoughts**.

For the near-term, the Council is grappling with how to set management specifications for 2002 without the strain that occurred in recent years. For the long-term, the Council is seeking advice on how best to re-tool the process used for setting management specifications and how to balance the workload involved in setting specifications with the myriad other tasks the Council, its advisory entities, and National Marine Fisheries Service (NMFS) are committed to do each year.

No matter which alternative management process is adopted, there is a strong need for greater public involvement in the management specification process. More robust public review would include continued participation in GMT, GAP, Council, and STAR-related meetings. Public input could also be bolstered by public hearings and greater public participation at allocation meetings.

Current management process

Because the federal regulatory process is not designed to respond quickly to major issues, the Council adopted a framework process for the groundfish fishery management plan (FMP). This framework provides for relatively rapid action on certain management measures. The annual management process

was designed to set annual harvest levels in response to new stock assessment information, and to adjust commercial trip limits and recreational bag limits to meet, but not exceed, the annual harvest target. Other management measures are to be established through framework processes and detailed rulemaking.

By design, major changes were not dealt with during the annual management process. However, problems arose when trip limit and/or bag limit adjustments could no longer provide enough flexibility to respond to lower harvest levels. Annual management has become eclipsed by the necessity to make major management decisions and such things as allocation and rebuilding plans at the November Council meeting without full analysis or public review.

In recent years under the September-November schedule, many problems and time constraints have complicated the difficult task of setting management specifications. For example, scientific information has continued to flow into the decision making process after preliminary ABCs and OYs have been adopted. This disrupts the ability to analyze prospective management measures and for the public to review and comment on management alternatives (i.e., you can't hit a moving target). In addition, concerns have been raised that the September-November schedule does not provide adequate time for public review, either at the Council level as the specifications are developed or at the Secretarial review level after the Council has taken final action (i.e., between the November Council meeting and the January 1 start of the fishery).

Moreover, tasks other than the setting of groundfish specifications must also be accomplished. These tasks include FMP amendments, other groundfish workload (e.g., strategic plan implementation), and other Council managed fisheries. Additional problems associated with the current management process may be found in the summary minutes of the first GMPC meeting.

Confounding factors affecting changes to the management process

- Some changes will require amending the groundfish fishery management plan;
- Transition to a different process will require delaying certain elements or doubling the workload of specific elements;
- Increasing the amount of time for developing management specifications will require stopping the input of assessment information, and raises the possibility that the most recent information might not immediately be used. Stakeholders need to be aware of this and take it into consideration as they review and comment on the alternative management schedules.
- Rebuilding depleted stocks will be the number one management priority for the foreseeable future. Developing rebuilding plans, managing fisheries to meet rebuilding targets, and monitoring rebuilding will dominate workload and may make it difficult to set multi-year ABCs, OYs, and management measures.
- Other groundfish workload (strategic plan implementation, buyback, FMP amendments, and permit stacking) and other Council fisheries and tasks (salmon, coastal pelagic species, highly migratory species, halibut, habitat) need to be considered.
- With increased funding for west coast research, NMFS will conduct resource surveys more frequently, increasing the amount of available data. This will both increase workload in processing the information and in folding it into Council decision making.

Council Meeting Sequencing

Currently, annual groundfish specifications are set by the Council over two meetings, September and November. To prevent the problems discussed above, the GMPC discussed several alternative

management sequences. Any of these schedules could be used to set specifications for either a single year (Annual Management) or for two or more years (Multi-year Management).

Alternative meeting sequences

Adjustments to the schedule for ABC/OY decision making are designed to provide more time to develop management measures and garner public input. However, this would be contingent on assessment information and review being available prior to consideration of preliminary ABCs and OYs.

I. Three Meeting Sequence (June - November)

June	adopt preliminary ABCs and OYs;
September	adopt final ABC/OY and preliminary management measures;
November	adopt final management measures.

II. Four Meeting Sequence (September - June)

September	adopt preliminary ABCs and OYs;
November	adopt final ABCs and OYs;
April	adopt preliminary management measures;
June	adopt final management measures.

III. Four Meeting Sequence (April - November)

April	adopt preliminary ABCs and OYs;
June	adopt final ABCs and OYs;
September	adopt preliminary management measures;
November	adopt final management measures.

Regulation Duration

- Annual Management
- Multi-Year Management

I. Annual Management

This is similar to the current process.

II. Multi-Year Management

ABC, OY, and management measures are set for more than one year. Setting management specifications for more than one year would build in an "off year" where groundfish management business other than management specifications would be the focus (e.g., FMP amendments, Strategic Plan initiatives, etc.). However, new scientific information would still be collected each year, this could cause new information to be held back until the next management cycle. Rebuilding plans would still be developed as necessary, and rebuilding plans would be monitored every two years as per the Magnuson-Stevens Fishery Conservation and Management Act. As events may arise that necessitate altering the management measures during the multi-year period, the GMPC recommends establishing a review committee to trigger emergency action on management specifications as warranted. For example, this could occur when stock assessment information shows significant changes (higher or lower) in abundance from levels used to set management specifications.

Fishing Year Definition

Part of the current problem is the lack of time between when the Council takes final action on management specifications and the start of the fishing year. Adopting specifications in November for a fishery starting January 1 leaves little time to fulfill regulatory and public review requirements. To ease this

burden, the GMPC discussed delaying the start of the fishing season to April 1 (i.e., the fishing year would run from April 1 to March 31). A delayed fishing year could be applied to any of the management schedules.

Elements Essential to Developing Management Specifications

In addition to structural elements described above (meeting sequence, regulation duration, and fishing year definition), specific building blocks will need to be fit together to construct management specifications. These include:

Basic Science
- resource assessment surveys
- compilation of survey results
- stock assessments
- Stock Assessment Review (STAR) Panels

Secondary Scientific and Policy analyses by the GMT
- review of stock assessments
- development of ABC and OY estimates
- analysis of management measures
- development of regulatory analyses (NEPA and RFA)

Council Decision Making
- Council meetings (includes consideration of advisory recommendations and comments)
- Allocation Committee meetings
- non-management specification matters (FMP amendments, strategic plan initiatives, etc.).

Rebuilding Plans
- Council recognition of possible overfished stock(s)
- development of rebuilding analyses
- NMFS declarations of overfished stock(s)
- development and adoption of rebuilding plans

Conclusion

The Council is looking for guidance on several proposed alternatives. The alternative Groundfish Management Processes are as follows:

I. Three Meeting Groundfish Management Process (June, September, November)
   a. annual specifications, and January 1 fishery start
   b. annual specifications, and April 1 fishery start
   c. multi-year specifications, and January 1 fishery start
   d. multi-year specifications, and April 1 fishery start

II. Four Meeting Groundfish Management Process (September, November, April, June)
   a. annual specifications, and January 1 fishery start
   b. multi-year specifications, and January 1 fishery start

III. Four Meeting Groundfish Management Process (April, June, September, November)
   a. annual specifications, and January 1 fishery start
   b. annual specifications, and April 1 fishery start
   c. multi-year specifications, and January 1 fishery start
   d. multi-year specifications, and April 1 fishery start

As stated in the introduction, the Council needs input about (1) what to do this year, (2) what to do for the long-term, (3) whether annual or multi-year management is preferred, and (4) the alternatives and ideas developed by the GMPC.

Several points that should be considered:

- The process needs to include more time for public review and input.
- Rebuilding overfished stocks will be a significant job for the next several years.
- The use of scientific information (1) in terms of stopping the flow of information into the process for setting harvest levels (the "science barrier" discussed above) and (2) the possibility that new information could be shelved for a time under a multi-year management scenario.
- Time is a critical limiting factor in all Council business, we can't make more time in a given year, the hope is that we can make optimal use of the time we have.
- Under a multi-year management approach, should a review committee be established to monitor stock assessment information and fisheries, and trigger Council consideration of emergency actions to address significant changes.
- The recognition that management of the groundfish fishery does not occur in isolation. That is, the Council has many other obligations and groundfish workload needs to be balanced with these other workload obligations.
- Some changes will require amending the groundfish fishery management plan;
- With increased funding for west coast research, National Marine Fisheries Service (NMFS) will conduct resource surveys more frequently, increasing the amount of available data. This will both increase workload in processing the information and in folding it into Council decision making.

As stated in the introduction, for the near-term, the Council is grappling with how to set management specifications for 2002 without the strain that occurred in recent years. For the long-term, the Council is seeking advice on how best to re-tool the process used for setting management specifications and how to balance the workload involved in specification setting with the myriad other tasks the Council, its advisory entities, and NMFS are committed to do each year.

PMFC
03/28/01

Appendix

The following tables provide a visual layout of the component parts (the "building blocks") overlaid upon alternate management structures. Each part of the process is presented to show how the parts fit together. Alternative management schedules are presented in a series of tables that show the various elements that go into setting management specifications. In the tables, these elements are broken out by when they are done during the year (horizontal axis) and by whom does the task (vertical axis). Several years are shown on each table to demonstrate how information flows from year to year. For example, a resource survey in Year 0 feeds information to a stock assessment in Year 1; this assessment information is then used to set fishing levels for Year 2. For the purpose of these displays, fundamental scientific elements are termed "science;" secondary scientific and policy analyses are termed " GMT;" Council decision making events are termed "Council;" and rebuilding plan elements are termed "Rebuilding."

Management Schedule Alternative I is displayed in detail to familiarize the reader with the basic approach of the matrices. That is, to aid in understanding how the parts fit together, in tables 1 through 5 the component parts are added one layer at a time: science is the first layer, the next table combines Groundfish Management (GMT) work with the science layer; one layer is added (in bold) to each subsequent table until a complete schedule is built.

The remaining alternative schedules and multi-year suboption are each displayed in two tables, one showing all aspects and a second showing only the Council component. The delayed fishing season suboption is not displayed in these tables as the start of the fishing year does not greatly effect the decision making process, rather this suboption would build in more time after final Council action, i.e., between Secretarial Review and the start of the groundfish fisheries.

Tables 1 - 5 display the Three Meeting Groundfish Management Process.

Table 1. **Science layer**: illustrates how scientific information is developed, including stock assessments and the STAR process.

Scientific information will continue to be collected annually, STAR process will continue, rebuilding plans developed, implemented, monitored.

A resource survey conducted in Summer of Year 0 (2001) provides information for stock assessments and STAR panels in Winter/Spring of Year 1 (2002), this information is the basis for ABC/OY and rebuilding plans in Year 2 (2003).

Table 2. **GMT layer**: adds a layer of GMT meetings, the first focused on developing ABCs/OYs from the assessment information and consideration of rebuilding analyses. The second GMT meeting is focused on analysis of preliminary ABCs/OYs from the June Council meeting and scope potential management measures – the goal is to prepare final ABCs/OYs for final Council action and prospective management measures for preliminary Council action at the September Council meeting. The third GMT meeting is to analyze and refine preliminary management measures adopted by the Council at the September meeting and initiate required regulatory analyses of management measures.

Table 3. **Council layer**: this layer adds in the 4 groundfish-oriented Council meetings per year. The April meeting is dedicated to non-annual groundfish matters (e.g., implementation of strategic plan, FMP amendments). In June, the Council takes preliminary action on ABCs and OYs, and the allocation committee meets to initiate allocative decisions that affect development of management measures. The allocation committee also meets in August in preparation for the September Council meeting. At the September meeting the Council takes final action on ABCs/OYs and preliminary action on management measures. In November, final adoption of management measures. Other groundfish business could also be taken up in November as more revised schedule should provide more time for non-annual management matters. This matrix also introduces adds a "science barrier," which represents the desire to curb the flow of new scientific information into the management

process after June. The rationale for this barrier is that, after harvest levels are developed, the process for developing management measures should proceed without the added complication of having to account for new scientific data about what the harvest levels should be.

Table 4. **Rebuilding layer**: aspects of rebuilding analyses (virgin biomass, time to rebuild, catch rates) and rebuilding plans (analyses, management measures) are added. The process starts in June of Year 1 when stock assessments indicate a stock is overfished based on the Year 0 survey information. The assessment should contain the basic components for the rebuilding analyses. Between August and November of Year 1 the rebuilding analysis would be developed, including SSC review.

Under the rebuilding layer, two tracks are added in Year 2:

The first is a continuation of the Year 0 survey/Year 1 assessment. In Year 2, NMFS formally declares a stock overfished, triggering one year deadline for development of rebuilding plan. In February - May of Year 2, the rebuilding analysis from Year 1 would be further developed into a rebuilding plan, includes SSC review. In June of Year 2, the Council takes preliminary action. In September, the Council takes final action on the rebuilding plan, which is submitted to NMFS prior to the end of the year.

The second track follows the Year 1 resource survey/Year 2 assessment, which will indicate by June of Year 2 those stocks likely to be declared overfished and in need of special consideration in setting management measures. In August-November of Year 2, rebuilding analyses would be developed, including SSC review.

Table 5. **All layer**: includes all components of the process.

Tables 6 and 7 display Alternative I, suboption a (Three Meeting Groundfish Management Process – Multi-Year). Table 6 shows all components, table 7 isolates the Council components.

Tables 8 and 9 display Alternative II (Four Meeting Groundfish Management Process – September-June). Table 8 shows all components, table 9 isolates the Council components.

Tables 10 and 11 display Alternative II, suboption a (Four Meeting Groundfish Management Process – September-June – Multi-Year). Table 10 shows all components, table 11 isolates the Council components.

Tables 12 and 13 display Alternative III (Four Meeting Groundfish Management Process – April - November). Table 12 shows all components, table 13 isolates the Council components.

Tables 14 and 15 display Alternative III, suboption a (Four Meeting Groundfish Management Process – April - November – Multi-Year). Table 14 shows all components, table 15 isolates the Council components.

Table 1. agement Schedule I -- 3 Meeting (June, September, November) Process -- ce Layer

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)				Initial Survey Results (a)	
MANAGEMENT												
GMT												
Council												
REBUILDING												

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT												
Council												
REBUILDING												

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT												
Council												
REBUILDING												

Table 1. Science layer: illustrates how scientific information is developed, including stock assessments and the STAR process. Scientific information will continue to be collected annually, STAR process will continue, rebuilding plans developed, implemented, monitored. A resource survey conducted in Summer of Year 0 (2001) provides information for stock assessments and STAR panels in Winter/Spring of Year 1 (2002), this information is the basis for ABC/OY and rebuilding plans in Year 2 (2003).

Table 2. Management Schedule I -- 3 Meeting (June, September, November) Process -- GMT Layer Added

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)				Initial Survey Results (a)	
Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT					**Review Stck Assessments (a); Scope ABC/OY**		**Analyze ABC/OY and Scope Mgmt Measures (a)**			**Analyze Mgmt Measures and Initiate NEPA/IRFA (a)**		
Council												
REBUILDING												
Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT					**Review Stck Assessments (b); Scope ABC/OY**		**Analyze ABC/OY and Scope Mgmt Measures (b)**			**Analyze Mgmt Measures and Initiate NEPA/IRFA (b)**		
Council												
Other												
REBUILDING												

Table 2. GMT layer: adds a layer of GMT meetings, the first focused on developing ABCs/OYs from the assessment information and consideration of rebuilding analyses. The second GMT meeting is focused on analysis of preliminary ABCs/OYs from the June Council meeting and scope potential management measures – the goal is to prepare final ABCs/OYs for final Council action and prospective management measures for preliminary Council action at the September Council meeting. The third GMT meeting is to analyze and refine preliminary management measures adopted by the Council at the September meeting and initiate required regulatory analyses of management measures.

Table 3 ıagement Schedule I -- 3 Meeting (June, September, November) Process -- .ıcil Layer Added

	January	February	March	April	May	June	July	August	September	October	November	December
Year 0 (2001) SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		
Year 1 (2002) SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT GMT					Review Stck Assessments (a); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (a)			Analyze Mgmt Measures and Initiate NEPA/IRFA (a)		
Council REBUILDING				Non-Mgmt Spec Work		Prelim ABC/OY (a)	Allocation Committee	Allocation Committee	Final ABC/OY and Prelim Mgmt Measures (a)		Final Mgmt Measures (a) & Non-Mgmt Spec Work	
Year 2 (2003) SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT GMT					Review Stck Assessments (b); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (b)			Analyze Mgmt Measures and Initiate NEPA/IRFA (b)		
Council REBUILDING				Non-Mgmt Spec Work		Prelim ABC/OY (base and rebuilding) (b)	Allocation Committee	Allocation Committee	Final ABC/OY, Rebuilding Plans, and Prelim Mgmt Measures (b)		Final Mgmt Measures (b) & Non-Mgmt Spec Work	
							Science Boundary					

Table 3. Council layer: this layer adds in the 4 groundfish-oriented Council meetings per year. The April meeting is dedicated to non-annual groundfish matters (e.g., implementation of strategic plan, FMP amendments). In June, the Council takes preliminary action on ABCs and OYs, and the allocation committee meets to initiate allocative decisions that affect development of management measures. The allocation committee also meets in August in preparation for the September Council meeting. At the September meeting the Council takes final action on ABCs/OYs and preliminary action on management measures. In November, final adoption of management measures. Other groundfish business could also be taken up in November as more revised schedule should provide more time for non-annual management matters. This matrix also introduces adds a "science barrier," which represents the desire to curb the flow of new scientific information into the management process after June. The rationale for this barrier is that, after harvest levels are developed, the process for developing management measures should proceed without the added complication of having to account for new scientific data about what the harvest levels should be.

Table 4. Management Schedule I -- 3 Meeting (June, September, November) Process -- Rebuilding Layer Added

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		
Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT					Review Stck Assessments (a); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (a)			Analyze Mgmt Measures and Initiate NEPA/IRFA (a)		
Council				Non-Mgmt Spec Work		Prelim ABC/OY (a)	Allocation Committee	Allocation Committee	Final ABC/OY and Prelim Mgmt Measures (a)		Final Mgmt Measures (a) & Non-Mgmt Spec Work	
REBUILDING						**Prelim "Overfished" Indication (a)**	**Develop/Refine Rebuilding Analyses (targets, timelines) (a); SSC Review of Rebuilding Analyses**					
Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT					Review Stck Assessments (b); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (b)			Analyze Mgmt Measures and Initiate NEPA/IRFA (b)		
Council				Non-Mgmt Spec Work		Prelim ABC/OY (base and rebuilding) (b)	Allocation Committee	Allocation Committee	Final ABC/OY, Rebuilding Plans, and Prelim Mgmt Measures (b)		Final Mgmt Measures (b) & Non-Mgmt Spec Work	
REBUILDING												
From Year 1	**NMFS Overfished Designation (a)**	**Develop Rebuilding Plans (management measures) (a); SSC Review of Rebuilding Plans**				**Preliminary Rebuilding Plans to Council (a)**			**Final Rebuilding Plans to Council (a)**			
New in Year 2						**Prelim "Overfished" Indication (b)**	**Develop/Refine Rebuilding Analyses (targets, timelines) (b); SSC Review of Rebuilding Analyses**					

Table 4. Rebuilding layer: aspects of rebuilding analyses (virgin biomass, time to rebuild, catch rates) and rebuilding plans (analyses, management measures) are added. The process starts in June of Year 1 when stock assessments indicate a stock is overfished based on the Year 0 survey information. The assessment should contain the basic components for the rebuilding analyses. Between August and November of Year 1 the rebuilding analysis would be developed, including SSC review.

Under the rebuilding layer, two tracks are added in Year 2:

The first is a continuation of the Year 0 survey/Year 1 assessment. In Year 2, NMFS formally declares a stock overfished, triggering one year deadline for development of rebuilding plan. In February - May of Year 2, the rebuilding analysis from Year 1 would be further developed into a rebuilding plan, includes SSC review. In June of Year 2, the Council takes preliminary action. In September, the Council takes final action on the rebuilding plan, which is submitted to NMFS prior to the end of the year.

The second track follows the Year 1 resource survey/Year 2 assessment, which will indicate by June of Year 2 those stocks likely to be declared overfished and in need of special consideration in setting management measure In August-November of Year 2, rebuilding analyses would be developed, including SSC review.

Table 5. ıagement Schedule I -- 3 Meeting (June, September, November) Process -- ıyers

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT					Review Stck Assessments (a); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (a)			Analyze Mgmt Measures and Initiate NEPA/IRFA (a)		
Council				Non-Mgmt Spec Work		Prelim ABC/OY (a)	Allocation Committee	Allocation Committee	Final ABC/OY and Prelim Mgmt Measures (a)		Final Mgmt Measures (a) & Non-Mgmt Spec Work	
REBUILDING						Prelim "Overfished" Indication (a)	Develop/Refine Rebulding Analyses (targets, timelines) (a); SSC Review of Rebuilding Analyses					

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT					Review Stck Assessments (b); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (b)			Analyze Mgmt Measures and Initiate NEPA/IRFA (b)		
Council				Non-Mgmt Spec Work		Prelim ABC/OY (base and rebuilding) (b)	Allocation Committee	Allocation Committee	Final ABC/OY, Rebuilding Plans, and Prelim Mgmt Measures (b)		Final Mgmt Measures (b) & Non-Mgmt Spec Work	
REBUILDING												
From Year 1	NMFS Overfished Designation (a)	Develop Rebuilding Plans (management measures) (a); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (a)			Final Rebuilding Plans to Council (a)			
New in Year 2						Prelim "Overfished" Indication (b)	Develop/Refine Rebulding Analyses (targets, timelines) (b); SSC Review of Rebuilding Analyses					

Table 6. Management Schedule I.a -- 3 Meeting (June, September, November) Process -- Multi-Year -- All Layers

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002			
Year 1 (2002)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT					Review Stck Assessments (a); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (a)			Analyze Mgmt Meas; Initiate NEPA/IRFA (a)		
Council						Prelim Adopt ABC/OY for 2003-2004			Final Adopt ABC/OY and Prelim Adopt Mgmt Measures for 2003-2004		Final Adopt Mgmt Measures for 2003-2004	
REBUILDING						Prelim "Overfished" Indication (a)	Develop/Refine Rebuilding Analyses (targets, timelines) (a); SSC Review of Rebuilding Analyses					
Year 2 (2003)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT												
Council				Non-Mgmt Spec Work		Non-Mgmt Spec Work			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING												
From Year 1 (a)	NMFS Overfished Designation (a)	Develop Rebuilding Plans (management measures) (a); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (a)			Final Rebuilding Plans to Council (a)			
New in Year 2 (b)						Prelim "Overfished" Indication (b)	Develop/Refine Rebuilding Analyses (targets, timelines) (b); SSC Review of Rebuilding Analyses					
Year 3 (2004)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (c);			STAR Panels (c)			Resource Assessment Surveys (d)				Initial Survey Results (d)	
MANAGEMENT												
GMT					Review Stck Assessments (c); Scope ABC/OY		Analyze ABC/OY and Scope Mgmt Measures (c)			Analyze Mgmt Meas; Initiate NEPA/IRFA (c)		
Council						Prelim Adopt ABC/OY for 2005-2006			Final Adopt ABC/OY and Prelim Adopt Mgmt Measures for 2005-2006		Final Adopt Mgmt Measures for 2005-2006	
REBUILDING												
From Year 2 (b)	NMFS Overfished Designation (b)	Develop Rebuilding Plans (management measures) (b); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (b)			Final Rebuilding Plans to Council (b)			
New in Year 3 (c)						Prelim "Overfished" Indication (c)	Develop/Refine Rebuilding Analyses (targets, timelines) (c); SSC Review of Rebuilding Analyses					
Year 4 (2005)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (d)			STAR Panels (d)			Resource Assessment Surveys (e)				Initial Survey Results (e)	
MANAGEMENT												
GMT												
Council				Non-Mgmt Spec Work		Non-Mgmt Spec Work			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING												
From Year 3 (c)	NMFS Overfished Designation (c)	Develop Rebuilding Plans (management measures) (c); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (c)			Final Rebuilding Plans to Council (c)			
New in Year 4 (d)						Prelim "Overfished" Indication (d)	Develop/Refine Rebuilding Analyses (targets, timelines) (d); SSC Review of Rebuilding Analyses					

Table 7. agement Schedule I.a -- 3 Meeting (June, September, November) Process - .i-Year -- Council Layer

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002			

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council						Prelim Adopt ABC/OY for 2003-2004			Final Adopt ABC/OY and Prelim Adopt Mgmt Measures for 2003-2004		Final Adopt Mgmt Measures for 2003-2004	
REBUILDING												

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council				Non-Mgmt Spec Work		Non-Mgmt Spec Work			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING												
From Year 1 (a)												
New in Year 2 (b)												

Year 3 (2004)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council						Prelim Adopt ABC/OY for 2005-2006			Final Adopt ABC/OY and Prelim Adopt Mgmt Measures for 2004-2005		Final Adopt Mgmt Measures for 2005-2006	
REBUILDING												
From Year 2 (b)												
New in Year 3 (c)												

Year 4 (2005)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council				Non-Mgmt Spec Work		Non-Mgmt Spec Work			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING												
From Year 3 (c)												
New in Year 4 (d)												

Table 8. Management Schedule II -- 4 Meeting (September - June) Process -- All Layers

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002; Prelim Adopt ABC/OY for 2003		Final Adopt ABC/OY for 2003 (published in FR)	

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE/MANAGEMENT	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
GMT							Review Stck Assessments (a); Scope ABC/OY			Analyze ABC/OY		
Council				Prelim Adopt Mgmt Measures for 2003 and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2003 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt ABC/OY for 2004; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2004 (published in FR); and Non-Mgmt Spec Work	
REBUILDING						Prelim "Overfished" Indication (a)		Develop/Refine Rebulding Analyses (targets, timelines) (a); SSC Review of Rebuilding Analyses				

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE/MANAGEMENT	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
GMT			Scope Mgmt Measures (a)		Analyze Mgmt Measures and Initiate NEPA/IRFA (a)		Review Stck Assessments (b); Scope ABC/OY			Analyze ABC/OY		
Council				Prelim Adopt Mgmt Measures for 2004 and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2004 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt ABC/OY for 2005; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2005 (published in FR); and Non-Mgmt Spec Work	
REBUILDING												
From Year 1 (a)	NMFS Overfished Designation (a)	Develop Rebuilding Plans (management measures) (a); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (a)			Final Rebuilding Plans to Council (a)			
New in Year 2 (b)						Prelim "Overfished" Indication (b)		Develop/Refine Rebulding Analyses (targets, timelines) (b); SSC Review of Rebuilding Analyses				

Table 9. .agement Schedule II -- 4 Meeting (September - June) Process -- Multi-Year - Council Layer

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002; Prelim Adopt ABC/OY for 2003		Final Adopt ABC/OY for 2003 (published in FR)	
Year 1 (2002)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE												
MANAGEMENT												
GMT												
Council				Prelim Adopt Mgmt Measures for 2003 and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2003 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt ABC/OY for 2004; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2004 (published in FR); and Non-Mgmt Spec Work	
REBUILDING												
Year 2 (2003)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE												
MANAGEMENT												
GMT												
Council				Prelim Adopt Mgmt Measures for 2004 and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2004 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt ABC/OY for 2005; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2005 (published in FR); and Non-Mgmt Spec Work	
REBUILDING												
From Year 1 (a)												
New in Year 2 (b)												

Table 10. Management Schedule II.a -- 4 Meeting (September - June) Process --Multi-Year -- All Layers

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002; Prelim Adopt ABC/OY for 2003-2004		Final Adopt ABC/OY for 2003-2004 (published in FR)	
Year 1 (2002)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT			Scope Mgmt Measures		Analyze Mgmt Measures and Initiate NEPA/IRFA (b)							
Council				Prelim Adopt Mgmt Measures for 2003-2004		Final Adopt Mgmt Measures for 2003-2004 (published in FR)			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING						Prelim "Overfished" Indication (a)	Develop/Refine Rebulding Analyses (targets, timelines) (a); SSC Review of Rebuilding Analyses					
Year 2 (2003)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT							Review Stck Assessments; Scope ABC/OY			Analyze ABC/OY		
Council				Non-Mgmt Spec Work		Non-Mgmt Spec Work			Prelim Adopt ABC/OY for 2005-2006		Final Adopt ABC/OY for 2005-2006 (published in FR)	
REBUILDING												
From Year 1 (a)	NMFS Overfished Designation (a)	Develop Rebuilding Plans (management measures) (a); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (a)			Final Rebuilding Plans to Council (a)			
New in Year 2 (b)						Prelim "Overfished" Indication (b)	Develop/Refine Rebulding Analyses (targets, timelines) (b); SSC Review of Rebuilding Analyses					
Year 3 (2004)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (c);			STAR Panels (c)			Resource Assessment Surveys (d)			Resource Assessment Surveys (d)		
MANAGEMENT												
GMT			Scope Mgmt Measures		Analyze Mgmt Measures and Initiate NEPA/IRFA		Review Stck Assessments; Scope ABC/OY					
Council				Prelim Adopt Mgmt Measures for 2005-2006		Final Adopt Mgmt Measures for 2005-2006 (published in FR)			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING												
From Year 2 (b)	NMFS Overfished Designation (b)	Develop Rebuilding Plans (management measures) (b); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (b)			Final Rebuilding Plans to Council (b)			
New in Year 3 (c)						Prelim "Overfished" Indication (c)	Develop/Refine Rebulding Analyses (targets, timelines) (c); SSC Review of Rebuilding Analyses					

Table 1. anagement Schedule II.a -- 4 Meeting (September - June) Process --Multi-Ye.. - Council Layer

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002; Prelim Adopt ABC/OY for 2003-2004		Final Adopt ABC/OY for 2003-2004 (published in FR)	

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council				Prelim Adopt Mgmt Measures for 2003-2004		Final Adopt Mgmt Measures for 2003-2004 (published in FR)			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING												

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council				Non-Mgmt Spec Work		Non-Mgmt Spec Work			Prelim Adopt ABC/OY for 2005-2006		Final Adopt ABC/OY for 2005-2006 (published in FR)	
REBUILDING												
From Year 1 (a)												
New in Year 2 (b)												

Year 3 (2004)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE										Resource Assessment Surveys (d)		
MANAGEMENT												
GMT												
Council				Prelim Adopt Mgmt Measures for 2005-2006		Final Adopt Mgmt Measures for 2005-2006 (published in FR)			Non-Mgmt Spec Work		Non-Mgmt Spec Work	
REBUILDING												
From Year 2 (b)												
New in Year 3 (c)												

Table 12. Management Schedule III -- 4 Meeting (April - November) Process -- All Layers

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002			
Year 1 (2002)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT			Scope ABC/OY		Analyze ABC/OY			Scope Mgmt Measures (a)		Analyze Mgmt Measures and Initiate NEPA/IRFA (a)		
Council				Prelim Adopt ABC/OY for 2003; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2003 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt Mgmt Measures for 2003; and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2003 (published in FR); and Non-Mgmt Spec Work	
REBUILDING						Prelim "Overfished" Indication (a)	Develop/Refine Rebuilding Analyses (targets, timelines) (a); SSC Review of Rebuilding Analyses					
Year 2 (2003)	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT			Scope ABC/OY		Analyze ABC/OY			Scope Mgmt Measures (b)		Analyze Mgmt Measures and Initiate NEPA/IRFA (b)		
Council				Prelim Adopt ABC/OY for 2004; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2004 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt Mgmt Measures for 2004; and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2004 (published in FR); and Non-Mgmt Spec Work	
REBUILDING												
From Year 1 (a)	NMFS Overfished Designation (a)	Develop Rebuilding Plans (management measures) (a); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (a)			Final Rebuilding Plans to Council (a)			
New in Year 2 (b)						Prelim "Overfished" Indication (b)	Develop/Refine Rebuilding Analyses (targets, timelines) (b); SSC Review of Rebuilding Analyses					

Table 13 ...nagement Schedule III -- 4 Meeting (April - November) Process -- Council La...

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002			

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council				Prelim Adopt ABC/OY for 2003; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2003 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt Mgmt Measures for 2003; and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2003 (published in FR); and Non-Mgmt Spec Work	
REBUILDING												

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
MANAGEMENT												
GMT												
Council				Prelim Adopt ABC/OY for 2004; and Non-Mgmt Spec Work		Final Adopt ABC/OY for 2004 (published in FR); and Non-Mgmt Spec Work			Prelim Adopt Mgmt Measures for 2004; and Non-Mgmt Spec Work		Final Adopt Mgmt Measures for 2004 (published in FR); and Non-Mgmt Spec Work	
REBUILDING												
From Year 1 (a)												
New in Year 2 (b)												

Table 14. Management Schedule III.a -- 4 Meeting (April - November) Process --Multi-Year -- All Layers

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE							Resource Assessment Surveys (a)			Initial Survey Results (a)		
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002			

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (a)			STAR Panels (a)			Resource Assessment Surveys (b)				Initial Survey Results (b)	
MANAGEMENT												
GMT			Scope ABC/OY		Analyze ABC/OY			Scope Mgmt Measures		Analyze Mgmt Measures and Initiate NEPA/IRFA (c)		
Council				Prelim Adopt ABC/OY for 2003-2004		Final Adopt ABC/OY for 2003-2004 (published in FR)			Prelim Adopt Mgmt Measures for 2003-2004		Final Adopt Mgmt Measures for 2003-2004 (published in FR)	
REBUILDING						Prelim "Overfished" Indication (a)	Develop/Refine Rebulding Analyses (targets, timelines) (a); SSC Review of Rebuilding Analyses					

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (b)			STAR Panels (b)			Resource Assessment Surveys (c)				Initial Survey Results (c)	
MANAGEMENT												
GMT												
Council				Non-MGMT Spec Work		Non-MGMT Spec Work			Non-MGMT Spec Work		Non-MGMT Spec Work	
REBUILDING												
From Year 1 (a)	NMFS Overfished Designation (a)	Develop Rebuilding Plans (management measures) (a); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (a)			Final Rebuilding Plans to Council (a)			
New in Year 2 (b)						Prelim "Overfished" Indication (b)	Develop/Refine Rebulding Analyses (targets, timelines) (b); SSC Review of Rebuilding Analyses					

Year 3 (2004)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE	Stock Assessments (c);			STAR Panels (c)			Resource Assessment Surveys (d)			Resource Assessment Surveys (d)		
MANAGEMENT												
GMT			Scope ABC/OY		Analyze ABC/OY			Scope Mgmt Measures		Analyze Mgmt Measures and Initiate NEPA/IRFA (c)		
Council				Prelim Adopt ABC/OY for 2005-2006		Final Adopt ABC/OY for 2005-2006 (published in FR)			Prelim Adopt Mgmt Measures for 2005-2006		Final Adopt Mgmt Measures for 2005-2006 (published in FR)	
REBUILDING												
From Year 2 (b)	NMFS Overfished Designation (b)	Develop Rebuilding Plans (management measures) (b); SSC Review of Rebuilding Plans				Preliminary Rebuilding Plans to Council (b)			Final Rebuilding Plans to Council (b)			
New in Year 3 (c)						Prelim "Overfished" Indication (c)	Develop/Refine Rebulding Analyses (targets, timelines) (c); SSC Review of Rebuilding Analyses					

Table 15. Management Schedule III.a -- 4 Meeting (April - November) Process --Multi-Year -- Council Layer

Year 0 (2001)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE												
Council				Discuss Roll Over of 2001 ABC/OY and Mgmt Measures to 2002		Prelim Adopt (Roll Over 2001) ABC/OY and Mgmt Measures for 2002			Final Adopt ABC/OY/Mgmt for 2002			

Year 1 (2002)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE / MANAGEMENT												
GMT												
Council				Prelim Adopt ABC/OY for 2003-2004		Final Adopt ABC/OY for 2003-2004 (published in FR)			Prelim Adopt Mgmt Measures for 2003-2004		Final Adopt Mgmt Measures for 2003-2004 (published in FR)	
REBUILDING												

Year 2 (2003)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE / MANAGEMENT												
GMT												
Council				Non-MGMT Spec Work		Non-MGMT Spec Work			Non-MGMT Spec Work		Non-MGMT Spec Work	
REBUILDING												
From Year 1 (a)												
New in Year 2 (b)												

Year 3 (2004)	January	February	March	April	May	June	July	August	September	October	November	December
SCIENCE / MANAGEMENT										Resource Assessment Surveys (d)		
GMT												
Council				Prelim Adopt ABC/OY for 2005-2006		Final Adopt ABC/OY for 2005-2006 (published in FR)			Prelim Adopt Mgmt Measures for 2005-2006		Final Adopt Mgmt Measures for 2005-2006 (published in FR)	
REBUILDING												
From Year 2 (b)												
New in Year 3 (c)												

Exhibit F.6.b
Supplemental GAP Report
April 2001

GROUNDFISH ADVISORY SUBPANEL STATEMENT ON
FUTURE GROUNDFISH MANAGEMENT PROCESS AND SCHEDULE

The Groundfish Advisory Subpanel (GAP) met with Council Executive Director Don McIsaac and NOAA General Counsel Eileen Cooney to discuss changes in the groundfish management process.

GAP members agreed the current process is unworkable, and changes could be made to promote efficiency and allow better decision-making.

After considerable discussion, the GAP endorsed the 3-meeting process which begins adoption of annual specifications at the June Council meeting. While some concern was expressed about the continued short time frame to allow discussion of regulatory measures between September and November, the GAP agreed this cost was less than the loss of current scientific data which would result from adoption of a 4-meeting process. Fisheries are already being managed on the basis of data which is from 4 to 6 years old; the GAP believes that adding another year will put us even more out of sync between stock assessments and current reality.

On the issue of 1 year versus 2 year management cycles, the GAP would support a 2-year cycle if several issues and questions are addressed, as follows:

1. Which cycle do Council staff and NMFS think will provide them with the greatest benefits in terms of workload and answering pressing scientific questions?

2. Will a 2-year cycle provide the opportunity for the Council to evaluate the effectiveness of existing regulations? As the GAP has noted on several previous occasions, there is concern that regulations keep changing without allowing adequate time to determine if existing regulations are doing the job. This evaluation is extremely important.

3. What will be the trigger for making changes in the 2-year cycle? Will that trigger take into account increased abundance as well as declines? Who pulls the trigger?

4. Will use of a 2-year cycle require additional "precautionary" reductions at the beginning of the 2-year period, or can we presume that regulations will follow their normal course?

5. Will the 2-year cycle gain us anything in terms of time, efficiency, workload, or knowledge, or will we still wind up dealing with frequent changes?

In regard to the groundfish season start date, the GAP sees no reason at this time to change from January to a later date. A late start can have adverse consequences for small boat fisheries that take place in the summer and for those fisheries that have been pushed into the winter months to reduce bycatch of sensitive species. The GAP recommends the fishery continue to begin on January 1st.

PFMC
04/04/01

Exhibit F.6.b
Supplemental SSC Report
April 2001

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON FUTURE GROUNDFISH MANAGEMENT PROCESS AND SCHEDULE

The Scientific and Statistical Committee (SSC) discussed the groundfish management process and schedule for the upcoming year. In recent years, the Council's groundfish process has become increasingly more complex with each management cycle. Growing demands on the system coupled with inherently difficult management decisions have taxed all elements of the Council family. Completion of advisory committee documents and analyses – needed to support Council decision making – is often delayed until late in the calendar year, leaving little time for reflection and discussion.

The Council has established an Ad Hoc Groundfish Management Process Review Committee (GMPC) to address these issues. The GMPC has met twice and developed several ideas to investigate alternatives. Dr. Don McIsaac presented the draft report of the GMPC (Exhibit F.6.b) to the SSC.

While the SSC fully appreciates the multifaceted problems facing the groundfish management process, the SSC is best suited to address the stock assessment review (STAR) elements of the overall process. The STAR process was developed after long and involved negotiations among the Council's groundfish entities, the SSC, and NMFS to resolve the problem of providing independent and comprehensive review of stock assessments. This has been a resource and time-consuming process, and the challenge has always been to complete the process sufficiently early within the annual groundfish cycle (including assessment documents and STAR Panel reports) to allow for full Council deliberation without sacrificing the quality and reliability of the stock assessments. The SSC is concerned that some of the options for changing the groundfish management process – as outlined in the draft GMPC report – may result in the inability to use the most recent data in stock assessments. More specifically, modification of the present "2-meeting" sequence to either the "3-meeting" or "4-meeting" sequences considered in the draft GMPC report (p.3), will reduce the time available for stock assessment and review, with concomitant reduction in quality of the products. If the status quo "2-meeting" sequence is to be modified, the SSC prefers the "3-meeting" sequence (June, September, and November).

With respect to the other possible changes delineated in the draft GMPC report, the SSC sees both pros and cons for most of these changes. Implementing multi-year management, for example, would have the undesirable effect of generally increasing the lag between stock assessments and the consequent implementation of management actions. However if properly structured, multi-year management could offer the benefits of an "off-year" for assessment and review during which assessment scientists and the SSC could work on development of assessment methods and computer software that should, over time, lead to a more state-of-the-art, efficient, and productive process. As such, the SSC recommends that if a change is made to multi-year management, the stock assessments and reviews should be done on same cycle as Council management, e.g., if the Council changes to a 2-year cycle (Table 6 of the draft GMPC report), groundfish stock assessment and review should be conducted every other year with the "off-year" dedicated to improving assessment methods and software, organizing special workshops (e.g., marine reserves), bioeconomic studies (e.g., capacity reduction), etc. The Council should also be aware that a transition period is likely to be necessary if a 2-year cycle is adopted. While certain efficiencies will accrue over time leading to more stock assessments per year, it will not be practical in the short term to double the number of assessments done in the "on-years."

Finally, the "science barrier" or "wall of science" (as depicted in Table 6 of the draft GMPC report) has been the basis of the SSC's groundfish STAR process development. In practice, the barrier has worked better in some years than others, but the SSC remains steadfast in supporting the concept of a science barrier in order to ensure that Council decisions have a solid scientific foundation.

PFMC
04/04/01

Exhibit F.6
Situation Summary
April 2001

FUTURE GROUNDFISH MANAGEMENT PROCESS AND SCHEDULE

Situation: The Council will hear from the groundfish advisory bodies and Scientific and Statistical Committee (SSC) on the recommendations of the Ad Hoc Groundfish Management Process Review Committee (GMPC) for improving the annual groundfish management process.

Last fall, the Council appointed a committee to "... evaluate the adequacy of the existing groundfish management process and schedule and develop recommendations to improve the process." The GMPC met January 11-12, 2001 and February 14, 2001. At the March 2001 meeting, the GMPC provided a report to the Council detailing the committee's recommendations. The Council discussed the importance of improving the process both in terms of (1) what is necessary for this year to avoid the strain experienced the last several years, and (2) how the annual management process could be altered in the future (e.g., 2002 and beyond). The Council directed that the GMPC materials be distributed to the groundfish advisors and the SSC for review and comment at the April 2001 Council meeting. The Council also requested that National Marine Fisheries Service and legal counsel provide advice to the committees on the mandated and regulatory deadlines that must be met annually as well as the process for developing the scientific information that is the basis for groundfish management.

After hearing from the advisory bodies, the Council will provide guidance to the GMPC for refining the committee's recommendations and possibly take action to implement changes to facilitate this year's management.

Council Action:

1. Consider changes to the existing groundfish management process.

Reference Materials:

1. Exhibit F.6.a, Supplemental GMPC Report.

Groundfish Fishery Strategic Plan Consistency Analysis

The plan includes, as part of a problem statement in Section II.C. ***Council Process and Effective Public Involvement,*** the sentence "the fundamental trust and credibility relationship between industry, the public, and management is strained, and the process is not serving its intended purpose." Directing advisory bodies to review GMPC options for an altered process would be consistent with the goals in Section II.B. in the plan.

PFMC
03/21/01

Exhibit F.7.b
Supplemental GMT Report
April 2001

GROUNDFISH MANAGEMENT TEAM COMMENTS ON IMPLEMENTING WIDOW REBUILDING TARGETS IN 2002

Although it may be premature to present detailed analysis of management alternatives that will be needed to achieve specific rebuilding targets for widow rockfish, the GMT believes it is important to give the Council and the industry a heads-up on the magnitude of changes that will be needed. It is not too early to begin thinking about how the available widow can best be utilized next year.

The analysis submitted by Dr. Alec MacCall identifies a range of roughly 900-1,000 mt for harvest in 2002. The 2001 total catch OY for widow rockfish 2,300 mt, with roughly 2,200 mt available for the limited-entry fishery. Given this year's assumed bycatch in the at-sea whiting fishery of 250 mt and discard in the shore-based fishery, the landed catch available to the directed groundfish fishery is just over 1,600 mt. If the same set-asides for recreational (40 mt) and at-sea catch were used in conjunction with a 1,000 mt total catch target, the landed catch available for the directed limited-entry fishery would be 570 mt. Through March 17th of 2001, the limited-entry fleet landed 622 mt, with a mid-water limit of 20,000 lb per two months. Through March of 2000, the fleet landed just under 600 mt, with a mid-water limit of 30,000 lb per two months. Even if at-sea bycatch of widow could be cut in half, there would be insufficient fish available to allow for a mid-water target fishery for more than 3 months and accommodate incidental catch during the remainder of the year. Because of the co-occurrence of widow and yellowtail, this situation will also affect our ability to extend a mid-water opportunity for yellowtail rockfish throughout the year.

HABITAT STEERING GROUP COMMENTS ON THE REBUILDING PLAN STATUS REPORT

The December 7, 2000, letter from the National Marine Fisheries Service (NMFS) to the Pacific Council (Exhibit F.7., Attachment 3) suggests components to be included in rebuilding plans to meet fishery management plan (FMP) requirements for overfished species. The suggestions include:

> "A description of the geographic distribution of the stock, particularly noting any habitat needs, and whether that habitat is adversely affected by human activity (fishing or non-fishing)."

The Habitat Steering Group (HSG) would like to endorse this suggested inclusion for all Council rebuilding plans. In June 1999, the HSG requested the Council include habitat information, such as essential fish habitat data, bottom typing, catch and logbook, and ocean condition data into Council rebuilding plans. This was done for the rebuilding plans for lingcod, Pacific ocean perch, and bocaccio, but was inadvertently left out of the canary rockfish and cowcod plans. In our November 2000 report to the Council, the HSG requested this oversight be corrected before the final plans are sent out to NMFS for review.

In addition, a goal for habitat protection was added to the rebuilding plans for canary and cowcod rockfish. The HSG believes that a goal for habitat protection and an objective toward achieving that goal should be included in all of the Council's rebuilding plans.

Further, given the elements of the Council's Strategic Plan for Groundfish which includes marine reserves as a management tool, and the primary objectives adopted by the Council for marine reserves, it would be helpful if rebuilding plans considered whether the use of marine reserves is a feasible tool for that overfished species or not. One of the problems associated with establishing marine reserves for groundfish is that they may work for some species more effectively than for others. Having the recommendation in the rebuilding plan as to whether marine reserves could contribute toward the rebuilding of that particular species (based on its life history parameters and stock distribution) would greatly assist the Council as it proceeds with using marine reserves as a management tool.

Recommendations:

1. We would like to request that habitat information, such as essential fish habitat data, bottom typing, catch and logbook, and ocean condition data be included in the canary, cowcod, darkblotched, and widow rockfish plans and all future Council rebuilding plans.

2. We request that habitat goals and objectives be included in the darkblotched and widow rockfish rebuilding plans and in future Council rebuilding plans as well. Suggested language for a goal and objectives follows:

   Goal - To protect the quantity and quality of habitat necessary to support the stock at healthy levels in the future.

   Objectives -
   - Identify any critical or important habitat areas and implement measures to ensure their protection.
   - Identify fishing and non-fishing activities that are adversely impacting EFH and implement measures to avoid or minimize those impacts.

3. We request that rebuilding plans contain a section which evaluates the feasibility of the use of marine reserves as a rebuilding tool for that overfished species.

4. Finally, the HSG needs adequate time to review habitat portions of rebuilding plans to provide recommendations to the Council before the Council adopts the final plans. Specifically, we request that the adoption of the canary rockfish and cowcod plans be delayed, at a minimum, until June.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON REBUILDING PLAN STATUS REPORT

Terms of Reference for Groundfish Rebuilding Analyses

At the March 2001 meeting, the Scientific and Statistical Committee (SSC) completed the 3rd draft of the Terms of Reference for Groundfish Rebuilding Analyses, which was circulated to members of the Groundfish Management Team, Groundfish Advisory Subpanel, and other Council entities over the last month. The Terms of Reference was also distributed to 19 West Coast groundfish stock analysts for comment. The SSC reviewed all comments that were received and revised the Terms of Reference accordingly (4th draft).

Widow Rockfish

The SSC reviewed the most recent rebuilding analysis for widow rockfish (Exhibit F.7, Attachment 6). The Council should note that this analysis differs from the rebuilding analysis in the 2000 widow stock assessment (Williams et al. 2000) in which recruitment values for the stock projections were erroneously twice what they should have been. As a result, the rebuilding calculations in the current report present a more realistic view of the future.

The SSC would like to highlight the following points about the new analysis:

- T_{max} (time to rebuild under no fishing) is estimated to be 34 years under the default option for stock projection.
- Rebuilding projections are made by incorporating observed catches through the year 2000 and the 2,300 mt optimum yield (OY) for 2001.
- If the Council follows the pattern of selecting a harvest rate which gives a 60% probability of rebuilding to $B_{40\%}$ by T_{max}, then OY_{2002} = 944 mt.
- If rebuilding takes place on schedule, then indications are that the rebuilt stock will be able to sustain an annual harvest of about 3,900 mt. This corresponds to a fishing mortality rate that is less than $F_{50\%}$.

Canary Rockfish

The SSC received the new canary rockfish rebuilding plan in its supplemental briefing materials but, due to its length and late arrival, was unable to provide a comprehensive review at this meeting. However, the rebuilding analysis that is included in the plan is apparently unchanged from that already endorsed by the SSC. The SSC groundfish subcommittee will review the document and will provide Council staff with whatever comments the subcommittee has in the near future.

PFMC
04/04/01

SSC Terms of Reference for Groundfish Rebuilding Analyses, DRAFT #3

Introduction

Amendment 11 to the Groundfish Fishery Management Plan (FMP) established a harvest control rule for determining optimum yields (OY). The 40:10 policy was designed to prevent stocks from falling into an overfished condition. Part of the amendment established a default overfished threshold equal to 25% of the unexploited population size[1] (B_0). By definition, groundfish stocks falling below that level are overfished ($B_F = 0.25 \times B_0$). To prevent stocks from deteriorating to that point, the policy also specifies a precautionary threshold equivalent to 40% of B_0. At stock sizes less than $B_{40\%}$ the policy requires that OY, when expressed as a fraction of the allowable biological catch (ABC), be progressively reduced. Because of this linkage, $B_{40\%}$ has sometimes been interpreted to be a proxy measure of B_{MSY}, i.e., the stock biomass that results when a stock is fished at F_{MSY}. In fact, theoretical results support the view that a robust biomass-based harvesting strategy would be to simply maintain stock size at about 40% of the unfished level (Clark 1991, In review). In the absence of a credible estimate of B_{MSY}, which can be very difficult to estimate (MacCall and Ralston, In review), $B_{40\%}$ is a suitable proxy to use as a rebuilding target.

There are a number of ways that one could proceed in modeling stock rebuilding, but they fundamentally reduce to two basic kinds of approaches. These are: (1) an empirical evaluation of spawner-recruit estimates and (2) fitting spawner-recruit estimates to a theoretical model of stock productivity (e.g., the Beverton-Holt or Ricker curves). To date, however, rebuilding plans have largely been based on analyses of the former type (e.g., bocaccio, lingcod, POP#1, canary rockfish). Similarly, the cowcod rebuilding analysis involved an empirical evaluation of annual estimates of surplus production. Thus far, the only rebuilding analysis that has been based on the fit of spawner-recruit data to a theoretical model is the analysis presented in the last stock assessment of Pacific ocean perch (POP#2; Ianelli *et al*. 2000).

Estimation of B_0

[1] The absolute abundance of the mature portion of a stock is loosely referred to here in a variety of ways, including: population size, stock biomass, stock size, spawning stock size, spawning biomass, spawning output; i.e., the language used in this document is sometimes inconsistent and/or imprecise. However, the best fundamental measure of population abundance to use in establishing a relationship with recruitment is spawning output, defined as the total annual output of eggs (or larvae in the case of live-bearing species). Although spawning biomass is often used as a surrogate measure of spawning output, for a variety of reasons a non-linear relationship often exists between these two quantities (Rothschild and Fogarty 1989; Marshall *et al*. 1998). Spawning output should, therefore, be used to measure the size of the mature stock when possible.

For the purpose of estimating B_0 empirically, analysts have selected a sequence of years, wherein recruitment is believed to be reasonably representative of the natality from an unfished stock. These recruitments, in association with growth, maturity, fecundity, and natural mortality estimates, can then be used to calculate unfished spawning output. In selecting the appropriate temporal sequence of recruitments to use, investigators have generally utilized years in which stock size was relatively large, in recognition of the paradigm that groundfish recruitment is positively related to spawning stock size (Myers and Barrowman 1996). Moreover, due to the temporal history of exploitation in the west coast groundfish fishery (see Williams, In review), this has typically led to a consideration of the early years from an assessment model time series[2]. Thus, for example, in the case of bocaccio the time period within which recruitments were selected was 1970-79 and for canary rockfish it was 1967-77.

An alternative view of the recruitment process is that it depends to a much greater degree on the environment than on adult stock size. For example, the decadal-scale regime shift that occurred in 1977 (Trenberth and Hurrell 1994) is known to have strongly affected ecosystem productivity and function in both the California Current and the northeast Pacific Ocean (Roemmich and McGowan 1995; MacCall 1996; Francis *et al*. 1998; Hare *et al*. 1999). With the warming that ensued, west coast rockfish recruitment was probably affected adversely (Ainley *et al*. 1993; Ralston and Howard 1995). Thus, if recruitment was environmentally forced, it would be more sensible to use the full time series of recruitments from the stock assessment model to estimate B_0. Given that these two explanatory factors are highly confounded, i.e., generally high biomass/favorable conditions prior to 1980 and low biomass/unfavorable conditions thereafter, using all recruitments to estimate B_0 will usually result in a lower reference point than the situation where an abbreviated series taken from early in the time series is utilized.

At this time there is no incontrovertible information with which to distinguish between these two alternatives. If oceanic conditions along the west coast have shifted to a productive cold regime following the La Niña event of 1999, we may soon have observations of recruitment produced during a favorable environmental period from groundfish stocks at low spawning biomass. If the environmental and density-dependent effects are additive, it would then be possible to determine the relative importance of each of the two factors (e.g., Jacobson and MacCall 1995). In the interim, however, it would be prudent to favor calculations of B_0 that are based on an abbreviated time series of recruitments taken from a period when the stock was at a relatively high biomass and to favor the density-dependent hypothesis. Both theoretical and observational considerations support the belief that groundfish recruitment will decline as stock size dwindles (e.g., Myers and Barrowman 1996; Brodziak *et al*. 2001). Still, it would be informative to contrast the density-dependent based reference point with an estimate of B_0 based on the entire time series of recruitments (i.e., the environmental hypothesis). This was, in fact, discussed as a possible alternative in the Panel Report produced by the West Coast Groundfish Harvest Rate Policy Workshop sponsored by the SSC in March, 2000. With both numbers available it would be possible to evaluate the implication of each hypothesis on the calculation of stock reference points. As a refinement, for each of these two methods the actual distribution of B_0 can be approximated by re-sampling recruitments, from which the probability of observing any particular stock biomass can be examined under each hypothesis. This approach was taken in the original bocaccio rebuilding analysis, where it was concluded that the first year biomass was unlikely to have occurred if the entire sequence of recruitments were used to determine B_0.

[2] Individual recruitments estimated from age-structured stock assessment models do not all exhibit the same precision or accuracy. Recruitments estimated at the very beginning of the modeled time period may suffer from mis-specification of the initial condition of the population (e.g., an assumed equilibrium age structure). Likewise, recruitments estimated at the end of the sequence may be imprecise due to partial recruitment of recent year-classes. Thus it may be advisable to trim the beginning and/or ending years classes to address this problem.

It is also possible to estimate B_0 by fitting spawner-recruit models to the full time series of spawner-recruit data (see Ianelli *et al*. 2000; Ianelli, In review). However, this approach is subject to the criticism that stock productivity is constrained to behave in a pre-specified manner according to the particular model chosen and there are different models to choose from, including the Beverton-Holt and Ricker. These two models can produce strongly contrasting management reference points (e.g., B_{msy} and SPR_{msy}) but are seldom distinguishable statistically. Moreover, there are statistical reasons to be suspect of resulting parameter estimates, including time series bias (Walters 1985), the "errors in variables" problem (Walters and Ludwig 1981), and non-homogeneous variance and small sample bias (MacCall and Ralston, In review). Consequently, analyses that derive stock management reference points by estimating a spawner-recruitment relationship shoulder a greater burden of proof. Thus, any such an analysis should attempt a balanced comparison of alternative spawner-recruit models, with explicit consideration of the estimation problems highlighted above. Moreover, in situations where a spawner-recruit meta-analysis is available (e.g., Dorn, In review), those results should be evaluated and considered. Ideally, reference points obtained by fitting a spawner-recruitment model (e.g., B_0, B_{MSY}, and F_{MSY}) should also be compared with values obtained by empirical analysis of the data, similar to that suggested above. Such a comparison would help delineate the overall degree of uncertainty in these quantities.

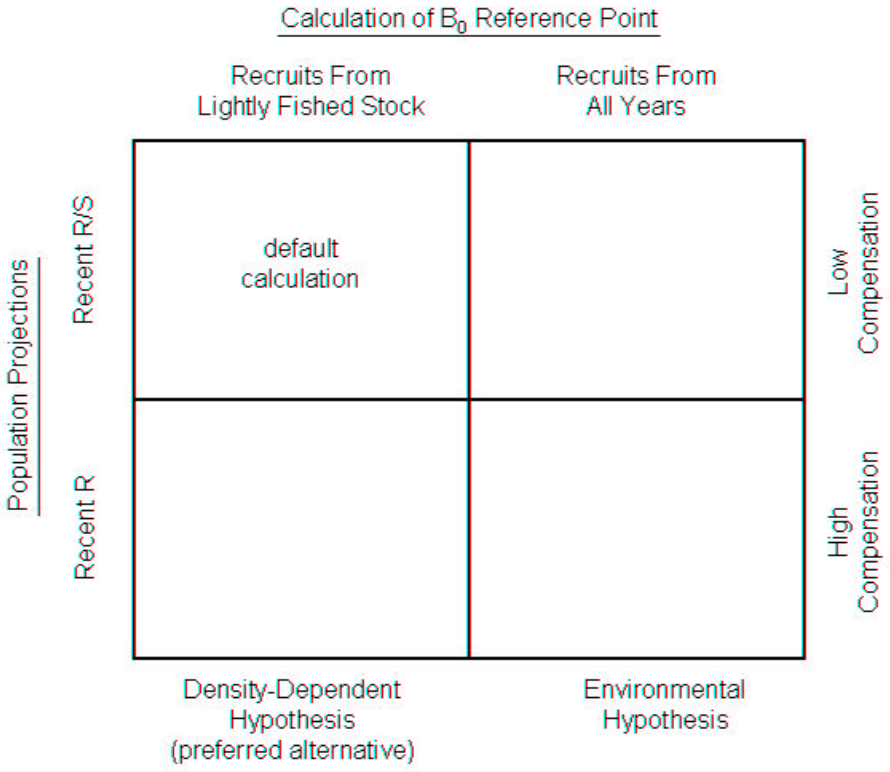
Population Projections During Rebuilding

Given the population initial conditions from the last stock assessment (numbers at age vector) and the rebuilding target ($B_{40\%}$), one can project the population forward once renewal has been specified. For most rebuilding calculations that have been conducted thus far, two different approaches have been taken, both of which utilize contemporary recruitment estimates at the tail end of the time series (i.e., the most recent figures). For bocaccio, canary rockfish, and POP#1, recent recruitment was standardized to the size of the adult population (recruits per spawner = R/S_i), which was then randomly resampled to determine annual reproductive success. Annual R/S_i is then multiplied by S_i to obtain year-specific stochastic estimates of R_i. The population is then projected forward in time, with no fishing mortality, until S_i hits the rebuilding target. The process is repeated many times, until a distribution of the times to rebuild in the absence of fishing is obtained. Note that use of R/S_i as the basis for projecting the population forward ties recruitment values in a directly proportional manner to stock size; if stock size doubles, resulting recruitment will double, all other things being equal. As the stock rebuilds this becomes an increasingly untenable assumption because there is no reduction in reproductive success at very high stock sizes, which is to say there is no compensation (i.e., steepness = 0.20)[3].

Another way of projecting the population forward is to use recent recruitments, rather than recruits per spawner, as was done in the lingcod analysis. This approach, however, errs in the opposite direction. Namely, recruitment does not increase as stock size increases, as would be expected of most rebuilding stocks. This type of calculation effectively implies perfect compensation (spawner-recruit steepness = 1.00). Thus, these two ways of projecting the population forward, by using re-sampled R_i or re-sampled R/S_i, includes a range of alternatives that is likely to encompass the real world.

Because stocks that have declined into an overfished condition are most likely to be unproductive (i.e., low spawner-recruit steepness), in the absence of any other information, rebuilding projections based on re-sampling recruits-per-spawner are generally to be favored over projections based on absolute recruitment. Note that the implied lack of compensation in rebuilding projections using this method is not likely to be a serious liability over the long term because it is based on re-sampling contemporary recruits-per spawner. As progress toward rebuilding is evaluated in the future, the set of R/S_i will be revised based on a new set of recent recruitments obtained from the latest stock assessment.

[3]The "steepness" of a spawner-recruit curve is related to the slope at the origin and is a measure of a stock's productive capacity. It typically is expressed as the proportion of virgin recruitment that remains when a stock has been reduced to $B_{20\%}$.



If the stock actually demonstrates a compensatory response during the course of rebuilding the R/S_i series will tend to a lower mean value. Although projections based on R/S_i represent a standard default way of proceeding, projections that use absolute recruitments (R_i) would be quite useful in establishing the overall uncertainty in the rebuilding analysis by providing an alternative model specification scenario. Moreover, a credible argument that a stock is relatively productive, as evidenced perhaps by observed high recruitment at low spawning biomass, may serve as a basis for favoring projections that utilize recent absolute recruitments (see figure).

Once the median time to rebuild in the absence of fishing is determined (T_0), whether using the R/S_i or the R_i, the total allowable rebuilding time frame is fixed (T_{max}). Namely, if T_0 is less than 10 years then T_{max} = 10 years. On the other hand, if $T_0 \geq 10$ years then $T_{max} = T_0$ + one mean generation time. Mean generation time has been calculated as the mean age of the net maternity function.

Harvest During Rebuilding

Of course it will be the Council's prerogative to establish yields during the rebuilding period, as long as the stock recovers to the target ($B_{40\%} \approx B_{msy}$) within the specified time period (T_{max}). Nonetheless, the simplest rebuilding harvest policy to simulate and implement is a constant harvest rate or fixed F policy. All rebuilding analyses should, therefore, calculate the maximum fixed fishing mortality rate during the rebuilding time period that will achieve the target biomass, with a 0.50 probability of success ($F_{0.50}$). In addition, calculations representing a profile of different fixed F values that are incrementally less than $F_{0.50}$ (e.g., $F_{0.60}$, $F_{0.70}$, and $F_{0.80}$) are needed for the Council to implement a precautionary reduction in the $F_{0.50}$ value to increase the probability of rebuilding success. Note that selecting a probability greater than 0.50 for successful rebuilding within T_{max} is equivalent to electing to rebuild sooner than T_{max} with probability equal to 0.50. In addition, based on its interpretation of

Amendment 12 to the groundfish FMP, the National Marine Fisheries Service requires the expected time course of yield during recovery as a formal part of all rebuilding calculations.

Many other harvest policies could be implemented by the Council, based on whatever circumstances may mitigate against a constant harvest rate approach. For example, the canary rockfish rebuilding plan calls for a constant fixed yield over the entire period of rebuilding. Thus, as the stock rebuilds, the exploitation rate must decline, which makes bycatch avoidance a serious concern. For this reason the SSC recommends that the Council generally favor constant harvest rate policies over constant catch policies for all groundfish rebuilding plans. This would alleviate the problem of accelerating bycatch producing accelerated discard, an undesirable attribute of constant catch policies. Similarly, the Council may wish to implement some other form of variable rate harvest policy, e.g., a 40:10 adjustment similar to the default policy currently in use. Consequently, researchers conducting rebuilding analyses should be prepared to respond to requests by the Council for stock-specific projections on an individual case-by-case basis.

Documentation

It is important for analysts to document their work so that any rebuilding analysis can be repeated by an independent investigator at some point in the future. Therefore, all stock assessments and rebuilding analyses should include tables containing specific data elements that are needed to adequately document the analysis. Namely, information is needed on: (1) the time course of population spawning output and recruitment, (2) biological data on life history characteristics, and (3) initial values for projecting the stock into the future under exploitation. Therefore, two tables should include:

Table 1. Stock Population Trajectory

1. Year
2. Summary/Exploitable Biomass
3. Spawning Output
4. Recruits
5. Catch
6. Landings
7. Total Exploitation Rate

Table 2. Age-specific Population Characteristics.

1. Age
2. Natural mortality rate (_ and _)
3. Individual weight (_ and _)
4. Maturity (_ only)
5. Fecundity (_ only)
6. Terminal year (or other) composite selectivity (_ and _)
7. Population numbers in terminal year (_ and _)

In addition, all linkages with the most recent stock assessment document should be clearly delineated. This is important because assessments often present multiple scenarios that usually have important implications with respect to stock rebuilding. One scenario may be preferred by the assessment authors, while another may preferred by the STAR Panel. Clear specification of the exact assessment scenario used as the basis for rebuilding analysis is essential. Further, all post-assessment analyses needed to produce the inputs for rebuilding analyses must be fully documented, e.g., the choice of selectivity estimates used for projections that are based on some composite of historical selectivities from the assessment.

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

DEC 7 2000

Mr. James Lone
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, OR 97201

DEC 0 8 2000

Dear Jim:

I am writing to inform you that I have approved Amendment 12 to the Pacific Coast Groundfish Fishery Management Plan (FMP). As you know Amendment 12 provides a process by which the Council will develop overfished species rebuilding plans and take action on those plans through annual specifications and management measures and other regulatory processes. Amendment 12 also announces that the Pacific Coast groundfish resource is fully utilized by domestic harvesting and processing interests. The final rule to implement Amendment 12 will be published shortly in the Federal Register, and will remove references to foreign fishing from Federal groundfish regulations.

While considering approval or disapproval for Amendment 12, I also re-evaluated the overfished species rebuilding plans for lingcod, bocaccio, and Pacific ocean perch (POP), which I had approved on September 5, 2000. Those plans do not meet the guidelines and requirements of Amendment 12, so in approving Amendment 12, I am revoking my prior approval for those three plans. For the year 2001, the fisheries will continue to operate under the rebuilding measures described in the initial rebuilding plans, to be implemented through the 2001 annual specifications. This letter provides notice that the Council must revise the rebuilding plans for lingcod, bocaccio, and POP so that they conform with Amendment 12, and by January 1, 2002, submit those revised plans for NMFS review.

Through its work on Amendment 12, the Council charted a path for its rebuilding plans that will ensure that those plans conform with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), yet adapt to the complexity of fisheries management for an 82-species FMP. Initial rebuilding plans for lingcod, bocaccio, and POP were submitted in March 2000, in accordance with the Magnuson-Stevens Act schedule, but before the final adoption of Amendment 12. Now that Amendment 12 has been approved and the Council has a more clear process for rebuilding plan development and contents, the Council needs to close the circle and bring its first three rebuilding plans into conformance with Amendment 12. The remainder of this letter provides a description of the

improvements needed to meet the requirements of Amendment 12, and suggestions for improving the process of rebuilding plan development.

In evaluating rebuilding plans that the Council submits in the future, I will be guided by Section 5.3.6.1 of the FMP, "Goals and Objectives of Rebuilding Plans," and by Section 5.2.6.2, "Contents of Rebuilding Plans," which clearly lists the needed contents of rebuilding plans. These guidelines will ensure that rebuilding plans are thorough in their discussion of biological and socio-economic issues associated with each rebuilding plan, and that the Council has a clear road map for its future harvest and allocation policies.

As with many Council efforts, one of the challenges of writing rebuilding plans will be to present complex scientific information in a way that is clear and readable for the public. However, I expect that providing that information in a consistent format and plain language will benefit not only the public, but Council members facing decisions on rebuilding measures as well. In meeting the FMP requirements for overfished species rebuilding plans, I suggest that you include the following information in each rebuilding plan:

- A description of the status of the "overfished" stock showing how it meets the definition of an "overfished" species, particularly including estimates of current abundance. The target biomass for a rebuilt stock must be identified.

- A description of which fisheries sectors and gear types catch the overfished stock, including a description of how much of the total catch (landed catch + discards) is attributed to each fishery sector or gear type.

- A description of the geographic distribution of the stock, particularly noting any habitat needs, and whether that habitat is adversely affected by human activity (fishing or non-fishing).

- A description of environmental or other life history factors that greatly influence the development of a rebuilding plan.

- A discussion of the regulatory changes that could be necessary and most effective in rebuilding the particular overfished stock and, if applicable, how those changes might integrate with rebuilding measures for other overfished stocks.

In addition to the above discussions and descriptions, each of the alternative rebuilding schedules that the Council considers during rebuilding plan development must include:

- Estimated time to rebuild to Fmsy under proposed harvest/retention levels;

- Harvest policy for that particular rebuilding schedule, (i.e. whether it would be a constant catch level, a constant catch rate based on biomass size, a variable rate based on rebuilding success, etc.);
- Trajectories of expected biomass abundance over the rebuilding period;
- Probability of reaching the target biomass within the rebuilding period.

The rebuilding scenario adopted by the Council must include a clear description of exactly what future actions and commitments were adopted by the Council and why that scenario was adopted over alternative scenarios. Providing this initial clarity will minimize confusion for the Council and the public as the Council returns each year to the rebuilding plans for guidance on regulatory changes. The rebuilding plans must include a reasonable range of alternatives and be accompanied by the appropriate National Environmental Policy Act document. Rebuilding plans must be accompanied by the management recommendations needed to initially implement the plans, such as optimum yields for the upcoming year, annual management measures, or other necessary regulations.

In addition to clarifying rebuilding plan content requirements, I would also like to make a "strawman" proposal for the upcoming Council family discussions on the groundfish management process. The January 2001 meetings on implementing the Strategic Plan and on the groundfish management process, as well as the March 2001 Scientific and Statistical Committee meetings will be considering ways to better integrate the rebuilding plan process into the stock assessment process and the annual management process. The following schedule may bring these processes together to provide the Council with more time to develop rebuilding measures and to consider needed allocations or other regulatory changes and to provide more time for public input:

- Winter months - stock assessments begin. As in the past, the Council would prioritize "species of concern" for new stock assessments.

- May-July - Stock Assessment Review (STAR) panel reviews stock assessments. This is usually the first indication that a stock may be overfished.

- September - Stock assessment teams (STATs) working on assessment for species that are suspected to be overfished provide draft rebuilding scenarios for the Council and the public at the September Council (the biological portions of the plan).

- November - Council adopts initial rebuilding measures as part of the annual specifications package (as we did for widow and

darkblotched rockfish in 2001). Council finalizes information on whether assessed species stock assessment indicates that species is overfished, and post-meeting, begins development of socio-economic portions of the plan.

- January (Year 2) - NMFS declares assessed species as overfished.

- April - Alternative rebuilding scenarios for overfished species proposed at Council meeting. Council determines the suite of regulatory changes that might be needed to implement the rebuilding scenarios (allocation, closed areas, etc.)

- June - Council considers regulatory changes to implement rebuilding plans, particularly measures needed outside of annual specifications and management measures process. Draft rebuilding plans are made available to the public.

- September - Council adopts final rebuilding plan, finalizes any changes to regulations needed to implement the plan. Draft specifications and management measures for Year 3 incorporate rebuilding measures from the finalized rebuilding plan

- November-January - Council finalizes annual specifications and management measures. NMFS drafts regulations to implement rebuilding plans. Council submits plans to NMFS. NMFS sends rebuilding plans out for NMFS public review process.

By proposing this schedule, I am hoping that the Council will have more time and opportunity to consider alternative regulatory schemes that will accomplish rebuilding and minimize the negative effects of rebuilding measures on fishing communities. The Council may wish to discuss this schedule at its April meeting, setting it out for comments from the public and from the Council's advisory committees.

I am encouraged by the commitment that the Council has shown to rebuild overfished species. This is certainly a difficult time for Pacific Coast groundfish fisheries. Through its rebuilding efforts and through the Strategic Plan, the Council has shown that it is meeting the difficulties of overfished species management head-on. NMFS looks forward to working with the Council on future rebuilding programs.

Sincerely,

Donna Darm
Acting Regional Administrator

Rebuilding Analysis for Widow Rockfish

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Introduction

In 1998, the PFMC adopted Amendment 11 of the Groundfish Management Plan, which established a minimum stock size threshold of 25% of unfished biomass. Based on the most recent abundance estimates (Williams et al. 2000), widow rockfish has been declared formally to be overfished, thereby requiring development of a rebuilding plan. This rebuilding analysis provides information needed to develop the rebuilding plan for widow rockfish, and is in accord with the SSC Terms of Reference for Groundfish Rebuilding Plans.

The 2000 widow rockfish stock assessment included rebuilding projections, but those calculations contained an error and that analysis should be discarded. This rebuilding analysis supersedes the rebuilding analysis in the stock assessment document.

The stock has declined since fishing began in the late 1970's (Table 1). The relative decline in overall biomass has has been somewhat less than that for spawning output (the best measure of stock reproductive potential). Older, larger fish have a higher fecundity per body weight than do young fish. Widow rockfish bear their offspring live as larvae, and spawning output is measured in million fertilized eggs, at a stage prior to parturition of larvae.

Table 1. Current status of widow rockfish relative to pre-fishery years.

	Age 3+ Biomass (mt)	Spawning Output (million eggs)
Avg. 1968-79	197998	33490
1999	60551	8223
percentage	30.6%	24.6%

Data and Parameters

Stock and recruitment histories are taken from the assessment by Williams et al. (2000). Life history parameters are a simplification of the two-area, two- sex model, time-varying selectivity model used in the assessment. The simplified model is tuned to the most recent three years of the assessment (E. Williams, Pers. Comm.), and achieves a close match to the characteristics of the full model (Appendix 1).

Management Reference Points

Bmsy: The rebuilding target is the spawning abundance level that produces MSY. This cannot be determined easily, but experience in other fisheries has shown that B_{MSY} is often near 40% of the average initial unfished spawning abundance (B_0), and this value ($B_{40\%}$) is used as a proxy for B_{MSY} (see the SSC's Terms of Reference). Spawning abundance is measured in units of spawning output. Values of B_0 are estimated by dividing mean recruitment by the spawning output per recruit at F=0 (1.057 million eggs of spawning output per thousand recruits). Two estimates of B_0 were developed, based on use of pre-fishery recruitments (1965 to 1979 yearclasses) and all recruitments (Table 2). There is a strong statistical difference between pre-fishery (pre-1982) recruitments and post-fishing-down (post-1982) recruitments, as shown by a t-test (one-tailed, P=0.002). This difference is presumably due to the decline in spawning abundance, but also may be associated with a less favorable climate in the later period.

Table 2. Calculation of B_0 and rebuilding targets of spawning output (million eggs).

Source of recruitments	Pre-exploitation (1965-79)	All years
Mean recruitment	39615	31570
Estimated B_0	37480	29870
Rebuilding target	14992*	11948

* default target

Simulation of an unfished 1000-year history by re-sampling recruitments from the respective data sets provides frequency distributions of initial abundance that can be compared with the early abundances estimated in the stock assessment (Figure 1). The range of pre-exploitation biomasses given by the stock assessment is consistent with either frequency distribution, but the values from the assessment are somewhat low given the estimated sizes of pre-exploitation recruitments. Several explanations can be considered. Foreign fishing for whiting during the 1960s and 1970s probably had an incidental take (perhaps several hundred tons annually) of widow rockfish, so population biomasses estimated for the early (pre-exploitation) years of the assessment may not truly reflect pre-exploitation conditions. Low frequency climate variability could also have generated somewhat lower recruitment levels prior to 1965. Also, the initial conditions and earliest years of recruitments in the assessment model are prone to model mis-specification and may be less reliable than values estimated for later years.

The relationship between current stock status and the rebuilding target is shown relative to the historical stock-recruitment relationship in Figure 2. The rebuilding target of 14992 is similar to the stock status at the end of the 1980's, and tended to produce somewhat higher recruitments than have been seen recently.

Mean generation time: If the stock cannot be rebuilt in ten years, then the maximum time allowed for rebuilding is the length of time required to rebuild at F=0 plus one generation time. Mean generation time can be estimated from the net maternity function (product of survivorship and fecundity at age, Figure 3), and for widow rockfish is estimated to be 14.92 years, which is rounded to an integer value of 15 years.

Simulation Model

The simulation model tracks abundances at age, with an accumulator at age 20+. Values of weights at age, selectivity and fecundity are given in Appendix 1. Population simulations begin with the 1999 age composition estimated by the stock assessment (age 3 and older). Recruitments for birth years 1997 and 1998 are treated differently from later years. The 1997 value (recruited at age 3 in 2000) is based on the average value of the source data (recruits or recruits-per-spawning output). The 1998 value corresponds to an El Niño year, and is treated as equivalent to the corresponding value from 1992, another recent El Niño year. Subsequent recruitments or recruits per spawning output values are generated in two alternative ways. In the "R" simulations, recruitment values themselves are drawn randomly from those estimated for the spawning years 1983 to 1996. In the "R/S" method, recruitments are generated by a random draw of one of the historical values of R/S from the same years, which is multiplied by current spawning output (S) to obtain the following year's recruitment. One hundred simulations were conducted for each management scenario, using the same sets of random numbers across alternative model formulations in order to maximize comparability.

Tmax (Time to Rebuild at F=0): Four sets of simulations were run following the logical classification in the SSC's Terms of Reference, corresponding to the two alternative $B_{40\%}$ rebuilding targets in Table 2 and use of the "R" vs. "R/S" simulation approaches. Results are shown in Figure 4, and are summarized in Table 3.

Table 3. Median rebuilding times for the case of F=0 (* indicates default case).

	$B_{40\%}$ =14992 (early years)	$B_{40\%}$ =11948 (all years)
Recent R/S	median T = 19yr*	median T = 11yr
Recent R	median T = 10yr	median T = 6yr

The "S/R" simulations have much longer rebuilding times than the "R" simulations. This is due to the effect of the currently low biomass, which results in much smaller recruitments in the initial years of rebuilding. The recent history of R/S has been stable, whereas recruitments themselves have been declining (Figure 5). The tendency for R to decline in more recent years (and at lower spawning abundances) is reason to reject the right-hand and lower cases in Table 3. Based on a median time of 19 years to rebuild, the maximum allowable median time to rebuild (Tmax) is 34 years.

Rebuilding Projections

Rebuilding projections used $B_{40\%}$ =14992 as the rebuilding target, and the "R/S" simulation method. Three constant fishing rate policies are presented, corresponding to 50%, 60% and 70% probabilities of reaching the rebuilding target in 34 years (Figure 6, Table 4). Increasing the rebuilding probability is equivalent to setting a slightly earlier median time to rebuild. The envelope of rebuilding trajectories is shown in Figure 7 for spawning output, and in Figure 8 for optimum yields. One half of the results fall between the 25 and 75 percentile lines, and 80 percent of the results fall between the 10 and 90 percentile lines. The highest fishing rate allowable has a 50% probability of success within the time limit, and corresponds to F81% (i.e., the spawning potential ratio is 81% of the unfished level).

Table 4. Alternative constant rate rebuilding policies.

Fishing rate	0.0319	0.0287	0.0267	0
OY_{2002} (mt)	1047	944	879	0
Prob. rebuild by Tmax (34yr)	50%	60%	70%	100%
Median time to rebuild (yr)	34	33	31	19

Relationship to Rebuilding Analysis by Williams et al.

The rebuilding analysis in Williams et al. (2000) erroneously doubled the recruitment values obtained in their stock assessment. This can be seen by comparing the recruitment levels in the rebuilding forecasts (their Table 20) with recent historical recruitments (their Table 18). Other differences between the previous analysis and this analysis are explored in Table 5.

Table 5. Effects of altering the present model to incorporate specifications used in the analysis by Williams et al. (2000).

	Median rebuilding time (F=0)
Base run (this analysis)	19
Specification from Williams et al.	
Double recruitment	8
Target = 13960	16
C = 0 in 2000 and 2001	16
Use average R in 1998	18

Long-term outlook

The stock-recruitment data used in this analysis indicate that the rebuilt resource will be able to sustain an annual harvest of about 3900mt at a harvest rate near F60%. The stock and recruitment history of widow rockfish indicate that the resource is incapable of sustaining F50% at recent biomass levels and under recent environmental conditions. The resource would decline further at that fishing rate. It is widely suspected that the weak recruitments during the 1990's have been associated with unusually warm environmental conditions and low plankton abundances. Present understanding of environmental influences is severely limited, and the reliability of climate forecasts for the next few decades is insufficient to allow an environmentally-tuned rebuilding plan. However, if future decades are more favorable than the past decade for widow rockfish reproduction, higher productivity will result both in an earlier transition to normal harvest levels, and in higher sustainable yields once the stock is rebuilt.

References

Williams, E. H., A. D. MacCall, S. V. Ralston, and D. E. Pearson. 2000. Status of the widow rockfish resource in Y2K. In: Appendix to Status of the Pacific coast groundfish fishery through 2000 and recommended acceptable biological catches for 2001. Stock assessment and fishery evaluation. Pacific Fishery Management Council. 2130 SW Fifth Avenue, Suite 224, Portland, OR, 97201.

Appendix: Data used in rebuilding analysis

The following information is based on the assessment by Williams et al. (2000)

Age	Fecundity	Avg. Wt.	Selectivity	N(1999)
	million eggs	kg.		thousand
1	0		0	
2	0		0	
3	5.72E-05	0.281983	0.000592	5917
4	0.000192	0.396261	0.00566	15177
5	0.014959	0.515881	0.054496	12493
6	0.064162	0.634955	0.361235	13726
7	0.161188	0.749169	0.84571	4123
8	0.276595	0.856006	0.998124	11155
9	0.368665	0.953966	0.963223	4544
10	0.441151	1.042556	0.903957	3339
11	0.508537	1.121786	0.846069	3292
12	0.566615	1.192006	0.79177	2669
13	0.618765	1.25388	0.740729	1085
14	0.665202	1.308095	0.692332	1350
15	0.706389	1.355401	0.645889	1034
16	0.742759	1.396557	0.600647	282
17	0.774749	1.432296	0.555768	342
18	0.802838	1.463212	0.510347	773
19	0.827409	1.489972	0.463542	478
20+	0.883903	1.550257	0.414862	1870

M = 0.15/yr
SPR(F=0) = 1.057million eggs per thousand recruits

Year	Rect(age3)	SpOutput
	thousand	million eggs
1968	29603	30662
1969	39748	30664
1970	37990	30668
1971	47532	30716
1972	39929	30910
1973	112579	31371
1974	42955	32096
1975	20667	33298
1976	11070	35254
1977	23596	37731
1978	39407	39189
1979	2219	39316
1980	73666	38032
1981	48325	32253
1982	24940	25329
1983	47876	19457
1984	62307	17592
1985	21667	17055
1986	13094	16665
1987	32540	16481
1988	28129	15782
1989	16110	14978
1990	29622	13019
1991	25813	11553
1992	18452	11079
1993	18265	10632
1994	31413	9860
1995	8327	9533
1996	21956	8985
1997	16901	8664
1998	17637	8261
1999	5917	8223

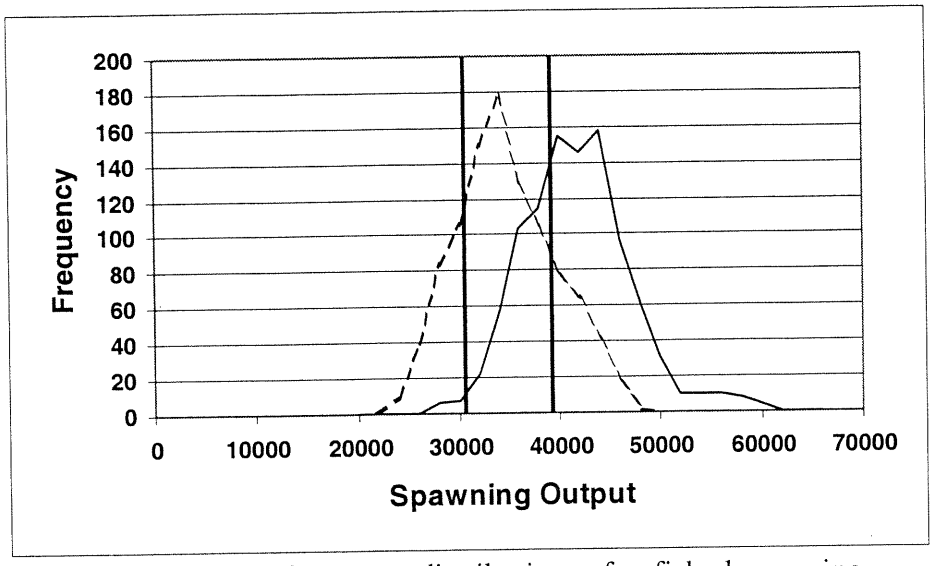


Figure 1. Simulated frequency distributions of unfished spawning output based on pre-fishery recruitments (solid line) and all recruitments (dashed line). Vertical lines represent the range of pre-fishery spawning abundances estimated by the stock assessment.

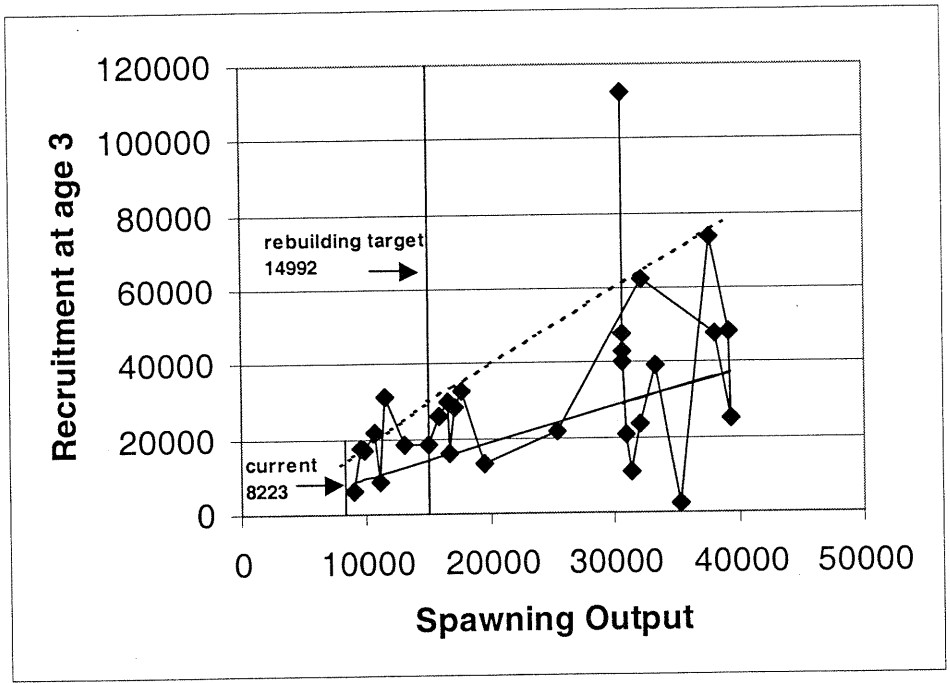


Figure 2. Historical stock-recruitment relationship for widow rockfish, showing relationship of $B_{40\%}$ rebuilding target to current spawning abundance (vertical lines). Solid diagonal line is replacement level of recruitment at F=0; dashed diagonal line is replacement level of recruitment under F50% policy with 40-10 adjustment.

Figure 3. Net maternity function for widow rockfish.

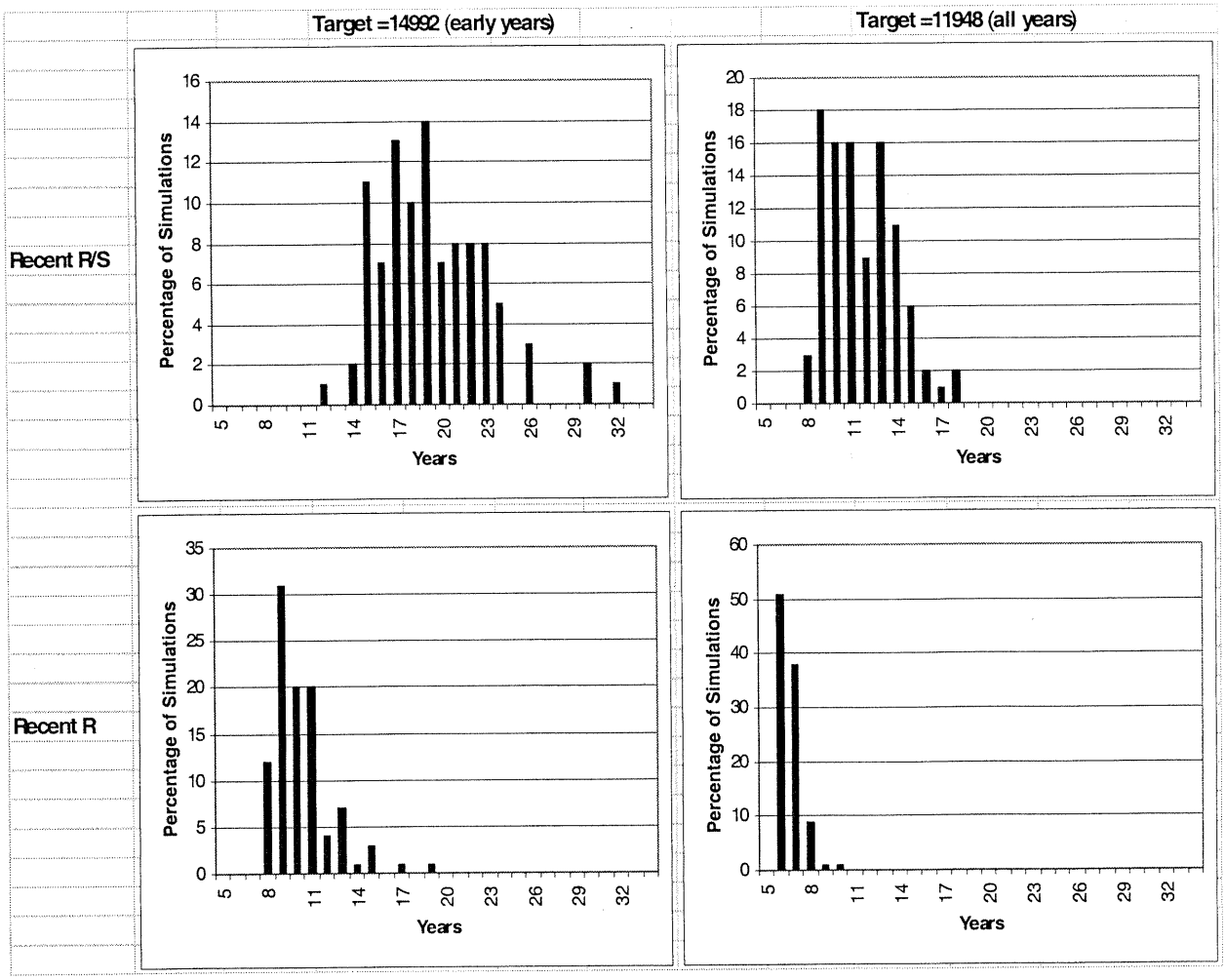


Figure 4. Probability distribution of times to reach rebuilding target in the absence of fishing. "Early years" refer to pre-exploitation recruitments, 1965 to 1979 yearclasses.

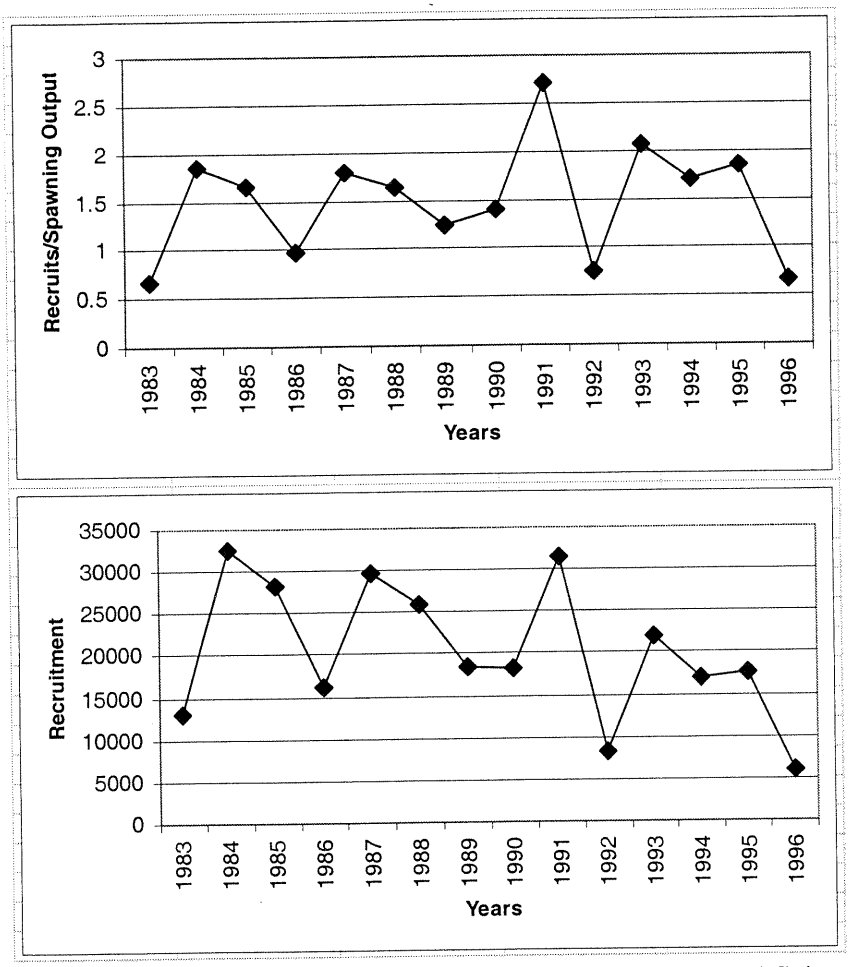


Figure 5. Recent trends in recruitment rates of widow rockfish.

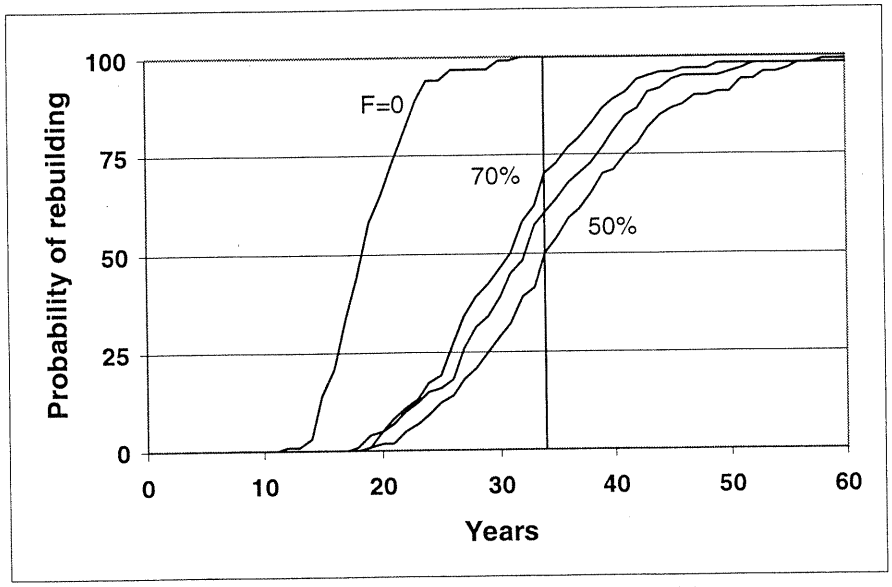


Figure 6. Probability of rebuilding at alternative fishing rates. Vertical line is maximum median rebuilding time, Tmax.

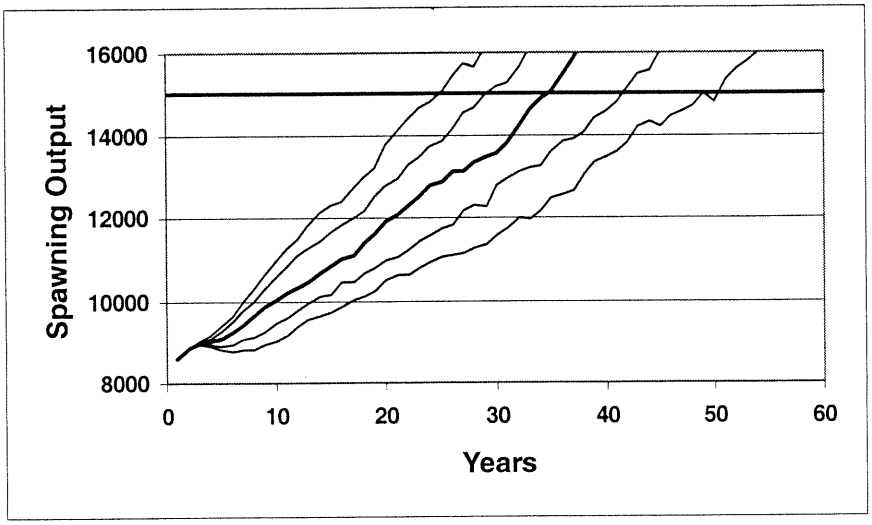


Figure 7. Envelope of rebuilding trajectories for constant fishing rate policy with 50% probability of rebuilding in 34yr. Lines represent 10, 25, 50 (median, dark line), 75 and 90 pecentiles of spawning output at given time.

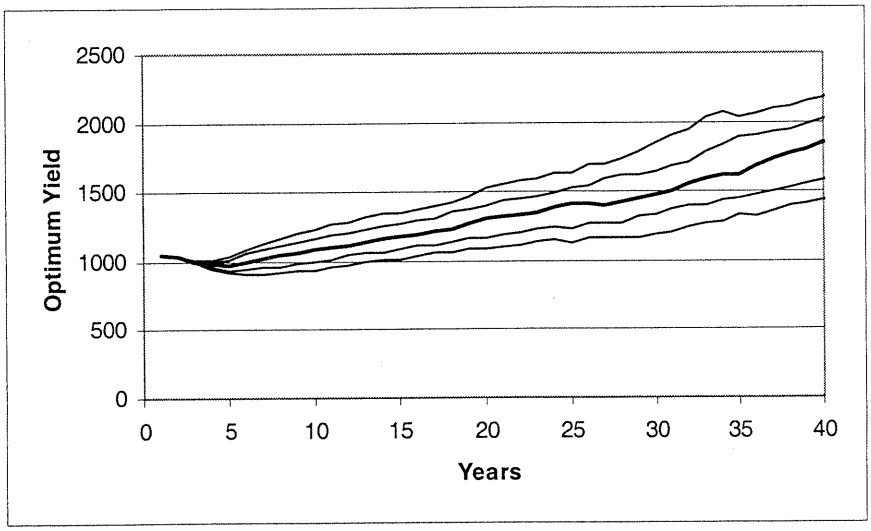


Figure 8. Envelope of yields corresponding to the fishing rate and trajectories in Figure 7.

REBUILDING PLAN STATUS REPORT

Situation: This agenda item deals with terms of reference for rebuilding analyses and schedules for all seven rebuilding plans. Exhibit F.7, Attachment 1, provides a draft schedule for completion of the tasks.

In March 2001, the groundfish subcommittee of the Scientific and Statistical Committee (SSC) prepared draft "Terms of Reference for Groundfish Rebuilding Analyses." (The rebuilding analysis is the technical evaluation that provides the length of the rebuilding period, biomass growth projections, harvest projections, and other information). The terms of reference identify what information should be included, the analytical methods to be used, and provide other directions to guide assessment scientists in preparing the rebuilding analyses. Dr. Steve Ralston presented a summary and explanation of the draft at the March 2001 Council meeting. The SSC approved a second draft (Exhibit F.7, Attachment 2) for circulation and review by the Groundfish Management Team (GMT), Groundfish Advisory Subpanel (GAP), and other Council entities. The SSC has also solicited comments from members of the West Coast groundfish stock assessment community. Based on comments received, the SSC intends to provide a final set of guidelines at the April meeting.

On December 8, 2000, National Marine Fisheries Service (NMFS) approved Amendment 12 (rebuilding plans) to the groundfish fishery management plan (Exhibit F.7, Attachment 3: letter from Ms. Donna Darm to Chair Jim Lone). In her letter to Jim Lone, Acting Regional Director Donna Darm revoked her prior approval of the Council's rebuilding plans for lingcod, bocaccio, and Pacific Ocean perch (POP), stating those plans do not meet the guidelines and requirements of Amendment 12. New guidelines and requirements were detailed in the December 8 letter. When Council staff reviewed the letter, it was apparent the essentially completed rebuilding plans for canary rockfish and cowcod suffered some of the same deficiencies as the revoked plans for lingcod, bocaccio, and POP. To avoid certain disapproval, the Council informed NMFS it would revise the canary and cowcod plans before submitting them, even though the statutory deadline would not be met. After consulting with the regional office, it was decided the revised canary and cowcod plans should be completed first, followed by the three revoked plans. The revised canary rockfish plan was assigned highest priority and will serve as the model for revisions to the other plans as well as future rebuilding plans. The revised canary rockfish and cowcod rebuilding plans will be available in supplemental material provided at the Council meeting.

The first draft rebuilding analysis for widow rockfish, which was declared overfished in January 2001, was presented to the SSC at its March meeting. This is the first analysis prepared specifically in accordance with the draft terms of reference. The second draft of the analysis (Exhibit F.7, Attachment 4) was circulated to GMT and GAP members for review and comment. The Council will have its first review of this document at the April meeting, with final adoption of the rebuilding analysis scheduled for June 2001. The Council will begin developing a widow rockfish rebuilding strategy not later than the June meeting so it can be incorporated into the rebuilding plan. Initial review of the rebuilding plan is scheduled for the September 2001 meeting, with final adoption in November.

An initial rebuilding analysis for the darkblotched rockfish stock is also being prepared and may be available for distribution at the April meeting. As with widow rockfish, a rebuilding plan must be prepared and approved not later than the November 2001 Council meeting. In addition, the rebuilding analysis for Pacific Ocean perch will be redrafted in response to concerns expressed by the GMT and SSC. The revised analysis will ultimately be incorporated into the revised rebuilding plan.

Council Action:

1. **Adopt 2001 schedule for preparation and adoption of rebuilding plans**.
2. **Adopt Terms of Reference for Groundfish Rebuilding Analyses.**
3. **Review and approve revised canary rockfish and cowcod rebuilding plans.**
4. **Review preliminary rebuilding analyses for widow and darkblotched rockfish (if available); initial consideration of "sideboards" for 2002 management.**
5. **Review revised POP rebuilding analysis (if available); direction to drafters.**

Reference Materials:

1. Exhibit F.7, Attachment 1, Draft Schedule for Completion of Rebuilding Plans and Associated Support Documents.
2. Exhibit F.7, Attachment 2, Terms of Reference for Groundfish Rebuilding Analyses.
3. Exhibit F.7, Attachment 3, letter of December 7, 2000 from Ms. Donna Darm to Chair Jim Lone.
4. Exhibit F.7, Supplemental Attachment 4, revised canary rockfish rebuilding plan.
5. Exhibit F.7, Supplemental Attachment 5, revised cowcod rebuilding plan.
6. Exhibit F.7, Attachment 6, draft rebuilding analysis for widow rockfish.

Groundfish Fishery Strategic Plan Consistency Analysis

Council advisory bodies are encouraged to comment on whether the many important matters within this agenda item are consistent with the Groundfish Strategic Plan.

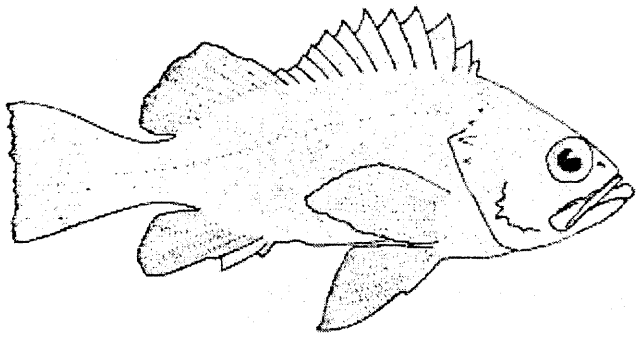
The "Terms of Reference for Groundfish Rebuilding Analyses" document appears consistent with the plan's Goal Statement for Science, Data Collection, Monitoring, and Analysis. The canary rockfish and cowcod rebuilding plan elements appear to be consistent with relevant plan recommendation for fishery management and harvest policies, but neutral with regard to capacity reduction. While the cowcod rebuilding plan appears to implement at least components of the marine reserves goal, it was not adopted as a marine reserve by the strategic process described in the plan and appears to lack consistency with the marine reserves goal for measurable effects and the recommendation for evaluation mechanisms. The essential management measure in the cowcod rebuilding plan is a species closure throughout the primary ecological range.

The Council will need to consider strategic plan consistency when providing guidance and direction on initial fishery management options for widow and darkblotched rockfish and revised POP measures.

PFMC
03/21/01

Pacific Fishery Management Council

Initial Rebuilding Plan
for
West Coast Canary Rockfish, *Sebastes pinniger*



Rebuilding Plan and Environmental Assessment
of the Anticipated Biological, Social,
and Economic Impacts of Rebuilding Plan
for West Coast Canary Rockfish

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List of Preparers

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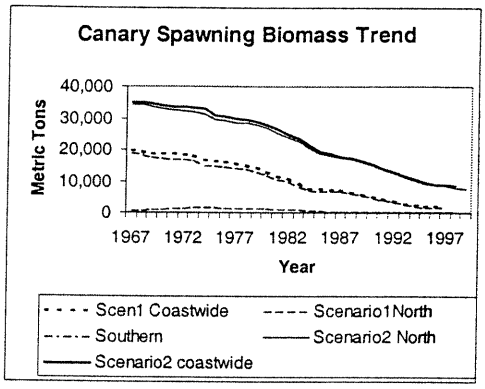
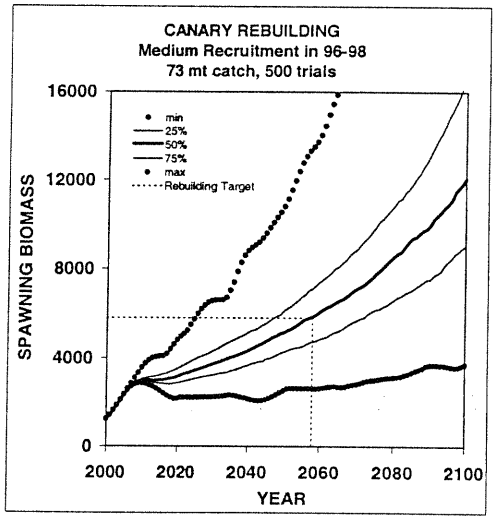
TABLE OF CONTENTS

EXECUTIVE SUMMARY

Two assessments of the canary rockfish (*Sebastes pinninger*) stock off the west coast (Washington, Oregon and California) were prepared in 1999. These assessments concluded both the northern and southern portions of the stock were below the overfished threshold established for this stock. Consequently, in November 1999, the Council recommended management measures to reduce fishing on this stock in order to initiate rebuilding. In January 2000, the National Marine Fisheries Service (NMFS) informed the Council that this stock was declared "overfished" pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). When a stock is declared to be overfished, a rebuilding plan must be developed within one year. Rebuilding plans must be consistent with the Magnuson-Stevens Act, including the National Standards, the National Environmental Policy Act (NEPA), and other relevant federal laws.



The current spawning biomass is estimated to have fallen to between about 7% and 20% of the unfished abundance. If all fishing were immediately stopped, including all bycatch in fisheries for other species, the Council believes the stock would recover to its maximum sustainable yield stock size in 24 to 119 years. These estimates are based on a range of current biomass estimates and a range of future reproductive success. The optimistic estimate of 24 years is based on the assumption that either recruitment will immediately increase to an intermediate level (782 thousand fish), or that recruits per spawner (R/S) values over the rebuilding period will increase and remain similar to those in 1996 to 1998. The Council believes it is more realistic to expect lower recruitment levels than those in the recent past. For example, if R/S levels over the rebuilding period are similar to the average levels observed over a longer historical period, rebuilding time frames of 74 to 119 years are likely. The Council chose a median recruitment scenario between the high and low R/S scenarios. Under the median recruitment scenario, the northern stock would be expected to rebuild from its current level to the target level in 41 years with no fishing.



Trajectory of spawning biomass expected.

The mean generation time for canary rockfish is estimated to be 17 years. The National Standard Guidelines authorize establishment of rebuilding periods up to the minimum time (i.e., zero fishing) plus one mean generation. Thus, the maximum allowable time to rebuild is 58 years. In 52% of the simulations in the rebuilding analysis, a constant catch of 73 mt per year resulted in rebuilding of the northern portion of the stock in 57 years. The analysts advised the Council the southern portion of the stock could support an additional 20 mt harvest each year. The Council endorsed this analysis, and this plan specifies the rebuilding period for canary rockfish to be 57 years, with a constant annual catch of 93 mt (which is the sum of 73 mt for the northern portion of the stock and 20 mt for the southern portion). The Council intends to reconsider this plan as soon as information on recent recruitment success becomes available from the next NMFS groundfish survey, probably in 2002. If recent recruitment is less than assumed in the median recruitment scenario, the annual catch limit will be reduced.

The assessment for the northern portion of the stock indicates it declined to the overfished threshold about 1987 and has declined since then. The southern portion of the stock was overfished prior to 1965. This overfished condition appears to have resulted from a combination of poor recruitment and fishing in excess of sustainable rates. Large historical catches in both areas essentially "mined" the biomass that had accumulated over a long period of time. That large initial biomass was built during a period of recruitment that was substantially greater than the levels that occurred since 1965. Even with this high pre-historical

recruitment, the southern portion of the stock was below the overfished threshold by 1965. In the northern area, the decline was slower. In the southern area, the stock continued to produce moderate levels of recruitment in spite of low spawning biomass and high fishing mortality rates. In the northern area, recruitment continued to decline through 1995.

The southern portion appears to be resilient and is expected to increase rapidly under reduced fishing pressure. In contrast, reproduction in the northern area is extremely low and barely above the level that would allow the stock to recover even without fishing.

The Council considered a variety of issues relating to the rebuilding program, and also alternatives and initial management measures to implement the program and begin the rebuilding process. The four basis areas of consideration were (1) Goals and Objectives of the Rebuilding Plan, (2) Target Biomass and Rebuilding Period, (3) Harvest Rate Policy, and (4) Bycatch Control Strategy.

The proposed actions included in this rebuilding plan are intended to rebuild the canary rockfish stock. The rate of rebuilding, and thus the time expected to rebuild the stock, is highly dependent on recruitment of juvenile canary rockfish to the population. The proposed harvest rate strategy is expected to rebuild the stock, with a 52% probability, to the B_{msy} level in 57 years. In addition, a combination of time/area closures, gear restrictions, commercial trip limits and recreational management measures is expected to keep fishing mortality to within the proposed limit. Alternatives considered would be expected to achieve the rebuilding goals more quickly or more slowly. Those that would rebuild the stock more quickly would impose substantially greater impacts on fishers, fishing communities, and associated industries. Those that would rebuild more slowly would increase the risk of not achieving the rebuilding goals and objectives.

The proposed rebuilding program is intended to rebuild the stock while allowing minimal fishing impacts from recreational fisheries, commercial fisheries targeting non-groundfish species, and commercial fisheries targeting groundfish in areas and with methods that are expected to have the little impact on the canary stock.

1.0 PURPOSE AND NEED FOR ACTION

The groundfish fisheries in the Exclusive Economic Zone (EEZ) (3 to 200 nautical miles offshore) adjacent to Washington, Oregon, and California are managed under the Pacific Coast Groundfish Fishery Management Plan (FMP). The FMP was developed by the Pacific Fishery Management Council (Council) under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The FMP was approved by the Secretary of Commerce (Secretary) and became effective in 1982. The Council has prepared thirteen amendments to the FMP, twelve of which have been approved or partially approved. Amendments 11 and 12 addressed the Magnuson-Stevens Act requirements relating to rebuilding overfished stocks. Amendment 11 established criteria for determining when a stock is overfished.

Assessments of the northern and southern portions of the canary rockfish stock were prepared in 1999. Both assessments concluded the stock is below its overfished threshold. Consequently, in November 1999, the Council recommended management measures to drastically reduce fishing on this stock in order to initiate rebuilding. In January 2000, the National Marine Fisheries Service (NMFS) informed the Council that the canary rockfish (*Sebastes pinninger*) stock is "overfished" according to the definitions in the FMP and the National Standard Guidelines for the Magnuson-Stevens Act. When a stock is declared to be overfished, a rebuilding plan must be developed within one year.

This rebuilding plan is intended to comply with the legal requirements relating to the rebuilding of overfished stocks. A rebuilding plan is a guide for the Council and Secretary that provides goals, targets and a description of the management measures necessary to achieve the rebuilding goals. Actions taken to amend the FMP or implement other regulations governing the groundfish fisheries must meet the requirements of Federal laws and regulations. As specific regulations and management measures are developed to implement this rebuilding plan, the Council and Secretary will ensure their consistency with the rebuilding plan, the FMP, and all relevant Federal laws and regulations.

1.1 Requirements for Stock Rebuilding

Stock rebuilding is required by the Magnuson Stevens Act, Section 304. The applicable section of the Act is provided below.

(e) REBUILDING OVERFISHED FISHERIES.--

(1) The Secretary shall report annually to the Congress and the Councils on the status of fisheries within each Council's geographical area of authority and identify those fisheries that are overfished or are approaching a condition of being overfished. For those fisheries managed under a fishery management plan or international agreement, the status shall be determined using the criteria for overfishing specified in such plan or agreement. A fishery shall be classified as approaching a condition of being overfished if, based on trends in fishing effort, fishery resource size, and other appropriate factors, the Secretary estimates that the fishery will become overfished within two years.

(2) If the Secretary determines at any time that a fishery is overfished, the Secretary shall immediately notify the appropriate Council and request that action be taken to end overfishing in the fishery and to implement conservation and management measures to rebuild affected stocks of fish. The Secretary shall publish each notice under this paragraph in the Federal Register.

(3) Within one year of an identification under paragraph (1) or notification under paragraphs (2) or (7), the appropriate Council (or the Secretary, for fisheries under section 302(a)(3)) shall prepare a fishery management plan, plan amendment, or proposed regulations for the fishery to which the identification or notice applies--

(A) to end overfishing in the fishery and to rebuild affected stocks of fish; or

(B) to prevent overfishing from occurring in the fishery whenever such fishery is identified as approaching an overfished condition.

(4) For a fishery that is overfished, any fishery management plan, amendment, or proposed regulations prepared pursuant to paragraph (3) or paragraph (5) for such fishery shall--

(A) specify a time period for ending overfishing and rebuilding the fishery that shall--
(i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock of fish within the marine ecosystem; and
(ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise;
(B) allocate both overfishing restrictions and recovery benefits fairly and equitably among sectors of the fishery; and
(C) for fisheries managed under an international agreement, reflect traditional participation in the fishery, relative to other nations, by fishermen of the United States.

(5) If, within the one-year period beginning on the date of identification or notification that a fishery is overfished, the Council does not submit to the Secretary a fishery management plan, plan amendment, or proposed regulations required by paragraph (3)(A), the Secretary shall prepare a fishery management plan or plan amendment and any accompanying regulations to stop overfishing and rebuild affected stocks of fish within 9 months under subsection (c).

(6) During the development of a fishery management plan, a plan amendment, or proposed regulations required by this subsection, the Council may request the Secretary to implement interim measures to reduce overfishing under section 305(c) until such measures can be replaced by such plan, amendment, or regulations. Such measures, if otherwise in compliance with the provisions of this Act, may be implemented even though they are not sufficient by themselves to stop overfishing of a fishery.

(7) The Secretary shall review any fishery management plan, plan amendment, or regulations required by this subsection at routine intervals that may not exceed two years. If the Secretary finds as a result of the review that such plan, amendment, or regulations have not resulted in adequate progress toward ending overfishing and rebuilding affected fish stocks, the Secretary shall--
(A) in the case of a fishery to which section 302(a)(3) applies, immediately make revisions necessary to achieve adequate progress; or
(B) for all other fisheries, immediately notify the appropriate Council. Such notification shall recommend further conservation and management measures which the Council should consider under paragraph (3) to achieve adequate progress.

1.2 National Standard Guidelines

Rebuilding plans and regulations to implement them must be consistent with the National Standards of the Magnuson-Stevens Act. Below in this section is an excerpt from the Final Rule on National Standard Guidelines, published in the Federal Register on May 1, 1998 (63 FR 24212).

Sec. 600.310 National Standard 1--Optimum Yield.

(e) Ending overfishing and rebuilding overfished stocks– (1) Definition. A threshold, either maximum fishing mortality or minimum stock size, is being "approached" whenever it is projected that the threshold will be breached within 2 years, based on trends in fishing effort, fishery resource size, and other appropriate factors.
(2) Notification. The Secretary will immediately notify a Council and request that remedial action be taken whenever the Secretary determines that:
(i) Overfishing is occurring;
(ii) A stock or stock complex is overfished;
(iii) The rate or level of fishing mortality for a stock or stock complex is approaching the maximum fishing mortality threshold;
(iv) A stock or stock complex is approaching its minimum stock size threshold; or

(v) Existing remedial action taken for the purpose of ending previously identified overfishing or rebuilding a previously identified overfished stock or stock complex has not resulted in adequate progress.

(3) Council action. Within 1 year of such time as the Secretary may identify that overfishing is occurring, that a stock or stock complex is overfished, or that a threshold is being approached, or such time as a Council may be notified of the same under paragraph (e)(2) of this section, the Council must take remedial action by preparing an FMP, FMP amendment, or proposed regulations. This remedial action must be designed to accomplish all of the following purposes that apply:

(i) If overfishing is occurring, the purpose of the action is to end overfishing.
(ii) If the stock or stock complex is overfished, the purpose of the action is to rebuild the stock or stock complex to the MSY level within an appropriate time frame.
(iii) If the rate or level of fishing mortality is approaching the maximum fishing mortality threshold (from below), the purpose of the action is to prevent this threshold from being reached.
(iv) If the stock or stock complex is approaching the minimum stock size threshold (from above), the purpose of the action is to prevent this threshold from being reached.

(4) Constraints on Council action.

(i) In cases where overfishing is occurring, Council action must be sufficient to end overfishing.
(ii) In cases where a stock or stock complex is overfished, Council action must specify a time period for rebuilding the stock or stock complex that satisfies the requirements of section 304(e)(4)(A) of the Magnuson-Stevens Act.

(A) A number of factors enter into the specification of the time period for rebuilding:
(1) The status and biology of the stock or stock complex;
(2) Interactions between the stock or stock complex and other components of the marine ecosystem (also referred to as ''other environmental conditions");
(3) The needs of fishing communities;
(4) Recommendations by international organizations in which the United States participates; and
(5) Management measures under an international agreement in which the United States participates.

(B) These factors enter into the specification of the time period for rebuilding as follows:

(1) The lower limit of the specified time period for rebuilding is determined by the status and biology of the stock or stock complex and its interactions with other components of the marine ecosystem, and is defined as the amount of time that would be required for rebuilding if fishing mortality were eliminated entirely.

(2) If the lower limit is less than 10 years, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment can result in the specified time period exceeding 10 years, unless management measures under an international agreement in which the United States participates dictate otherwise.

(3) If the lower limit is 10 years or greater, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment can exceed the rebuilding period calculated in the absence of fishing mortality, plus one mean generation time or equivalent period based on the species' life-history characteristics. For example, suppose a stock could be rebuilt within 12 years in the absence of any fishing mortality, and has a mean generation time of 8 years. The rebuilding period, in this case, could be as long as 20 years.

(C) A rebuilding program undertaken after May 1, 1998 commences as soon as the first measures to rebuild the stock or stock complex are implemented.

(D) In the case of rebuilding plans that were already in place as of May 1, 1998, such rebuilding plans must be reviewed to determine whether they are in compliance with all requirements of the Magnuson- Stevens Act, as amended by the Sustainable Fisheries Act.

(5) Interim measures. The Secretary, on his/her own initiative or in response to a Council request, may implement interim measures to reduce overfishing under section 305(c) of the Magnuson-Stevens Act, until such measures can be replaced by an FMP, FMP amendment, or regulations taking remedial action.

(i) These measures may remain in effect for no more than 180 days, but may be extended for an additional 180 days if the public has had an opportunity to comment on the measures and, in the case of Council- recommended measures, the Council is actively preparing an FMP, FMP amendment, or proposed regulations to address overfishing on a permanent basis. Such measures, if otherwise in compliance with the provisions of the Magnuson-Stevens Act, may be implemented even though they are not sufficient by themselves to stop overfishing of a fishery.
(ii) If interim measures are made effective without prior notice and opportunity for comment, they should be reserved for exceptional situations, because they affect fishermen without providing the usual procedural safeguards. A Council recommendation for interim measures without notice-and-comment rulemaking will be considered favorably if the short-term benefits of the measures in reducing overfishing outweigh the value of advance notice, public comment, and deliberative consideration of the impacts on participants in the fishery.

1.3 Technical Guidance on Rebuilding

The National Standard 1 guidelines indicate that once biomass falls below the minimum stock size threshold, then remedial action is required "to rebuild the stock or stock complex to the MSY level within an appropriate time frame." Guidance for determining the adequacy and efficacy of rebuilding plans was prepared by Restrepo et al. (1998) "Technical Guidance on the Use of Precautionary Approaches to Implementing National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act." This guidance manual does not have the force of law, but instead provides technical details for stock assessment scientists.

1.4 FMP Stock Rebuilding Provisions

Section 5.0 of the FMP describes the annual specification process as follows:

1. The Council will determine the MSY or MSY proxy and ABC for each major stock. Typically, the MSY proxy will be in terms of a fishing mortality rate ($F_{x\%}$,) and ABC will be the $F_{x\%}$ applied to the current biomass estimate.

2. Every species will either have its own designated OY or be included in a multispecies OY. Species which are included in a multispecies OY may also have individual OYs, have individual harvest guidelines (HGs), or be included in a HG for a subgroup of the multispecies OY. Stocks without quantitative or qualitative assessment information may be included in a numerical or non-numerical OY.

3. To determine the OY for each stock, the Council will determine the best estimate of current abundance and its relation to its precautionary and overfished thresholds. If the abundance is above the precautionary threshold, OY will be equal to or less than ABC. If abundance falls below the precautionary threshold, OY will be reduced according to the harvest control rule for that stock. If abundance falls below the overfished/rebuilding threshold, OY will be set according to the interim rebuilding rule until the Council develops a formal rebuilding plan for that species.

4. For any stock the Secretary has declared overfished or approaching the overfished condition, or for any stock the Council determines is in need of rebuilding, the Council will develop a rebuilding plan **and submit it in the same manner as recommendations of the annual management process. Once approved, a rebuilding plan will remain in effect for the specified duration or until the Council recommends and the Secretary approves revision.**

An excerpt from Section 5.3.2 of the FMP describes the process for determining OY each year and references rebuilding in several provisions, which are shown in **bold**.

Determination of Numerical OYs If Stock Assessment Information Is Available (Category 1)

The Council will follow these steps in determining numerical OYs. **The recommended numerical OY values will include any necessary actions to rebuild any stock determined to be below its overfished/rebuilding threshold and may include adjustments to address uncertainty in the status of the stock.**

1. ABC: Multiply the current biomass estimate times the F_{msy} exploitation rate or its proxy to get ABC.
2. Precautionary adjustment: If the abundance is above the specified precautionary threshold, OY may be equal to or less than ABC. If current biomass estimate is less than the precautionary threshold, the harvest rate will be reduced according to the harvest control rule specified in Section 5.3.5 in order to accelerate a return of abundance to optimal levels. If the abundance falls below the overfished/rebuilding threshold, the harvest control rule will generally specify a greater reduction in exploitation as an interim management response toward rebuilding the stock while a formal rebuilding plan is being developed. The rebuilding plan will include a specific harvest control rule designed to rebuild the stock, and that control rule will be used in this stage of the determination of OY.
3. Uncertainty adjustments: In cases where there is a high degree of uncertainty about the biomass estimate and other parameters, OY may be further reduced accordingly.
4. Other adjustments to OY: Other social, economic, or ecological considerations, including reduction for anticipated bycatch, may be made. Amounts of fish harvested as compensation for private vessels participating in NMFS resource survey activities will also be deducted from ABC prior to setting OY.
5. **OY recommendations will be consistent with established rebuilding plans and achievement of their goals and objectives unless otherwise adjusted in accordance with section 6 below.**
   (a) In cases where overfishing is occurring, Council action will be sufficient to end overfishing.
   (b) In cases where a stock or stock complex is overfished, Council action will specify a time period for rebuilding the stock or stock complex that satisfies the requirements of section 304(e)(4)(A) of the Magnuson-Stevens Act.
      (i) The Council will consider a number of factors in determining the time period for rebuilding:
         (1) The status and biology of the stock or stock complex.
         (2) Interactions between the stock or stock complex and other components of the marine ecosystem (also referred to as "other environmental conditions").
         (3) The needs of fishing communities.
         (4) Recommendations by international organizations in which the United States participates.
         (5) Management measures under an international agreement in which the United States participates.
      (ii) These factors enter into the specification of the time period for rebuilding as follows:
         (1) The lower limit of the specified time period for rebuilding is determined by the status and biology of the stock or stock complex and its interactions with other components of the marine ecosystem and is defined as the amount of time that would be required for rebuilding if fishing mortality were eliminated entirely.
         (2) If the lower limit is less than ten years, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment can result in the specified time period exceeding ten years, unless management measures under an international agreement in which the United States participates dictate otherwise.

(3) If the lower limit is ten years or greater, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment can exceed the rebuilding period calculated in the absence of fishing mortality, plus one mean generation time or equivalent period based on the species' life-history characteristics. For example, suppose a stock could be rebuilt within twelve years in the absence of any fishing mortality, and has a mean generation time of eight years. The rebuilding period, in this case, could be as long as 20 years.

(iii) Any new rebuilding program will commence as soon as the first measures to rebuild the stock or stock complex are implemented.

(iv) Any pre-existing rebuilding plans will be reviewed to determine whether they are in compliance with all requirements of the Magnuson-Stevens Act. (Note: Only Pacific ocean perch falls into this category.)

(c) For fisheries managed under an international agreement, Council action must reflect traditional participation in the fishery, relative to other nations, by fishermen of the United States.

(d) For any stock that has been declared overfished, the open access/limited entry allocation shares may be temporarily revised for the duration of the rebuilding period by amendment to the regulations in accordance with the normal allocation process described in this FMP. However, the Council may at any time recommend the shares specified in chapter 12 of this FMP be reinstated without requiring further analysis. Once reinstated, any change may be made only through the allocation process.

(e) For any stock that has been declared overfished, any vessel with a limited entry permit may be prohibited from operating in the open access fishery when the limited entry fishery has been closed.

6. Adjustments to OY could include increasing OY above the default value up to the overfishing level as long as the management still allows achievement of **established rebuilding goals and objectives**. In limited circumstances, these adjustments could include increasing OY above the overfishing level as long as the harvest meets the standards of the mixed stock exception in the National Standard Guidelines:
   (a) The Council demonstrates by analysis that such action will result in long-term net benefits to the Nation.
   (b) The Council demonstrates by analysis that mitigating measures have been considered and that a similar level of long-term net benefits cannot be achieved by modifying fleet behavior, gear selection/ configuration, or other technical characteristic in a manner such that no overfishing would occur.
   (c) The resulting rate or level of fishing mortality will not cause any species or evolutionarily significant unit thereof to require protection under the Endangered Species Act.
7. For species complexes (such as Sebastes complex), the OY will generally be set equal to the sum of the individual component ABCs, harvest guidelines, and/or OYs, as appropriate.

Section 5.3.6 of the FMP provides the following procedures, guidance and requirements relating to stock rebuilding.

As required by the Magnuson-Stevens Act within one year of being notified by the Secretary that a stock is overfished or approaching a condition of being overfished, the Council will prepare a recommendation to end the overfished condition and rebuild the stock(s) or to prevent the overfished condition from occurring. A new rebuilding plan or revision to an existing plan proposed by the Council will be submitted to the Secretary along with annual management recommendations as part of the regular annual management process. Once approved by the Secretary, a rebuilding plan will remain in effect for the specified duration of the rebuilding program, or until modified. The Council will make all approved rebuilding plans available in the annual SAFE document or by other means. The Council may recommend the Secretary implement interim measures to reduce overfishing until the Council's program has been developed and implemented.

The Council intends its stock rebuilding plans to provide targets, checkpoints and guidance for rebuilding overfished stocks to healthy and productive levels. The rebuilding plans themselves will not be regulations but principles and policies. They are intended to provide a clear vision of the intended results and the means to achieve those results. They will provide the strategies and objectives that regulations are intended to achieve, and proposed regulations and results will be measured against the rebuilding plans. It is likely that rebuilding plans will be revised over time to respond to new information, changing conditions and success or lack of success in achieving the rebuilding schedule and other goals. As with all Council activities, public participation is critical to the development, implementation and success of management programs.

5.3.6.1 Goals and Objectives of Rebuilding Plans

The goals of rebuilding programs are to (1) achieve the population size and structure that will support the maximum sustainable yield within the specified time period; (2) minimize, to the extent practicable, the social and economic impacts associated with rebuilding, including adverse impacts on fishing communities; (3) fairly and equitably distribute both the conservation burdens (overfishing restrictions) and recovery benefits among commercial, recreational and charter fishing sectors; (4) protect the quantity and quality of habitat necessary to support the stock at healthy levels in the future; and (5) promote widespread public awareness, understanding and support for the rebuilding program.

5.6.3.2 Contents of Rebuilding Plans

To achieve the rebuilding goals, the Council will strive to (1) explain the status of the overfished stock, pointing out where lack of information and uncertainty may require that conservative assumptions be made in order to maintain a risk-averse management approach; (2) identify present and historical harvesters of the stock; (3) develop harvest sharing plans for the rebuilding period and for when rebuilding is completed; (4) set harvest levels that will achieve the specified rebuilding schedule; (5) implement any necessary measures to allocate the resource in accordance with harvest sharing plans; (6) promote innovative methods to reduce bycatch and bycatch mortality of the overfished stock; (7) monitor fishing mortality and the condition of the stock at least every two years to ensure the goals and objectives are being achieved; (8) identify any critical or important habitat areas and implement measures to ensure their protection; and (9) promote public education regarding these goals, objectives and the measures intended to achieve them.

The rebuilding plan will specify any individual goals and objectives including a time period for ending the overfished condition and rebuilding the stock and the target biomass to be achieved. The plan will explain how the rebuilding period was determined, including any calculations that demonstrate the scientific validity of the rebuilding period. The plan will identify potential or likely allocations among sectors, identify the types of management measures that will likely be imposed to ensure rebuilding in the specified period, and provide other information that may be useful to achieve the goals and objectives.

The Council may consider a number of factors in determining the time period for rebuilding, including:

1. The status and biology of the stock or stock complex.
2. Interactions between the stock or stock complex and other components of the marine ecosystem or environmental conditions.
3. The needs of fishing communities.
4. Recommendations by international organizations in which the United States participates.
5. Management measures under an international agreement in which the United States participates.

The lower limit of the specified time period for rebuilding will be determined by the status and biology of the stock or stock complex and its interactions with other components of the marine ecosystem or environmental conditions and is defined as the amount of time that would be required for rebuilding if fishing mortality were eliminated entirely.

If the lower limit is less than ten years, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment may result in the specified time period exceeding ten years, unless management measures under an international agreement in which the United States participates dictate otherwise.

If the lower limit is ten years or greater, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment can exceed the rebuilding period calculated in the absence of fishing mortality, plus one mean generation time or equivalent period based on the species' life-history characteristics. For example, if a stock could be rebuilt within 12 years in the absence of any fishing mortality, and has a mean generation time of eight years, the rebuilding period could be as long as 20 years.

In general, the Council will also consider the following questions in developing rebuilding plans.

1. What is the apparent cause of the current condition (historical fishing patterns, a declining abundance or recruitment trend, a change in assessment methodology, or other factors)?
2. Is there a downward trend in recruitment that may indicate insufficient compensation in the spawner-recruitment relationship?
3. Based on an comparison of historical harvest levels (including discards) relative to recommended ABC levels, has there been chronic over harvest?
4. Is human-induced environmental degradation implicated in the current stock condition? Have natural environmental changes been observed that may be affecting growth, reproduction, and/or survival?
5. Would reduction in fishing mortality be likely to improve the condition of the stock?
6. Is the particular species caught incidentally with other species? Is it a major or minor component in a mixed-stock complex?
7. What types of management measures are anticipated and/or appropriate to achieve the biological, social, economic and community goals and objectives of the rebuilding plan?

5.6.3.3 Process for Development and Approval of Rebuilding Plans

Upon receiving notification that a stock is overfished, the Council will identify one or more individuals to draft the rebuilding plan. If possible, the Council will schedule review and adoption of the proposed rebuilding plan to coincide with the annual management process. A draft of the plan will be reviewed and preliminary action taken (tentative adoption or identification of preferred alternatives), followed by final adoption at a subsequent meeting. The tentative plan or alternatives will be made available to the public and considered by the Council at a minimum of two meetings unless stock conditions suggest more immediate action is warranted. Upon completing it final recommendations, the Council will submit the proposed rebuilding plan or revision to an existing plan to NMFS for concurrence. In most cases, this will be concurrent with its recommendations for annual management measures. In addition, any proposed regulations to implement the plan will be developed in accordance with the framework procedures of this FMP. The Council may designate a state or states to take the lead in working with its citizens to develop management proposals to achieve the rebuilding. Allocation proposals require consideration at a minimum of three Council meetings, as specified in the allocation framework. Rebuilding plans will be reviewed periodically, at least every 2 years, and the Council may

propose revisions to existing plans at any time, although in general this will be occur only during the annual management process.

NMFS will review the Council's recommendations and supporting information upon receipt and may approve, disapprove, or partially approve each rebuilding plan. The Council will be notified in writing of the NMFS decision. If NMFS does not concur with the Council's recommendation, reasons for the disapproval will be included in the notification. Once approved, a rebuilding plan will remain in effect for the length of the specified rebuilding period or until revised. Any revisions to a rebuilding plan must also be approved by NMFS.

1.5 Definitions from Groundfish FMP

Amendment 11 brought definitions in the FMP into conformance with definitions in the Magnuson-Stevens Act and National Standard Guidelines. The following definitions in the FMP are used throughout this rebuilding plan.

Acceptable Biological Catch (ABC) is a biologically based estimate of the amount of fish that may be harvested from the fishery each year without jeopardizing the resource. It is a seasonally determined catch that may differ from MSY for biological reasons. It may be lower or higher than MSY in some years for species with fluctuating recruitment. The ABC may be modified to incorporate biological safety factors and risk assessment due to uncertainty. Lacking other biological justification, the ABC is defined as the MSY exploitation rate multiplied by the exploitable biomass for the relevant time period.

Maximum sustainable yield (MSY) is an estimate of the largest average annual catch or yield that can be taken over a significant period of time from each stock under prevailing ecological and environmental conditions. It may be presented as a range of values. One MSY may be specified for a group of species in a mixed-species fishery. Since MSY is a long-term average, it need not be specified annually, but may be reassessed periodically based on the best scientific information available.

MSY stock size means the largest long-term average size of the stock or stock complex, measured in terms of spawning biomass or other appropriate units, that would be achieved under an MSY control rule in which the fishing mortality rate is constant. The proxy typically used in this fishery management plan is 40% of the estimated unfished biomass, although other values based on the best scientific information are also authorized.

Optimum yield (OY) means the amount of fish which will provide the greatest overall benefit to the U.S., particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems, is prescribed as such on the basis of the maximum sustainable yield from the fishery as reduced by any relevant economic, social, or ecological factor; and in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery.

Overfished describes any stock or stock complex whose size is sufficiently small that a change in management practices is required to achieve an appropriate level and rate of rebuilding. The term generally describes any stock or stock complex determined to be below its overfished/rebuilding threshold. The default proxy is generally 25% of its estimated unfished biomass; however, other scientifically valid values are also authorized.

Overfishing means fishing at a rate or level that jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis. More specifically, overfishing is defined as exceeding a maximum allowable fishing mortality rate. For any groundfish stock or stock complex, the maximum allowable mortality rate will be set at a level not to exceed the corresponding MSY rate (F_{msy}) or its proxy (e.g., $F_{35\%}$).

2.0 ALTERNATIVES, INCLUDING THE STATUS QUO AND PROPOSED ACTION

2.1 Goals and Objectives of the Rebuilding Plan Alternative

Alternative 1. Status quo. No rebuilding plan would be adopted for canary rockfish.

Alternative 2 (adopted by the Council). Establish a rebuilding plan for canary rockfish. The rebuilding plan will provide goals and objectives, strategies, targets, checkpoints and guidance for rebuilding the canary rockfish stock to a healthy and productive level.

> The goals of the canary rockfish rebuilding program are to (1) achieve the population size and structure that will support the maximum sustainable yield within the rebuilding period; (2) establish a long term management program that has a high probability that total annual fishing mortality of canary rockfish will not exceed the specified amounts; (3) foster public education programs about the need to rebuild the canary rockfish population, and how individuals can help; and (4) protect the quantity and quality of habitat necessary to support the stock at healthy levels in the future. These goals and objectives are derived from Section 5.3.6.1 of the FMP, which was developed under Amendment 12.

2.2 Target Biomass and Rebuilding Period Alternatives

Alternative 1. Status quo. No target biomass would be set.

Alternative 2. Target biomass would be set at 6,000 mt with a rebuilding period of 57 years.

Alternative 3. Target biomass would be set at 13,600 mt with a rebuilding period of 45 years.

The canary rockfish stock will be considered to be rebuilt when the female spawning biomass ($B_{40\%}$) for the northern portion of the stock is in the range of about 6,000 mt to 13,600 mt. The lower value (6,000 mt) is calculated based on the assumption that female canary rockfish die from natural mortality at a faster rate than males, and the difference becomes greater with age. The upper value (13,600 mt) is based on the assumption that female canary rockfish die at a more constant rate (i.e., are subject to a constant mortality rate) but become more difficult to catch as they get older. The Council found no compelling information that older female canary rockfish are "hiding" rather than dying, and adopted 6,000 mt as the target female spawning biomass. This is $B_{40\%}$, which is the default rebuilding OY level developed under Amendment 11 to the FMP, found at Section 5.3.5. The entire range is analyzed in Appendix A, "Rebuilding Analysis for Canary Rockfish."

For the Council's initial rebuilding target of 6,000 mt, stock assessment authors developed a range of alternatives based on different stock recruitment assumptions as to whether future recruitment would reflect historic from different periods in the stock's history. In 1987-1991, the stock's mean recruitment level was relatively high and a rebuilding period based on assuming future recruitment similar to that period would be about 23 years absent fishing mortality. In 1978 - 1995, the stock's mean recruitment level was relatively low and a rebuilding period based on assuming future recruitment similar to that period would be about 119 years absent fishing mortality. Section 4.1 of this document analyzes five different recruitment assumptions within that range. The Council adopted a recruitment assumption based on the stock's mean recruitment from 1978 - 1997, with the recruitments from 1996 and 1997 reduced by 25%. This adopted recruitment assumption would result in a rebuilding period of 41 years absent fishing mortality, with an additional 16 years (mean generation of 17 years minus 1 year), for a total rebuilding period of 57 years.

2.3 Harvest Rate Policy Alternatives

In previous years, when directed fisheries for canary rockfish were allowed, harvest levels (OYs) were set in accordance with the standard ABC/OY method in the FMP. That method applies the MSY harvest rate (or a proxy value, currently $F_{50\%}$) to the estimated biomass, and then making an adjustment based on the ratio of current to historic abundance.

Alternative 1 (status quo). Harvest levels would be based on the $F_{50\%}$ harvest rate (the current MSY proxy), as adjusted by the default OY control rule in the FMP. The default OY rule is commonly referred to as the "40-10" adjustment.

Alternative 2 (**adopted**). The annual harvest level will be 93 mt coastwide for the first two years of the rebuilding program, based on recruitment in 1996-1998 assumed to be 75% of the level estimated in the assessment (i.e., 75% of an average of 1.1-1.8 million per year). In 2003, the constant harvest level may be recalculated based on updated estimates of recent recruitment and/or revised estimates of future recruitment, consistent with rebuilding plan goals.

Alternative 3. Set the annual harvest as a fixed fraction of the population for the duration of the rebuilding period. This would allow increased harvest as the population rebuilds.

Alternative 4. Prevent all direct and indirect harvest of canary rockfish, leaving only natural mortality to determine stock size.

Alternative 5. Prohibit all directed fishing for canary rockfish and all retention of any canary rockfish caught incidentally to other fishing strategies.

Alternative 6. The annual harvest level will be 185 mt coastwide, based on scenario 2 in the rebuilding analysis. The rebuilding period, based on the highest recruitment assumption, is estimated to be 45 years with a 51% likelihood of success. This is the most optimistic set of assumptions under scenario 2.

These alternatives are analyzed in Section 5.0.

2.4 Bycatch Control Strategy Alternatives

The main sources of bycatch of canary rockfish are believed to be fishing with trawl gear and hook-and-line gear (both commercial and recreational) on the continental shelf, especially in rocky habitat areas. The pink shrimp fishery, which uses small mesh trawl gear, is a major source of canary rockfish bycatch.

Alternative 1. Status quo (**adopted**) . Maintain the management regime adopted for 2001. The current management regime reflects substantial restrictions implemented for commercial and recreational fisheries in 2000 and 2001. These include bag limit reductions in waters off each of the three coastal states, time/area closures for recreational fishers in waters off California, commercial trawl gear restrictions to make fishing impractical in rocky areas of the continental shelf, and substantially reduced trip limits for commercial trawl and hook-and-line vessels. In addition, time/area closures are established for commercial hook-and-line vessels in California, concurrent with recreational closures.

Alternative 2. Establish broad time/area closures to eliminate fishing where canary rockfish are likely to be encountered.

Alternative 3. Establish gear requirements for pink shrimp trawl vessels, specifically require the use of bycatch reduction devices (commonly called finfish excluder devices) to prevent capture of canary rockfish. Vessels using these devices would be allowed to land incidental amounts of groundfish captured when fishing for pink shrimp. Vessels not using such devices would be prohibited from retaining and landing any groundfish.

Alternative 4. No fishing for canary rockfish would be allowed, but all canary rockfish captured must be retained and landed for counting.

These alternatives are analyzed in Section 5.0.

2.5 Alternatives Rejected as Not Compliant with the Magnuson-Stevens Act

The Magnuson-Stevens Act requires that overfished stocks be rebuilt within ten years, except in limited cases such as where the biology of the stock or other environmental conditions prevent it. The canary rockfish stock assessment and rebuilding analysis indicate this stock cannot be rebuilt within 10 years due to its extremely low abundance and low stock productivity. The maximum rebuilding time authorized by the National Standard Guidelines would be 58 years; any alternatives that would not allow the stock to rebuild within that time would be inconsistent with the Magnuson-Stevens Act. While alternative harvest rate policies, such as F_{msy}, might eventually rebuild the stock, the likelihood of success within 58 years is far below 50%.

The Magnuson-Stevens Act also requires that conservation burdens and benefits be fairly distributed among participants. Alternatives that would have given exclusive harvest opportunity to either the recreational or commercial sector would be inconsistent with this requirement.

2.6 Alternatives Outside Council Jurisdiction

A major source of canary rockfish incidental catch, at least in some years, occurs in the pink shrimp trawl fishery. The pink shrimp fishery is managed by the states of Washington, Oregon, and California, and the Council has no direct management authority. The Council discussed methods to control shrimp fishing activities, such as requiring all vessels to use bycatch reduction devices (finfish excluders). The Council could develop an FMP for the pink shrimp fishery as a means of establishing such management authority. Absent an FMP, the Council's authority is limited to prohibiting retention and sale of groundfish taken incidentally by vessels fishing for pink shrimp.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 Biology and Status of the Canary Rockfish Stock

The most recent assessment of the portion of the canary rockfish stock in the northern area (Columbia and U.S. Vancouver INPFC areas) indicated that a long-term decline has continued, and female spawning biomass has fallen below the overfished threshold.[1/] A corresponding assessment of the southern portion of the stock reached similar conclusions about population trend and depleted status, although the time frame was somewhat different.[2/] Based on these stock assessments and advice from its scientific advisors, the Council determined the canary rockfish resource off the coasts of Washington, Oregon, and California is overfished, as defined by the FMP. The current spawning biomass is estimated to have fallen to between about 7% and 20% of the coastwide unfished abundance, with the best estimate 8.7%.

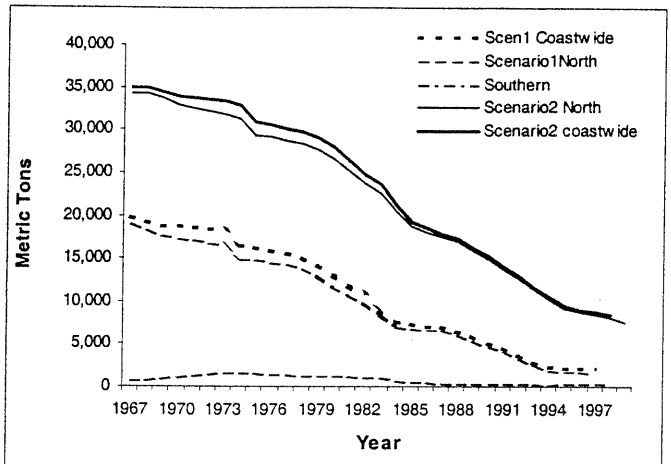
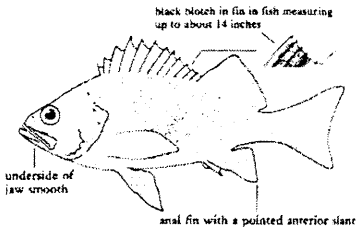


Figure 3.1.1 Canary Spawning Biomass Trend 1967-1997



Canary rockfish occur from northern Baja California (Mexico), to the western Gulf of Alaska. Historically, this species was fairly abundant throughout its range. Canary rockfish are considered a middle shelf-mesobenthal species. Canary rockfish have a depth range from the surface (juveniles) to 274 m, but primarily inhabit waters 91-183 m deep. Very little is known about the early life history strategies of canary rockfish, but limited research indicates larvae are strictly pelagic (near the ocean surface) for a short period of time, begin to migrate to demersal (bottom) waters during the summer of their first year, and develop into juveniles around nearshore rock reefs, where they may congregate for up to three years. Canary rockfish tend to move to deeper waters as they age. Larvae can be captured over a wide area, from 13-306 km offshore, and pelagic juveniles occur mostly beyond the continental shelf. Young-of-the-year rockfish can also be found in tide pools. In central California, newly settled canary rockfish are first observed at the seaward, sand-rock interface and farther seaward in deeper water(18-24 m). They are often observed hovering above sand or small rock piles.

Canary rockfish inhabit shallow water when they are young and deep water as adults. Canary rockfish are associated with pinnacles and hard drop-offs. They are also found near, but usually not on the bottom, often associating with yellowtail, widow, and silvergray rockfish. Canary rockfish are most abundant above hard bottoms. There is a major population concentration of canary rockfish off Oregon between latitude 44°30' and 45°N. In the southern part of its range, the canary rockfish appears to be a reef-associated species. Adult canary rockfish are primarily restricted along the continental shelf from 250 fathoms (1,500 feet/ 457 meters), inshore to 25 fathoms (150 ft/ 46 m).

1/ Crone, P. R., R.D. Methot, R.J. Conser, and T.L. Builder. 1999. Status of the canary rockfish resource off Oregon and Washington in 1999. *in* Pacific Fishery Management Council. Status of the Pacific coast groundfish fishery through 1999 and recommended acceptable biological catches for 2000: Stock Assessment and Fishery Evaluation. Pacific Fishery Management Council, Portland, Oregon.

2/ Williams, E.H., S. Ralson, A.D. McCall, D. Woodbury, and D.E. Pearson. 1999. Stock assessment of hte canary rockfish resource in the waters off southern Oregon and California in 1999. *in* Pacific Fishery Management Council. Status of the Pacific coast groundfish fishery through 1999 and recommended acceptable biological catches for 2000: Stock Assessment and Fishery Evaluation. Pacific Fishery Management Council, Portland, Oregon.

Adult canary rockfish feed on small crustaceans as well as anchovies, sand dabs, and other small fishes. The canary rockfish, like all members of the genus *Sebastes*, produces live young. Female canary rockfish reach sexual maturity at roughly 8 years of age. Fertilization and embryo development take place within the body of the mother. Egg production is correlated with size; the number of eggs increases from about 260,000 in a 19 inch female to about 1,900,000 in a female 26 inches long. Canary rockfish off the Pacific coast have a long spawning period from September through March, probably peaking in December and January off Washington and Oregon. Upon release from the female, larvae assume a planktonic life style in the upper 100 m of the water column. Female canary rockfish generally grow faster and reach slightly larger sizes than males, but it appears males generally live considerable longer than females. Maximum ages indicate the two species are capable of reaching nearly 70 years of age, but very few females greater than 30 years old have been observed in the sample data from Washington and Oregon.

3.2 Important Life History Factors that Affect Rebuilding

Several canary rockfish life history factors will affect the rate of rebuilding and the types of management measures that may be necessary. First, and probably most important, is the inherent productivity of the species. The northern portion of the west coast stock appears to have a very low R/S ratio, and in many years may not be capable of maintaining abundance levels even with zero fishing mortality. This is likely driven by environmental conditions and perhaps the abundance of competitive species. Warm water conditions have prevailed for a number of years, perhaps dissipating around 1995-1996. Recent NMFS surveys have encountered numbers of juvenile canary rockfish, an indication of greatly improved spawning success. Future surveys will verify this observation. Second, adult canary rockfish are sedentary and widely dispersed in rocky areas. NMFS bottom trawl surveys do not sample canary rockfish well because most reside in rocky areas where standard bottom trawls are ineffective (that is why the 8 inch diameter footrope provision reduces catches). Also, the absence of older adult female canary rockfish in survey and fishery catches makes it difficult to determine both the true population and spawning success.

3.3 Summary of 1999 Stock Assessments

Landings and survey data indicate an absence of older female canary rockfish, and two possible explanations for this are explored in the northern assessment. The first possibility (scenario 1) is that females die from natural mortality at a faster rate than males, and the difference becomes greater with age. The second possibility (scenario 2) is that female canary rockfish die at a more constant rate (i.e., are subject to a constant mortality rate) but become more difficult to catch as they get older. At this time, the scientific community is uncertain which explanation is correct; the 1996 and 1999 Stock Assessment Review (STAR) Panels concluded both assumptions were equally valid. However, the two explanations lead to significantly different conclusions with respect to current abundance and the status of the stock compared to unfished conditions. Under scenario 1 (females die younger), current spawning biomass is estimated to be 949 mt for the northern area, which is 6.8% of the unfished spawning biomass. Under scenario 2 (female canary rockfish don't die young, but don't get caught), the northern population is in significantly better shape, with current spawning biomass estimated at 6,663 mt, which is 22.9% of the unfished spawning biomass. In either case, the canary rockfish stock is below 25% of the unfished biomass and therefore overfished.

The southern assessment was the first ever for that portion of the geographic range of the stock. The southern model performed better under the assumption of constant natural mortality than under the assumption of increasing mortality with age for females. Under base case conditions, the current spawning biomass in the southern area is estimated to be 529 mt, which is 7.7% of the unfished spawning biomass.

In 1999, the Groundfish Management Team (GMT) combined the results of the two assessments as shown in the table below. Assuming scenario 1 for the northern assessment is correct, the coastwide spawning biomass is 1,478 mt (949+529), which is 7.1% of unfished spawning biomass. Under scenario 2 for the northern assessment, the coastwide spawning biomass is 7,192 mt (6,623+529), which is 20% of unfished spawning biomass Table 3.3.1).

Table 3.3.1 ABC/OY results from combining northern and southern assessments for canary rockfish.

	Northern Assessment		Southern Assessment	Combined Assessments			
	Scenario 1	Scenario 2		Scenario 1	Scenario 2		
Unfished spawning biomass	13,998	29,107	6,850	20,848	35,957		
Current spawning biomass	949	6,663	529	1,478	7,192		
% of unfished spawning biomass	6.8%	22.9%	7.7%	7.1%	20.0%		Average of the two assessments
F40% Yield	214	**283**	73	287	**356**	ABC -upper	322
40-10 multiplier	0%	43%	0%	0%	33%		
F40% 40-10 Yield	0	122	0	0	119		59
F45% 40-10 Yield				0	**102**	OY - upper	51

NOTE: The default ABC harvest rate is now $F_{50\%}$, so this table overestimates ABC and OY.

3.3.1 Uncertainty in the Stock Assessments

Canary rockfish exhibit extremely low productivity (level of recruits per spawner) which has contributed to their decline in the northern area and impedes their recovery. There is tremendous uncertainty in these rebuilding projections due to extremely low levels of recruits per spawner (R/S) during 1987-1995 and high, but very uncertain, levels in 1996-1998.

A further uncertainty is due to the observation that the southern area of the stock appears to have greater productivity (higher R/S at low spawning biomass). Rough calculations based upon combining northern and southern information are more consistent with the optimistic rebuilding scenario. A new assessment and updated rebuilding analysis that examines the northern and southern data in a holistic manner will be conducted as soon as possible after the trawl survey in summer 2001 provides a new data point.

3.4 Basis for Determination the Stock is Overfished

Section 5.3.3 of the FMP (Determination of Precautionary Thresholds), describes the precautionary threshold as the biomass level at which point the harvest rate will be reduced to help the stock return to the MSY level. The precautionary threshold will be the B_{msy} level, if known. The default precautionary threshold will be 40% of the estimated unfished biomass level. The Council may recommend different precautionary thresholds for any species or species group based on the best scientific information about that species or group. It is expected the threshold will be between 25% and 50% of the estimated unfished biomass level.

Section 5.3.4 (Determination of Overfished/Rebuilding Thresholds) provides additional information, indicating the overfished/rebuilding threshold and may also be written as

$$B_{rebuild} = x\% * \text{mean } R * SP(F=0)$$

The default overfished/rebuilding threshold for category 1 groundfish is $.25B_{unfished}$. The Council may establish different thresholds for any species based on information provided in stock assessments, the SAFE document, or other scientific or groundfish management-related report. For example, if B_{msy} is known, the overfished threshold may be set equal to 50% of that amount. The Council may also specify a lower level of abundance where catch or fishing effort is reduced to zero. This minimum abundance threshold (B_{min}) would correspond to an abundance that severely jeopardizes the stock's ability to recover to B_{msy} in a reasonable length of time; likely values fall between 5% and 10% of the average unfished level.

In the case of canary rockfish, two assessments were prepared to describe the range of the stock within the area under Pacific Council jurisdiction. The northern assessment provides the basis for the rebuilding analysis.

Northern area - The northern area assessment (scenario 1) indicates that in the era prior to 1967, the mean level of annual recruitment was 2,872 thousand age 1 fish. This level of recruitment would produce a female

spawning biomass of 22,376 mt if unfished, but the average annual catch was 1,000 mt, which reduced female biomass to 16,811 mt at the beginning of the modeled period in 1967. Average annual recruitment during the period from 1967 to 1977 was 1,859 thousand fish, which is used as a the estimate of "virgin" recruitment level. This lower recruitment level, combined with the average annual catch of 1,845 mt during this period, reduced spawning biomass to 13,757 mt by 1978. From 1978 to 1986, average annual recruitment was 1,621 thousand fish; annual catch averaged 2,860 mt; and spawning biomass declined to 6,613 mt by 1987. This level is barely above the overfished threshold. Over the period 1987-1995, recruitment declined precipitously to an average of only 622 thousand fish. The Council adopted quotas during this period that reduced annual catch to approximately 1,000 mt per year. However, due to the low recruitment during this period, female spawning biomass continued to decline to only 949 mt by 1999.

Under the second scenario for female mortality, recruitment and adult biomass trajectories in the north also follow a downward pattern, but the current biomass would be near 25% of the initial biomass. Prior to 1967, the mean annual level of recruitment was 2,744 thousand age 1 fish. This level of recruitment would produce a female spawning biomass of 44,991 mt if unfished, but the historical average catch of 1,000 mt reduced female spawning biomass to 34,210 mt at the beginning of the modeled period in 1967. (Female biomass per recruit is lower in scenario 1 because of higher female natural mortality compared to that in scenario 2.) Average recruitment during the period from 1967 to 1977 was 1,763 thousand fish, which is used as the estimate of "virgin" recruitment level. This lower recruitment level and an average catch of 1,845 mt reduced spawning biomass to 27,683 mt in 1978. Average recruitment during the period from 1978-1986 was 1,634 thousand fish; catch averaged 2,860 mt; and spawning biomass declined to 16,859 mt in 1987. From 1987 to 1995, recruitment declined precipitously to an average of only 802 thousand fish. Due to the low recruitment, female spawning biomass continued to decline to 7,157 mt in 1999, which is near the overfished threshold of 25% of initial biomass.

Southern Area - In the era prior to 1965, the mean level of recruitment was 1,060 thousand age 1 fish. This level of recruitment would produce a female spawning biomass of 11,657 mt if unfished. The average catch of 1,495 mt during 1950-1965 reduced female spawning biomass to 697 mt at the beginning of the modeled period in 1965. This is only 10% of the "virgin" or unfished spawning biomass level (6,850 mt) calculated from a long-term average recruitment of 617 thousand recruits.

Recruitment over the 1965-1977 period averaged only 473 thousand fish. This lower recruitment level and a much lower average catch of 620 mt allowed spawning biomass to recover to 1,280 mt in 1978, which is still below 25% of the "virgin" level.

Over the period 1978-1986, recruitment increased to 620 thousand fish; catch increased to 773 mt; and spawning biomass declined to 381 mt in 1987. Over the period 1987-1995, recruitment continued to average 620 thousand fish and average catch was 486 mt. Female spawning biomass continued to decline to 261 mt in 1993. The biomass has increased to 400 mt recently, but is still below the overfished threshold.

Many rockfish species are long-lived and have low reproductive rates, which means an unfished population is an accumulation of many old individuals as well as young fish. When older fish are removed from the population, it takes many years to replace them and replenish the biomass. Fishing on an unfished biomass is similar to mining or harvesting old-growth forest, because removal of the large, older fish reduces the stock biomass quickly, and replacement of those fish takes many years. Even a low rate of fishing can exceed the natural rate of replenishment. Typically, as a fish population shrinks, the rate of recruitment per spawner (R/S) increases because there is less competition for the available food and habitat. If the population declines too much, the rate of recruitment can decline due to factors such as increased predation or competition from other species. In the case of canary rockfish, high historical catches in both the northern and southern areas effectively mined an accumulated biomass that was built by substantially higher recruitment levels than those observed during the period covered by the assessments. Even though pre-historical recruitment was relatively high, the southern area's stock had already declined below the overfished threshold by 1965. In the northern area, the decline was slower. In the southern area, the stock continued to produce moderate levels of recruitment in spite of low spawning biomass and high fishing mortality rates. In the northern area, recruitment continued to decline through 1995. By the 1990s, each

area was producing only 600-800 thousand recruits per year. However, the southern area appears to do it from a much smaller spawning biomass than in the north.

The high current R/S in the southern area indicates a resilient stock that would be expected to increase rapidly if fishing pressure were much reduced. In contrast, the current R/S in the northern area is extremely low and barely above the natural mortality rate. Thus, even without any fishing the stock will be very slow to recover.

3.5 Essential Fish Habitat (EFH)

Groundfish EFH was defined and described in FMP Amendment 11. The FMP appendix describing groundfish EFH provides an extensive description of the known habitat of canary rockfish; readers who want more information should consult that document. Briefly, adults are bottom dwelling and associated with rocky shelf, continental slope/basin the along the west coast. No information is available on habitat needs during the mating stage. Parturition occurs from November through March, probably within adult habitat. Larvae occur from 13-306 km offshore in neritic and oceanic habitats. During the pelagic stage, juveniles occur from near shore to beyond the continental shelf in neritic and oceanic habitats.

3.5.1 Habitat and Human Impacts

The areas of highest density of adult canary rockfish off the west coast are primarily the rocky areas of the continental shelf between 50 fathoms and 150 fathoms, especially north of Cape Mendocino. These areas are neither uniformly nor contiguously distributed. The level of human impact on this habitat has not been documented. Potential fishing-related impacts to the habitat could take the form of lost or discarded fishing gear, dumping of fish processing waste from fish processing vessels, direct disturbance of the sea floor from contact by trawl nets, and direct disturbance of the sea floor from contact by longlines and fish traps.

3.6 The Human (Socio-Economic) Environment

Humans use fish in a variety of ways including as a food source, a resource base for businesses and jobs, recreation, and religious symbols. For some people, even the knowledge and certainty that a species or type of human community will continue to exist constitutes a valued part of their environment. Various types of values that humans place on fish and on human economic and social structures associated with fishing are affected by changes in fishing policy.

The impacts on the human environment may be assessed at a number of levels including

1. Individuals that participate directly in fishing and fishery support activities.
2. Communities of association among fishery participants and related water front support activities (e.g. processors and gear manufacturers).
3. The geographic range of the social communities.
4. Individuals who value visiting the human communities or partake in non-consumptive observation of the natural environment.
5. Individuals outside the geographic area that have no direct interaction with the fish or communities but value the existence of the fish, the fishing community, or the ensemble of communities of association that make up the geographic area.
6. Individuals affected by the role of fish as an economic commodity (broad market level effects).

The primary form of information on the socio-economic environment is harvest related statistics. There is little information available about the characteristics of the individual participants and their social relationships than about harvest. Information on the characteristics of the participants would allow us to look more at communities of association and how those communities fit within geographic communities. The following information on West Coast fisheries provides a simple look at the aggregated activities of individuals.

3.6.1 The Commercial Groundfish

3.6.1.1 General Description

The Pacific coast groundfish fishery is a year-round, multi-species fishery that takes place off the coasts of Washington, Oregon, and California. Most of the commercial groundfish harvest is taken by trawl, longline, and trap (or pot) vessels operating in the limited entry segment of the groundfish fishery. The limited entry program was established in 1994. Several open access fisheries take groundfish incidentally or in small amounts; participants in those fisheries may use, with some restrictions, longline, vertical hook-and-line, troll, pot, setnet, trammel net, shrimp and prawn trawl, California halibut trawl, sea cucumber trawl and other gears.

In most years during the past decade or so, the groundfish fishery was the most valuable commercial fishery on the West Coast (based on exvessel value), occasionally rivaled by the Dungeness crab fishery. However, in recent years both landings (tonnage) and value have declined substantially. In 2000, total landings in the groundfish fishery (including whiting), are projected to be about 25% lower than 1994, on a coastwide basis, and 2001 is expected to be substantially lower than 2000. Over the 1994-2000 period, lingcod catch declined 93% while total rockfish declined 70%. Pacific whiting declined just under 19% (Table 3-3). The total landed value of the harvest declined even more sharply by 33% since 1994 (Table 3-4). On a proportional basis, the value and volume of landings in the south declined more than in the north, but in absolute terms the declines in the north have been substantially larger. Rockfish have been on a consistent downward trend in both volume and value since 1995 (Figures 3-1 and 3-2). In 1998, there was a major decline in the volume of other groundfish species landed, and the economic effect of that decline was compounded by reduced prices.

In 1999, 1,485 vessels participated in the open access groundfish fishery (Table 3-5). There has generally been a downward trend in the number of vessels participating in the open access fishery with a precipitous decline in 1998 after a slight increase in 1997 (Figure 3-3a). Open access vessels depending on groundfish for more than 50% of their income were on a general declining trend while those less dependent on groundfish were increasing until 1998. The vast majority of open access vessels earn less than $5,000 of revenue from groundfish (Figure 3-4a). The open access fishery tends to be more dependent on the rockfish component of the groundfish fishery than the limited entry fleet.

	Nominal Exvessel Value ($ 1,000s)	Vessel Landings Salmon	Vessels With Permits	Active Portion of Permitted Vessels	Real Average Ex-Vessel Value Per Vessel
1996	9,074	1,530	3,932	0.39	6,187
1997	9,882	1,319	3,688	0.36	7,688
1998	5,480	1,066	3,405	0.31	5,214
1999	8,391	1,030	3,101	0.33	8,147

Ocean Non-Indian Commercial Salmon Fishery (from PFMC Annual Salmon Review)

The commercial salmon fleet, which is classified as part of the groundfish open access sector, has been on a declining trend in recent years. However, in 1999 salmon fishing improved substantially, resulting in substantial increases in total and average revenue per vessel. In 2001, salmon fishing is again expected to improve substantially.

The pink shrimp fishery is also classified as part of the open access sector, and the open access share of groundfish north of Cape Mendocino was based primarily on historical groundfish catch in this fishery. Many vessels that participate in the shrimp trawl fishery have groundfish limited entry permits. When participating in thepink shrimp fishery, they must abide by the same rules as vessels that do not have limited entry permits. In 1981, the three coastal states established uniform coastwide regulations for the pink shrimp fishery. The season runs from April 1 through October 31. Pink shrimp may be taken for commercial purposes only by trawl nets or pots. Most of the pink shrimp catch is taken with trawl gear with minimum mesh size of 1-3/8 inches between knots.

Allowances are provided for the retention of incidental harvest of ocean food fish in the pink shrimp fishery. The incidental retained harvest of groundfish ran about 3% of total catch in 1999 and 2% in 2000 (based on partial data for 2000, Table 3-1). Amounts of incidental catch varied by geographic region and whether the vessel was participating in the open access or limited entry segments of the groundfish fishery. In general, there were higher levels of retention in the limited entry segment of the fishery. The regulations for 2000 allowed the retention of 500 pounds of groundfish per day fishing, not to exceed the poundage of shrimp and not to exceed 2000 pounds per trip, and not to exceed any open access limits for the groundfish fishery. Dover sole and whiting were allowed to exceed the target species poundage but not the 2,000 pounds per trip limit.

	Revenue (Millions)	Pounds (Millions)	Number of Vessels Landing
1996	18.8	31.6	237
1997	15.6	39.3	216
1998	5.6	10.7	188
1999	13.2	28.4	185

Pink shrimp exvessel value, pounds landed and number of vessels harvesting (based on PacFIN annual vessel summary files).

In 1999, 89% (438 vessels) of the vessels with participated in the limited entry permits participated in the groundfish fishery (Table 3-5). Excluding the at-sea processing vessels, there were 490 vessels with Pacific coast groundfish limited entry permits, of which approximately 53% were trawl vessels, 40% were longline vessels, 6% were pot vessels, and 2% were vessels that have endorsements for more than one type of gear. The number of vessels actively participating in the commercial groundfish fishery has generally declined in recent years. The number of active vessels in the limited entry fishery from 1994-1999 declined 16%, compared to a 19% declined in the open access fleet. Each groundfish limited entry permit is endorsed for a particular gear type, and that gear endorsement cannot be changed, so the distribution of permits between gear types is fairly stable. Limited entry vessels tend to be substantially larger producers than open access vessels (Figure 3-4b).

Limited entry trawlers focus their efforts on many different species, with the largest landings by volume (other than Pacific whiting) from the following species: Dover sole, sablefish, thornyheads, widow rockfish, and yellowtail rockfish. There are 55+ rockfish species managed by the Pacific coast groundfish FMP and, taken as a whole historically, rockfish landings represented the highest volume of non-whiting landings in the Pacific coast commercial groundfish fishery. In addition to these mixed-species fisheries, there is a distinct mid-water trawl fishery that targets Pacific whiting. Pacific whiting landings are substantially higher in volume than any other Pacific coast groundfish species. In 1998, by weight, whiting accounted for approximately 85% of all commercial shore-based groundfish landings. Longline and pot vessels primarily target sablefish but some longline vessels also target on a mix of species in the rockfish complex.

With the exception of that portion of Pacific whiting catch that is processed at sea, virtually all other Pacific coast groundfish catch is processed at shore-based processing plants along the Pacific coast. By weight, 1998 commercial groundfish landings were distributed among the three states as follows: Washington, 13%; Oregon, 69%; California, 13%. By value, 1998 commercial groundfish landings were distributed among the three states as follows: Washington, 15%; Oregon, 43%; California, 42%. The discrepancies between the Oregon and California portions of the landings are expected because Oregon processors handle a relatively high percent of the shore-based whiting landings, a high volume, low value fishery. Conversely, California fishers land more of the low volume, high value species as a proportion of the total state-wide catch than Oregon fishers. Vessel owners and captains employ a variety of strategies to fill out a year of fishing. Fishers from the northern ports may fish in waters off of Alaska, as well as in the West Coast groundfish fishery. Others may change their operations throughout the year, targeting on salmon, shrimp, crab, or albacore.

The major goal of management of the groundfish fishery throughout the 1990s was to prevent overfishing while achieving the OYs and providing year-round fisheries for the major species or species groups. For 2000, growing awareness of reduced productivity of the groundfish resource made it apparent that the goal of a year-round fishery was no longer achievable for a number of species. A new management strategy, which diverts effort off the rocky sea floor of the continental shelf, was initiated in 2000 to rebuild overfished

species, especially canary rockfish. The measures resulted in lower OYs, reduced seasons, trawl gear restrictions and more restrictive trip limits for shelf and nearshore species. This management program, with generally tighter restrictions, was extended through 2001.

3.6.1.2 Regional Comparisons

Open Access: During the period of 1994-1999, active groundfish open access vessels (those with over $5,000 of landings) in Puget Sound, along the Washington Coast, and areas south of Yachats, Oregon, tended to be more dependent on groundfish than those along the central and northern Oregon coast. Vessels operating out of Washington tended to be more dependent on sablefish and those operating along the southern Oregon coast and in California, which tended to rely more on rockfish (Table 3-9). Open access vessels from Bodega Bay to Oxnard California tended to be particularly reliant on rockfish. This southern area showed general downward trends in the number of participants from 1994-1999. North of this area there have been fluctuations without any clear trends, though in 1998 and 1999 there were fewer participants in most areas except the southern Oregon coast. Participation in the open access fishery is more flexible than participation in the limited entry fishery; open access vessels are more likely to move between fisheries from year to year, or to try a new economic venture altogether. Thus, open access fleet size may be used as one (very rough) gauge of the overall economic viability of the fishery.

Table 3.6.1. Canary Rockfish landings by fleet by area, 1990-2000.

	Fleet					Area					Total Comm'l	Rec'l mts	Total mts
	Limited entry			Open access		INPFC Area							
	GF Trawl	Non-trawl	Shrimp trawl	Non-shrimp	Shrimp trawl	Van	Col	Eur	Mon	Concep			
1990				2,627.5	52.9	1,141.8	931.4	239.2	357.5	10.4	2,680.4	*	2,680.4+
1991				2,976.3	37.1	916.0	1,772.3	139.9	178.2	6.9	3,013.4	*	3,013.4+
1992				2,691.2	21.9	838.0	1,449.8	311.5	97.4	16.4	2,713.1	*	2,713.1+
1993	0.4	0.0		2,017.5	46.6	340.1	1,428.8	175.4	107.5	12.7	2,064.5	120.1	2,184.6
1994	870.6	48.6	3.2	190.8	6.8	172.5	656.1	157.3	110.4	23.4	1,119.8	87.5	1,207.3
1995	677.0	70.1	2.1	147.5	9.4	159.4	456.2	177.3	86.0	27.2	906.0	125.3	1,031.3
1996	957.7	76.4	11.5	168.5	13.9	194.0	673.5	174.9	169.9	15.7	1,228.0	92.8	1,320.8
1997	784.2	81.7	8.6	224.5	7.5	279.6	518.8	169.2	135.4	3.7	1,106.6	141.1	1,247.7
1998	894.1	111.2	3.9	164.4	8.7	208.6	601.8	261.5	105.4	4.9	1,182.3	89.7	1,272.0
1999	494.6	55.4	14.2	56.6	21.3	119.0	366.1	123.2	33.8	0.1	642.2	118.1	760.3
2000	30.7	5.3	4.3	4.7	7.2	8.7	28.6	12.6	2.3	0.1	52.2		

Notes: Prior to 1994, all commercial groundfish fisheries were open access.
Recreational data unavailable for 1990-1992.
All 2000 data are preliminary.

Limited Entry Fixed Gear Vessels: For limited entry fixed gear vessels, the geographic pattern of reliance on rockfish tends to be similar to the open access fishery with greater reliance on rockfish generally occurring in the area from Bodega Bay south (Table 3-10). Over recent years, the number of active vessels in this fleet has tended to be relatively stable along the central and southern Oregon coast. An increase has occurred along the northern Oregon coast. Along other areas of the coast there has been some fluctuation from 1994-1999 with the number of participating vessels first increasing then decreasing. There may be some relationship between this pattern and the imposition of the fixed gear sablefish endorsement program in 1997. The fixed gear sablefish endorsement program prevented the shift of additional fixed gear limited entry vessels into the lucrative sablefish fishery, based on landings history through 1994.

Limited Entry Trawl Vessels: Trawl vessels fishing out of Puget Sound and along the Washington coast tend to have a level of dependence on groundfish comparable to limited entry fixed gear vessels fishing out of the same areas (Table 3-11). Along the northern and central Oregon coast and northern California coast, the trawl vessel level of dependence in most years is substantially greater than for fixed gear vessels. Along the southern Oregon and north-central California coast (Bodega Bay to Santa Cruz), the level of trawl vessel reliance on groundfish has varied from year to year compared to limited entry fixed gear vessels. Trawl

vessel dependence on groundfish along the southern California coast (Santa Cruz to Oxnard) is generally less than for fixed gear vessels. With respect to rockfish, the pattern of trawl reliance is different than for fixed gear and open access vessels. In general, trawl vessels from Washington through the central Oregon coast and along the north Central California coast tend to rely more on rockfish, and trawl vessels fishing along other areas of the California coast tend to rely less on rockfish.

Tribal Fishers: Besides these non-tribal commercial fisheries, members of the Makah, Quileute, Hoh, and Quinault tribes participate in commercial, ceremonial and subsistence fisheries for groundfish off the Washington coast. Participants in the tribal commercial fisheries operate off Washington and use similar gear to non-tribal fishers. Groundfish caught in the tribal commercial fishery pass through the same markets as non-tribal commercial groundfish catch.

3.6.1.3 Distribution of Canary Rockfish Among Commercial Sectors

Prior to 1993, canary rockfish was a major component of commercial rockfish landings in Washington and Oregon, behind only widow and yellowtail rockfish. From 1992 to 1994, Washington landings dropped from 815 mt to 286 mt to 148 mt, roughly 12% of the 1989 level (Figure 3.6.2). In Oregon, the major decline occurred one year later, with landings dropping from 1,610 mt to 740 mt to 560 mt from 1993 to 1995. In California, where canary rockfish is a smaller (but still important) component of the commercial rockfish complex, landings remained relatively stable.

Based on the figures in Table 3.6.1 (above), the commercial sector was the major harvester of canary rockfish from 1993 through 1999, taking 84% to 95% each year. There is a generally declining trend, however, with the highest percentage (95%) taken in 1993 and the lowest (84%) in 1999. Preliminary information from 2000 indicates commercial landings of canary rockfish were less than the amount landed by recreational fishers, and the target for 2001 is an equal sharing (50:50) of the available catch.

Within the commercial fleet, limited entry groundfish trawl vessels took the largest share of the canary rockfish harvest, but that has declined substantially in recent years. Limited entry non-trawl gears took an increasing share each year, up to 10% in 2000. Open access vessels other than shrimp trawl vessels took a generally declining share each year, dropping from 20% in 1997 to 9% in 2000. The shrimp trawl fleet (limited entry and open access vessels combined) rocketed to 22% in 2000, primarily due to the dramatic decline in limited entry trawl landings from 1998 (894 mt) to 2000 (30.7 mt).

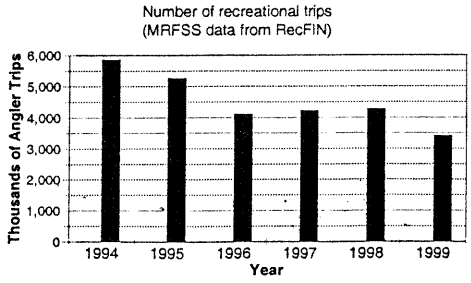
Distribution of canary rockfish among commercial sectors, 1993-2000.

	Limited Entry Groundfish Trawl	Limited Entry Non-trawl	Limited Entry Shrimp-trawl	Open access not shrimp	Total shrimp trawl
1994	78%	4%	0%	17%	1%
1995	75%	8%	0%	16%	1%
1996	78%	6%	1%	14%	2%
1997	71%	7%	1%	20%	1%
1998	76%	9%	0%	14%	1%
1999	77%	9%	2%	9%	6%
2000	59%	10%	8%	9%	22%

3.6.2 Recreational Fisheries

3.6.2.1 General Description

Recreational fishing has been part of the culture and economy of West Coast fishing communities for more than 50 years. Along the northern coast, most recreational fishing targeted salmon, but the abundant rockfish often provided a bonus to anglers. Recreational fisheries have contributed substantially to fishing communities, bringing in outside dollars and contributing to tourism in general.



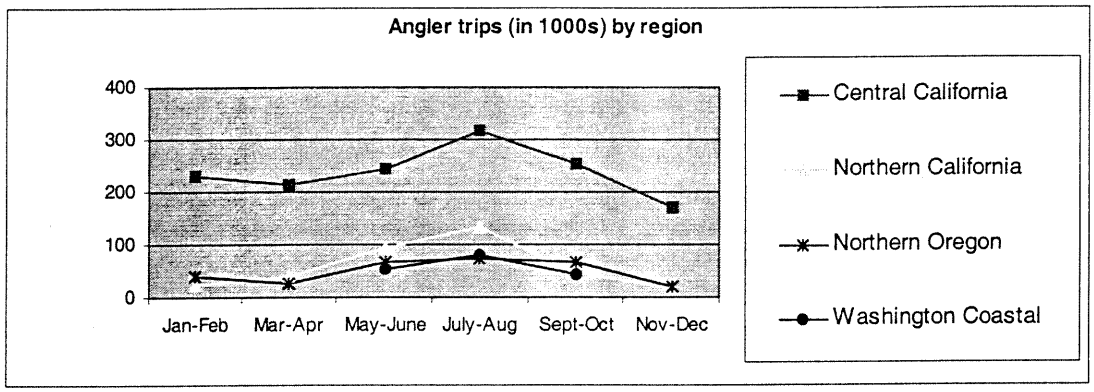
Recreational fishing in the open ocean has been on a downward trend. Data for 1994-1997 is incomplete, thus the downward trend may be more than indicated by the available Marine Recreational Fisheries Statistical Survey (MRFSS) data. Part of this decline is likely the result of shorter salmon seasons and smaller bag (retention) limits. Some effort shift from salmon to groundfish likely occurred, but the primary effect was likely to slow the overall decline in recreational fishing.

Recreational salmon harvest occurs from both charter and private fishing vessels. Estimates are not available for the amount of non-salmon incidental harvest by fishers targeting salmon. Such harvest would be subject to limits that apply to recreational groundfish harvest.

	California	Oregon	Washington	West Coast
1996	225.4	44.0	38.8	308.3
1997	234.3	30.4	27.6	292.3
1998	151.9	26.1	12.3	190.3
1999	147.9	49.5	47.4	244.8

Recreational Ocean Salmon Angler Trips (thousands, Annual salmon Review).

The proportion of ocean angling trips in which rockfish were taken or targeted unsuccessfully increased in 1999 compared to 1998 (Figure 3-5). The same is true for lingcod trips. Rockfish is a target or incidental catch in a substantial portion of the West Coast ocean recreational fishery. On average (1994-1999), 43% of all recreational ocean angling trips are taken on private and rental vessels, 25% are taken on party and charter vessels and the remaining trips are taken from the beach, banks, or manmade objects such as piers.



3.6.2.2 Regional Comparisons

More recreational trips are taken in southern California than in northern California, Oregon or Washington, Table 3-7. The proportion of trips taken on party/charter vessels is generally greatest in Washington, followed by southern California, Oregon and northern California. Consistent data across years for 1994-1999 is available only for southern California. These data show a steady decline in ocean recreational angling trips. In general trips in 1999 were below 1998 levels for all regions of the coast. Most of the reduction occurred for private vessels in Washington, Oregon, and southern California, and for beach/bank fishing in northern California.

While the proportion of trips taken on party/charter vessels was greatest in Washington, the proportion of those surveyed that owned their own boat for recreational saltwater fishing was also greatest in Washington (57% compared to 38% in the next highest region, Oregon). Recreational fishers in most regions tend to have household incomes of between $45,000 and $60,000. The proportion of fishers earning less than this amount was greater in Oregon than in other regions. Anglers in Washington spend more on replacement or purchase of new equipment than other areas of the coast and yearly tax payments were greatest for individuals in southern California.

Recreational fishing activities follow a similar seasonal pattern along the entire coast, although there are regional variations. Summer is the most important time for recreational ocean fishing, with the peak occurring

in July and August throughout the coast. In northern Oregon, recreational fishing does not really show a peak, but rather is fairly steady from May through October. In all areas, the fewest trips are taken during November and December.

3.6.2.3 Harvest of Canary Rockfish

The recreational sector historically took a small portion of the coastwide canary rockfish catch, about 5 - 10%. This increased to 15% in 1999 and exceeded the commercial landed catch in 2000, primarily due to the severe restrictions on commercial fishers that year. Most of the recreational catch in 2000 was taken in California. In 2001 and 2002, the Council has set a target of achieving a 50:50 sharing of the canary rockfish catch. To achieve this, a substantial reduction in recreational catch will be necessary, and the Council and the states have implemented several measures to achieve the necessary reduction. For example, recreational anglers in each state are restricted to two canary rockfish per day, and California has established seasonal closures and hook limits. Angler education programs will undoubtedly be necessary in order to avoid accidental catch of canary rockfish.

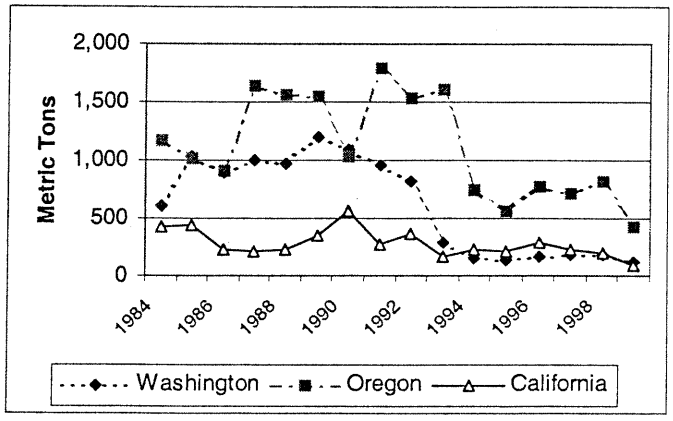
3.6.3 Groundfish Buyers

3.6.3.1 General Description

Groundfish buyers include processing plants, buying stations and vessels that hold buyers licenses and sell directly to wholesale markets. There was a jump in the number of groundfish buyers in 1998-1999. This jump is associated primarily with buyers handling a small amount of groundfish (less than $5,000 in exvessel value) with a low level of dependence (the first column of Table 3-6). Recently, the number of large operations (those handling product valued at over $500,000 at the exvessel level) declined from the 125-134 range observed from 1994-1997 to 80-107 for 1998-1999. Declines occurred both for those buyers more dependent on groundfish (over 50% of their purchases are groundfish in terms of exvessel value) and those that are less dependent on groundfish. From 1994-1999, groundfish comprised between 71% and 75% of the purchases of large buyers with over 50% of their purchases from groundfish. However, the rockfish component of these purchases dropped substantially beginning in 1997.

3.6.3.2 Regional Comparisons

For most areas of the coast, the total numbers of buyers active in 1998 and 1999 was within the range of those active in the previous four years (from 1994-1997, Table 3-12). Along the Oregon Washington and north-central California coasts there was a decline from 1998 to 1999. For the central and southern regions of California, there were increases from 1998-1999. Most of the volatility in numbers of buyers occurs in the smaller size classes, those purchasing less than $10,000 exvessel value groundfish in a year (note: smaller groundfish buyers may include large seafood buyers that buy only small quantities of groundfish). The number of larger buyers (over $500,000 in exvessel purchases) in most areas was generally within the range observed from 1994-1997 and for Washington and the northern Oregon coast there was an increase from 1998 to 1999. However, for the southern Oregon coast, north-central California and south-Central California (Santa Cruz to Oxnard) the numbers were lower than the 1994-1997 range. For the central Oregon coast the number of large buyers was constant from 1998 to 1999.



Canary rockfish landings trend, 1984-2000.

For buyers in Puget Sound, a greater percentage of purchases are groundfish than for buyers along the Washington coast. Buyers along the Oregon coast tend to be relatively consistent with one another in terms of the percentage of their purchases of groundfish. Groundfish comprise a greater proportion of the

purchases of Oregon buyers than for buyers along the Washington coast but a lesser proportion than buyers in Puget Sound. Groundfish purchases comprise a greater portion of the catch for buyers in north and north-central California. Along the south-central and southern California coast, groundfish as a proportion of purchases tends to be more comparable to the Oregon coast.

The rockfish component of the groundfish purchases tends to increase as one moves from north to south with exceptions at the extreme ends of this range. From 1994-1997, the rockfish component of Puget Sound groundfish purchases was similar to those of northern California. In 1998 and 1999 the rockfish component of the Puget Sound purchases declined to levels comparable to northern Oregon. In south-central and southern California, the rockfish component of groundfish purchases tends to be somewhat lower than to the north.

3.6.4 Communities

Fishing communities, as defined in the Magnuson-Stevens Act, include not only the people who actually catch the fish, but also those who share a common dependency on directly related fisheries-dependent services and industries. In commercial fishing, this may include boatyards, fish handlers and processors, and ice suppliers. In recreational fishing, this may include tackle shops, small marinas, lodging facilities that cater to out-of-town anglers, and tourism bureaus that advertise charter fishing opportunities. Another component of fishing communities is the people employed in fishery management and enforcement.

Fishing communities of the West Coast depend on commercial and/or recreational fisheries for many species. Participants in these fisheries employ a variety of fishing gears and combinations of gears. Naturally, community patterns of fishery participation vary coastwide and seasonally based on species availability, the regulatory environment, and oceanographic and weather conditions. Each community is characterized by its unique mix of fishery operations, fishing areas and habitat types, seasonal patterns, and target species. While each community is unique, there are many similarities. For example, all face danger, safety issues, dwindling resources, and a multitude of state and federal regulations.

Individuals make up unique communities with differing cultural heritages and economic characteristics. Examples include the Ballard community in Seattle with heavy Scandanavian influences, a Vietnamese fishing community of San Francisco Bay, and an Italian fishing community of southern California. Also included in these considerations are the Native American communities with an interest in the groundfish fisheries. These tribal communities are primarily found along the northwest coast. In most areas, fishers with a variety of ethnic backgrounds come together to form the fishing communities within local areas, drawn together by their common interests in economic and physical survival in an uncertain and changing ocean and regulatory environment.

Demographic information on geographic communities at the county level has been compiled for a general baseline description of West Coast fishing communities. This information has been made available to Council members, may be downloaded from the Council web site (www.pcouncil.org) and is incorporated herein by reference.

3.6.5 Historical Management of Canary Rockfish

The primary management measures for controlling groundfish catches are the annual harvest levels, which include acceptable biological catch (ABC) and optimum yield (OY) specifications. Several types of management measures have been employed to keep catches from exceeding the specified limits (Table 3.6.3). Some measures are set in the FMP, and some are frameworked in the FMP and established through federal regulatory or notice procedures. Framework provisions allow for management measures to be adjusted as necessary, in some cases very quickly. Some of the more important management measures for commercial fisheries include definitions of legal trawl gear, including the minimum mesh size specification, and trip limits, which are limits on the amounts of fish that may be taken and retained, landed and sold in a specified time period and/or area. These are typically adjusted through the year as necessary in response

to fleet participation and landings rates. For the recreational fishery, the primary management measures have been bag limits and seasons.

Table 3.6.3 Management measures set in the FMP or frameworked and set by regulation or notice.

Set in the FMP	Frameworked in the FMP and Set by Regulation or Notice
Permit requirements Limited access Limited entry and open access allocation shares	Annual harvest levels Mesh size Allocations and quotas Landing and frequency limits (trip limits) Inseason adjustments to trip limits Time/area closures Recreational bag limits, hook limits

Historical Catch Specifications and Landings

ABC levels for canary were first set in the FMP when it was implemented in the early 1980s. ABC values typically applied to the Vancouver, Columbia and Eureka areas, with an overall ABC equal to the total for these three areas. Initial ABCs were 800 mt, 1,300 mt, and 600 mt, respectively, for the three areas with a total of 2,700 mt. In 1985, the Columbia ABC was increased to 2,100 mt and the total to 3,500 mt. In 1991, the Columbia ABC was reduced to 1,500 mt and the total to 2,900 mt. For the first time, a harvest guideline (3,500 mt) was established in 1991 (at that time it was permissible to set harvest levels above ABC). The harvest guideline was discontinued from 1992 through 1994, with ABC remaining at 2,900 mt. In 1995, based on a new stock assessment, the ABC for the combined Vancouver-Columbia area was reduced to 1,000 mt and the Eureka ABC to 250 mt. The Vancouver-Columbia harvest guideline was set at 850 mt. This was extended until 1997, when the Vancouver-Columbia ABC was marginally increased to 1,220 mt and the harvest guideline to 1,000 mt. An ABC of 85 mt was established for the Eureka-Monterey-Conception area for the first time, with no harvest guideline. In 1998, the northern ABC was set at 1,045 mt and the total catch harvest guideline also at 1,045 mt. For the first time, a discard adjustment was made, resulting in a landed catch harvest guideline of 878 mt. In 1999, the term "harvest guideline" was replaced by the term "optimum yield (OY);" the northern ABC remained at 1,045 mt, but the total catch OY was set at 857 mt, including anticipated discards. The landed catch harvest guideline for commercial fishers, after anticipated recreational catch and estimated commercial discards were deducted, was 689 mt. In 2000, the coastwide ABC was reduced to 287 mt and the total catch OY was reduced to 200 mt.

Table 3.6.2. Specified harvest levels and observed commercial landings, 1983-1999.

	1983-84	1985-90	1991-94	1995-96	1997	1998	1999	2000
Total ABC/ HG or OY	2,700 (V+C+E)	3,500 (V+C+E)	2,900 (V+C+E)	1,250/ 850 (V+C)	1,220/ 1,000(V+C)	1,045/ 878 (V+C)	1,045/ 689 (V+C)	287/ 200 (coast-wide)
Commercial Landings (average, if multiple years)	3,433	2,644	2,228	741	797	565	406	

Since the mid-1990s, when an OY was first specified for canary rockfish, an assumed discard estimate of 16% has been applied. It should be noted that landings data reflect only the portion of the catch that is retained and landed. Additional unrecorded amounts are discarded for regulatory, economic or other reasons. The Council has acknowledged that without adequate estimates of bycatch, it will not be possible to accurately monitor progress towards rebuilding and to determine the effectiveness of management measures.

Commercial Management Measures

Prior to 1995, canary rockfish was managed as a generic component of the *Sebastes* complex along with most other rockfish; there were no federal management measures for commercial fisheries (trip limits or other measures) specific to canary rockfish. On January 1, 1995, the cumulative trip limit of canary rockfish for

limited entry vessels was set at 6,000 pounds per month, coastwide. There was no specified limit for the open access sector, although the limited entry limit was also binding on vessels operating in the open access fishery. The limited entry cumulative limit was increased to 9,000 pounds per month on August 1 in order to better achieve the harvest guideline. An equivalent limit of 18,000 pounds per two-months was in effect during 1996, reduced to 14,000 pounds per two months for most of 1997. In 1998, the limited entry cumulative limit was 15,000 pounds per two months until October 1, when it was reduced to 500 pounds per month. In 1999, the cumulative limit management system was revised, and the average monthly limit reduced to 3,000 pounds for limited entry vessels. Also in 1999, the open access (non-trawl) sector was assigned a separate limit of 1,000 pounds per month coastwide, for the first time. On April 1, the open access cumulative limit was increased to 2,000 pounds.

In 2000, management of canary rockfish was changed dramatically in response to the 1999 stock assessments, with most management measures implemented by emergency regulations. The intent of management measures was to prevent fishing in canary rockfish habitat, which is primarily rocky areas on the continental shelf. The *Sebastes* complex was divided into nearshore, shelf and slope components based primarily on how the fish are typically caught. For limited entry trawl gear, trawl footrope configuration was the primary factor used to distinguish vessel cumulative landing limits. In order for a vessel to use bottom trawl gear in areas where the sea floor is rocky, the trawl net must be protected to prevent it from snagging and tearing. Vessels typically have strung large rollers (including vehicle tires) on the footrope and fastened protective material to the bottom of the net. Without those modifications, trawl gear using is virtually useless in rocky areas. Emergency regulations specified that vessels using bottom trawls with large footropes (larger than 8 inches diameter) were not allowed to land shelf rockfish and certain flatfish. Vessels using small diameter trawls were allowed to land incidental amounts of some shelf rockfish species, including canary rockfish. Only 100 - 300 pounds per month of canary could be landed. Limited entry fixed gear vessels were subject to limits similar or identical to those of trawl vessels, including 100-300 pounds of canary rockfish per month. The open access limit was 50 pounds per month.

Recreational Management

Prior to 2000, recreational bag limits did not specify canary rockfish, but rather set a limit on all rockfish species. In 2000, recreational bag limits for Oregon and California specified that not more than three canary rockfish could be caught and kept per day. Washington recreational fishers were restricted to two per day. Recreational bag limits were generally reduced in 2001.

During the decade of the 1990s, the estimated annual recreational catch remained fairly constant at about 90 - 120 mt. During the same period, commercial landings declined by 50% to 75% as tighter constraints were imposed on the fishery (see following table). In 2000, commercial landings totaled only 52 mt, less than 10% of the 1999 level and only 2% of the level during the early 1990s. These commercial data should be viewed with an element of caution: they reflect landed catch, not total catch.

4.0 ELEMENTS OF THE CANARY ROCKFISH REBUILDING PLAN

NMFS concurred with the Council's finding and on January 1, 2000 advised the Council it had designated the West Coast canary rockfish stock as overfished. That designation requires the Council to prepare a rebuilding plan within one year. A rebuilding plan consists of (1) a rebuilding analysis that estimates the potential rate of rebuilding the stock, including a technical analysis of stock productivity, estimate of B_{msy}, forecasts of future population growth and estimation of the time for the stock to rebuild under various assumptions; (2) the management plan to achieve the population size and harvest levels indicated in the rebuilding analysis, including goals and objectives and how progress will be monitored; and (3) the management measures necessary to maintain catch at or below the designated levels.

4.1 Rebuilding Analysis

A preliminary rebuilding analysis for canary rockfish was prepared in August 2000 by Dr. Richard Methot, NMFS Northwest Fishery Science Center, and an addendum was prepared in December 2000. The analysis focuses primarily on the 1999 assessment of the northern portion of the West Coast canary rockfish stock.

4.1.1 Time to Rebuild in the Absence and Presence of Fishing

The minimum time necessary for this stock to recover to its maximum sustainable yield stock size, in the absence of all fishing-related mortality, ranges from 24 to 119 years. The optimistic level of 23 or 24 years is based on the possibility of either (1) an immediate increase in recruitment to the median level observed during the more productive period of 1987-1991, or (2) an increase in recruits per spawner (R/S) values to the high level estimated for 1996-1998. More realistic scenarios are based on lower recruitment levels in 1996-1998 and R/S levels observed over a longer period. These scenarios produce rebuilding time frames of approximately 74 years, and one result (re-sampling from 1978-1995) shows a median time to rebuild of 119 years. Based upon the median recruitment scenario, the northern stock would be expected to rebuild from its current level to the target level in 41 years with no fishing. With a mean generation time of 17 years, the allowable time to rebuild is calculated to be 58 years. A constant catch of 73 mt per year would allow the stock to rebuild in 57 years in 52% of the simulations. This rebuilding plan specifies the rebuilding period for canary rockfish to be 57 years.

Table 4.1.1 Estimated Time Range for Canary Rockfish Stock to Recover to Maximum Sustainable Yield Stock Size, in the Absence of All Fishing-related Mortality

Years to rebuild to MSY	Recruitment Assumption
23	Immediate increase to the mean recruitment level observed 1987-1991
74	Immediate increase to the recruits/spawner level observed 1978-1986
119	Recruitment sampled from mean recruitment observed 1978-1995, assuming a reduced number of 1996-1998 recruits in the 2001 population.
41	Recruitment sampled from mean recruitment observed 1978-1997, with 1996-1997 reduced 25% from initial estimates ("median recruitment" scenario)
64	Recruitment sampled from mean recruitment observed 1978-1997, with 1996-1997 reduced 50% from initial estimates ("low recruitment" scenario)

A central question that contributes to the uncertainty in the current status and rebuilding potential of this stock is the mortality rate of adult female canary rockfish. Female canary rockfish make up substantially less than 50% of adult population samples, both in the commercial catch and research surveys. If this is a true reflection of the adult population, female rockfish must have a higher natural mortality rate, die younger on average, and have less opportunity to reproduce. In this case, the population is calculated to be about 7% of the unfished population size. If older female canary rockfish are really present in the population, but somehow are better at avoiding capture by commercial fishers and research surveys, then those (hidden) females continue to reproduce. In that case, the population is calculated to be about 20%-23% of the unfished population size.

The major factor that will control the rebuilding rate is the rate of recruitment of young fish into the population. Over the period of 1987 - 1995, the rate of recruitment was too low to replace the fish that died of natural causes. If this low reproduction rate were to continue indefinitely into the future, rebuilding could be delayed for centuries.

It will be extremely difficult to achieve the harvest reductions necessary to achieve the rebuilding goals and meet the rebuilding schedule. The following analysis is based on a constant catch level throughout the rebuilding period, meaning the catch levels proposed for 2001 must be maintained for several decades. Major restructuring of the commercial groundfish fisheries will be necessary, including development of methods to reduce bycatch of canary rockfish in non-groundfish fisheries (such as the trawl fishery for pink shrimp and the salmon troll fishery). Recreational fishers will also need to actively avoid canary rockfish, which will likely mean not fishing for rockfish species that are found in association with canary rockfish, and perhaps refraining from fishing in large areas of the continental shelf. When canary rockfish become more abundant, it will become more difficult to avoid incidental catch and mortality, and further restrictions may be necessary in order to keep catches from exceeding harvest levels established for rebuilding.

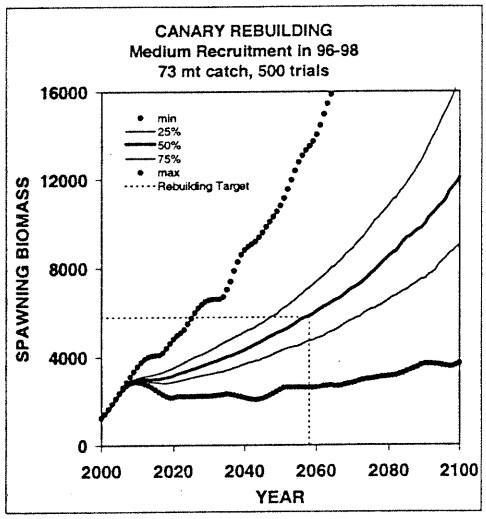
Even scientific sampling of the canary rockfish population could hinder recovery efforts. Fishery scientists will need to get as much information as possible from the fish caught by recreational and commercial fishers. The Council may wish to consider a mandatory retention provision, with recreational and/or commercial fishers required to turn in all canary rockfish to state or federal agencies for scientific processing. In addition, scientific sampling programs may need to focus more on egg and larvae surveys rather than trawl surveys in areas inhabited by canary rockfish.

4.1.2 Target Biomass and Rebuilding Period

Before a rebuilding program can be designed or implemented, managers must identify a goal, or biomass target, that will allow determination of when rebuilding is complete and the stock has returned to, or is maintaining, a healthy condition. This biomass target is used to establish management measures to guide the rebuilding process. The biomass target is a level of stock abundance at which harvesting of the resources can be sustained on a continual basis at the level necessary to support MSY. The biomass rebuilding target is applicable only during the rebuilding phase of the management plan, and would signal recovery of the stock to a healthy condition.

In the case of canary rockfish, the target female spawning biomass ($B_{40\%}$) for the northern portion of the stock is in the range of about 6,000 mt to 13,600 mt, depending on whether fishery selectivity is asymptotic (Scenario 1 in the analysis) or dome shaped (Scenario 2). The rebuilding time period is based on 6,000 mt as the initial target. A constant catch of 73 mt per year is projected to rebuild the canary rockfish stock in 57 years in 52% of the simulations. This rebuilding plan specifies the rebuilding period for canary rockfish to be 57 years.

As described above, there is a great deal of uncertainty about the rate of future rebuilding, resulting in a wide range of potential rebuilding periods. The adjacent chart shows the range of biomass trajectories and rebuilding periods calculated by the rebuilding model.



Trajectory of spawning biomass expected.

4.2 Management Under the Plan

4.2.1 Goals and Objectives of the Plan

The goals of the canary rockfish rebuilding program are to (1) achieve the population size and structure that will support the maximum sustainable yield within 81 years; (2) establish a long term management program that has a high probability that total annual fishing mortality of canary rockfish will not exceed the specified amounts; (3) foster public education programs about the need to rebuild the canary rockfish population, and how individuals can help; and (4) protect the quantity and quality of habitat necessary to support the stock at healthy levels in the future.

4.2.2 Harvest Rate Strategy

The preliminary harvest strategy for canary rockfish is to maintain a constant annual harvest limit for the duration of the rebuilding period. This strategy is one of several the Council considered and is an attempt to balance the need to reduce harvest to the extent practicable and the needs of fishers and fishing communities. The typical harvest strategy is based on a constant catch rate, rather than a constant amount; however, such a rate would result in an OY of zero to about 20 mt in the initial years and a larger OY as the stock rebounds. The Council believes it would be nearly impossible to eliminate all fishing mortality, and attempts to do so would undoubtedly result in closure of all groundfish fishing on the continental shelf and reduction of non-groundfish fisheries that take canary rockfish as bycatch. The constant catch amount adopted by the Council assumes young canary rockfish will recruit to the population at a rate higher than the average for the past 20 years, but at a lower rate than in the past 5 years or so. This decision was based on initial observations of higher recruitment in 1998 and 1999, but with the understanding that confirmation of higher recruitment is

imperative. If upcoming NMFS groundfish surveys fail to detect substantial recruitment, the Council intends to reduce the annual harvest amount in order to allow the stock to rebuild as projected.

4.2.3 Anticipated Harvest Sharing Plans and Allocations

In recent years, commercial harvest of canary rockfish has been substantially reduced through a series of restrictions on trip limits and other measures. Management of the recreational fisheries was unaffected until 2000, when bag limit and season reductions were imposed. However, estimates of recreational canary rockfish catch did not respond as anticipated; the catch remained similar to previous years. Due to the difficulty in predicting the response to restrictive management measures, along with other factors such as widespread public outcry, the Council concluded further reduction of the recreational catch would be much more difficult to achieve than reduction of commercial landings. The Council considered direct allocation between commercial and recreational sectors and may decide this would be beneficial in the future. However, in the short term, the Council will attempt to set harvest guidelines or catch projections for the recreational fishery and attempt to manage the commercial fishery to the remainder of the OY.

Catch and bycatch of canary rockfish in non-groundfish commercial fisheries (such as the pink shrimp and salmon troll fisheries) are also difficult to predict and control. The Council considered the advantages and disadvantages of allocating amounts to various non-groundfish fisheries, either in aggregate or individually. However, without direct monitoring and management authority over non-groundfish fisheries, the Council cannot control the amount of canary rockfish taken. Instead, in the short term, the Council has chosen to anticipate catch levels in non-groundfish fisheries, deduct those amounts from the available total, and restrict commercial groundfish operations to the remainder. The Council's strategic plan for the groundfish fisheries indicates minimal bycatch needs in non-groundfish fisheries may take priority over directed catch opportunities in groundfish fisheries. The Council will continue to evaluate the tradeoffs as it develops a long term strategy.

This rebuilding plan envisions a constant catch of 88-93 mt per year. In the short term, all groundfish and non-groundfish fishers will need to avoid canary rockfish as much as possible in order to keep catch to the target level. As canary rockfish abundance increases as the stock recovers, it is likely to expand into areas of former abundance, and fishers will have more difficulty avoiding bycatch. Therefore, it is likely that more restrictive management measures will be necessary. In addition, the share taken by recreational fishers and commercial non-groundfish fisheries will likely increase. This would result in greater restriction on certain groundfish fisheries, perhaps in the form of geographic restrictions, shorter seasons, or gear modification requirements.

4.2.4 Anticipated Management Measures, Including Methods to Reduce Bycatch

Gear Restrictions

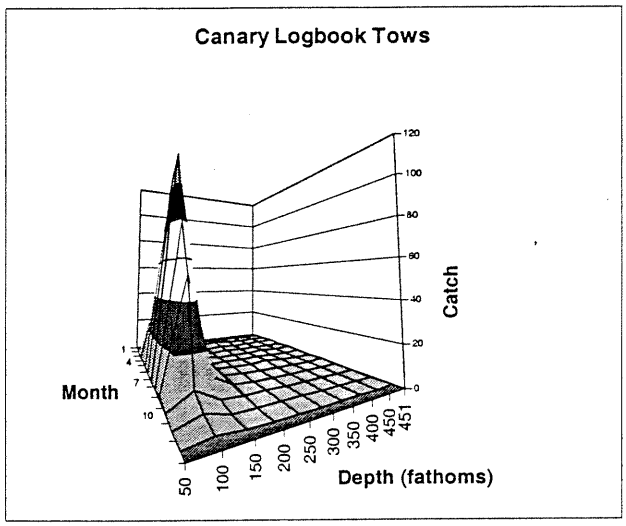
For the 2000 groundfish trawl fishery, the Council endorsed a proposal developed by participants in the groundfish trawl fishery designed to greatly reduce trawl fishing in rocky-bottom areas of the continental shelf. Retention and landing of most species was prohibited unless the trawl vessel used nets that would snag and/or tear on contact with rock piles, reefs, and other structures. Specifically, vessels were allowed to land certain groundfish only if their trawls had small diameter, unprotected foot ropes. Foot ropes protected with large-diameter rollers, disks, tires, etc, could not be on board if the vessel fished for or landed canary rockfish and other shelf groundfish species. The result, according to public testimony and preliminary landings data, was that landings of canary rockfish were reduced substantially, along with landings of several associated groundfish species.

In the recreational fishery, the Council established limits on the number of hooks anglers may use. By reducing the number of hooks, recreational fishers are more able to avoid exceeding the daily bag limit.

The Council has also considered prohibiting pink shrimp fishers from landing groundfish unless they actively use fish excluder devices in their shrimp nets. The Council has no direct authority over the pink shrimp fishery, but is authorized to allow shrimp fishers to retain amounts of groundfish taken incidentally. Shrimp fishers have testified to the management Council that an incidental groundfish catch allowance is important to their financial success. The Council has urged the three coastal states to require fish excluder devices or to work with their stakeholders to develop alternative methods to avoid canary rockfish.

Area Management, Including Time/Area Closures

Washington Department of Fish and Wildlife personnel analyzed data recorded in trawl logbooks in an attempt to demarcate canary rockfish distribution. Some of the analysis is summarized in the adjacent graphic, which shows most trawl catch of canary rockfish occurred in a relatively narrow depth range from 50 fathoms to 150 fathoms (about 90 meters to 270 meters). The distance from shore and width of this of this portion of the continental shelf vary substantially along the coast. These irregularities make it extremely difficult to design an effective and enforceable area closure. The Council's Enforcement Consultants and GAP attempted to design an area closure that would match the contours of this portion of the shelf without including too much additional area or excluding too much of the important habitat. They concluded that an area bounded by straight lines would not achieve the desired results, citing enforcement and compliance issues.



Modification of Open Access and Limited Entry Allocation Shares

Amendment 12 to the FMP authorizes the Council and NMFS to temporarily suspend or modify allocations of overfished species and associated species in order to facilitate the rebuilding process and to fairly distribute the conservation burdens. Canary rockfish are taken in a variety of open access fisheries, both directed and non-directed on groundfish. Directed open access fisheries for groundfish include trolled line gear, rod and reel, vertical longlines, and set longlines. Non-directed fisheries that take canary rockfish include the pink shrimp and salmon troll fisheries. Several vessels with limited entry permits also participate in the pink shrimp fishery; all groundfish landed by these vessels are included in the limited entry total.

The Council evaluated landings data from all commercial fisheries where canary rockfish have been recorded on state landing tickets to determine which fisheries are currently impacting this overfished stock. The incidental catch amounts of canary rockfish were then adjusted based on the optional management approaches under consideration. One strategy in developing management options was to start with the most valuable fisheries believed to take canary rockfish purely incidentally, such as the pink shrimp and whiting fisheries. Then additional fisheries were added one by one until the total expected canary rockfish catch reached the limit. The following table summarizes the results of this exercise.

Summary of impacts of alternative management approaches considered.

FISHERY	FISHERY DESCRIPTION	CATCHES/IMPACTS (mt) Lowest option	Highest option
Recreational			
WA sport		2	2
OR sport		16	21
CA sport		26	45
Commercial			
Limited Entry Trawl			
Shrimp (includes open access)		5.5	11
Whiting		3	3
Slope longspine thornyhead	>150 fm only	0	0
Slope sablefish	>150 fm only	0	0
Slope Dover sole	>150 fm only	0	0
Slope petrale sole	>150 fm only	0	0
Midwater widow		1	1.5
Nearshore flatfish	<50 fm	1	1
South of Mendocino	all depths trawl	1	1
Midwater yellowtail		0	0
Summer arrowtooth	>150 fm only	0	0
Limited Entry Fixed Gear			
all except 3-tier sablefish	close 50 - 150 fm? reduced widow and yellowtail rockfish targets	1	1
3-tier sablefish		1	1
South of Mendocino	reduced widow and yellowtail rockfish targets	1	1
Open access			
line gear, including salmon troll	close 50 - 150 fm?	2	2
South of Mendocino		0	0
Totals		60.5	90.5

One result could be that open access fisheries may need more than the share specified in the limited entry section of the FMP. For example, in the "lowest option" above, open access fisheries would take about 5/16 (about 35%) of the commercial canary rockfish allowance, rather than the 12.3% allocation. In the "highest option," about 9 of 22 commercial tons (about 40%). If OY were larger, it is likely the open access share would be closer to 12%; in some cases, it could be lower.

Bycatch Reduction Measures

Amendment 13 to the FMP, which NMFS approved on December 21, 2000, addressed the bycatch requirements of the Magnuson-Stevens Act through evaluation of standardized reporting methodologies and bycatch reduction measures. The amendment and its associated environmental assessment included a thorough review of historical bycatch reduction efforts which will not be repeated here.

The Council recommended several gear restrictions for managing the commercial and recreational fisheries in 2000 and 2001. Several measures were implemented by emergency regulation for the 2000 fisheries; Amendment 13 authorized implementation of gear restrictions through the annual specification procedures for 2001. For the commercial trawl fishery, the Council divided the rockfish complex into three categories based on how they are typically caught. The categories are nearshore rockfish, shelf rockfish, and slope

rockfish. The Council also specified that several groundfish species found primarily on the continental shelf may not be landed by any vessel using trawls with footropes larger than eight inches in diameter. Also, the lower sections of the net may not have any material added to protect it from damage or snagging by rocks or other components of the ocean floor. These provisions are believed to have effectively eliminated trawling in rocky areas inhabited by canary rockfish, lingcod, and associated species.

For the recreational fishery, the Council specified that California anglers may not use more than two hooks in times and areas when the recreational season for rockfish is open. Previously there were no federal restrictions on the number of hooks a sport fisher in California could use, although State regulations limited anglers to not more than three hooks per pole. The use of multiple hooks frequently results in more than one fish being caught at a time, especially when anglers encounter dense schools of feeding rockfish. If canary rockfish were encountered, an angler could easily exceed his one fish daily limit. Accidental catch of most rockfish results in high mortality due to decompression and temperature shock. The reduction in the number of hooks is intended to reduce the likelihood that an angler would accidentally catch more than the specified bag limit of canary or other depleted rockfish.

As canary rockfish abundance increases over time, recreational and commercial fishers will be more and more likely to encounter these fish. However, the rebuilding plan envisions a constant amount of catch, including bycatch, each year until the stock is fully recovered. In order to maintain total catch at 88 - 93 mt per year, it is likely that more restrictive measures will be necessary. Those will undoubtedly require less fishing in areas where canary rockfish occur. The Council will need to evaluate the most effective ways to achieve this with minimum disruption to commercial and recreational fishers.

4.2.5 How Management Measures (Fishing Restrictions, etc.) Will be Implemented

Chapter 5 of the FMP addresses preparation and implementation of rebuilding plans and management measures. Specifically, the FMP says the Council will develop a rebuilding plan and submit it in the same manner as recommendations of the annual management process. Once approved, a rebuilding plan will remain in effect for the specified duration or until the Council recommends and the Secretary approves revision. The Council anticipates management measures for rebuilding plans will be implemented in the same manner as other management measures, either through the annual specifications process or federal rulemaking procedures.

4.2.6 Interaction with Other Overfished Stocks and Rebuilding Plans

The geographic and habitat distribution of canary rockfish overlaps those of lingcod and southern bocaccio rockfish, both of which also inhabit the continental shelf and have been declared overfished. Commercial lingcod catches are generally highest in the depth range of 70-150 m, which is shallower than the primary range of canary rockfish. Bocaccio is classified as a middle shelf-mesobenthal species, inhabiting depths between 50 and 300 meters. Most common depths are 100 to 150 meters over the outer continental shelf. The southern bocaccio stock extends from Mexico north to about Cape Mendocino, California, and thus overlaps the southern portion of the canary range. Management measures to reduce the take of lingcod, especially measures that reduce fishing in rocky areas of the continental shelf, are also likely to benefit canary rockfish. In California, bag limits to reduce targeting on bocaccio may also reduce catch of canary rockfish. The degree of benefit from such measures is subject to conjecture.

4.2.7 Monitoring Fishing Mortality, Verification of Assumptions, and Evaluation of Progress

Monitoring of fishing mortality continues to be problematic. The Council has recommended establishment of an on-board observer program to monitor discard of groundfish and other species taken incidentally in groundfish fisheries. Currently, only the at-sea fishery for Pacific whiting is actively observed at sea. NMFS is working with the states and with the Pacific States Marine Fisheries Commission to develop an observer coverage plan for the groundfish fisheries. This observer coverage plan focuses on determining total catch (landed catch + discards) in the non-whiting groundfish fisheries. Congress has recently approved funding for a West Coast observer program for 2001, and the Council anticipates implementation of an initial program during the 2001 fishing year. However, this program will monitor only a small fraction of the active fleet. Other

methods to monitor fishing mortality, such as mandatory retention of all overfished species, are likely to be considered to ensure mortalities do not exceed the specified limits.

The Magnuson-Stevens Act requires NMFS to review the effectiveness of each rebuilding plan and whether it has achieved the intended results (such as specified catch levels and biomass trajectories). These reviews must occur at least every two years. The Council anticipates these reviews will result in additional information that will be used to revise and/or update the rebuilding plan.

4.3 Implementation of the Management Measures in 2000 and 2001 to Initiate Rebuilding

The Council adopted an OY of 93 mt for 2001 and 2002, of which 5 mt will be reserved for scientific research, and 88 mt will be shared equally between recreational and commercial fisheries. The Council recommended management measures for recreational and commercial fisheries for 2001 and prepared an analysis (EA/RIR) to accompany those recommendations. The Council specified these measures will be for two years only, at which time a new stock assessment will be prepared and evaluated. The Council intends to revisit this rebuilding plan and make any necessary revisions at that time.

5.0 ANALYSIS OF IMPACTS

5.1 Goals and objectives of the rebuilding plan

Under the status quo, no rebuilding plan would be adopted for canary rockfish. This alternative is not viable because it does not meet the requirements of federal law. Although the canary rockfish stock might rebuild under this alternative, there would be no clear and cohesive plan to accomplish rebuilding. Management measures would be developed in an ad hoc manner.

The only viable decision for the Council is to establish a rebuilding plan for canary rockfish. Under Alternative 2, the Council rebuilding plan would include goals and objectives based on those listed in Section 5.3.6.1 of the FMP. Specifically, the goals of the canary rockfish rebuilding program would be to

> (1) achieve the population size and structure that will support the maximum sustainable yield within the rebuilding period; (2) establish a long term management program that has a high probability that total annual fishing mortality of canary rockfish will not exceed the specified amounts; (3) foster public education programs about the need to rebuild the canary rockfish population, and how individuals can help; and (4) protect the quantity and quality of habitat necessary to support the stock at healthy levels in the future.

5.2 Target Biomass and Rebuilding Period

The rebuilding analysis estimates the $B_{40\%}$ female spawning biomass for the northern portion of the stock is in the range of about 6,000 mt (Alternative 1) to 13,600 mt (Alternative 2), depending on whether fishery selectivity is assumed to be asymptotic or dome shaped. Scientists are unsure about whether female canary rockfish have a higher natural mortality rate than males, or whether they move to habitat areas where fishers and research surveys cannot catch them at the same rate. The Council endorsed Alternative 1 (6,000 mt, Scenario 1) due to the absence of convincing evidence the older female canary rockfish actually exist but somehow escape capture. Further research and analysis may result in changing this initial estimate, or in determining B_{msy}.

The Magnuson-Stevens Act requires the time period for rebuilding the fishery shall:

> (i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of fishing communities ... and the interaction of the overfished stock of fish within the marine ecosystem; and (ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions ... dictate otherwise;

According to the rebuilding analysis for scenario 1 (adopted by the Council), the minimum time for the canary rockfish population to rebuild is 29 to 114 years, with the best estimate 41 years. The long period is due to the extremely depressed condition of the stock and the expected low level of recruitment in the future. The

Council considered the needs of fishing communities in determining the length of the program. Specifically, the Council chose to lengthen the recommended rebuilding period by adding one mean generation time. This will allow fishers to catch a minimal number of canary rockfish, rather than prohibiting all fishing mortality. To implement a zero-impact, the Council would need to prohibit all groundfish fishing (both commercial and recreational) in canary rockfish habitat areas. In addition, non-groundfish fisheries that take canary rockfish incidentally (i.e., bycatch fisheries) would also need to be curtailed. This would require either preemption of state management authority or development of an FMP for other fish species that inhabit the outer continental shelf. The rebuilding period of 57 years is based on 6,000 mt as the target biomass and the assumptions that current biomass is 8.7% of the unfished level and future recruitment will be at a moderate level. The rebuilding rates are based on random resampling of recruits per spawner (R/S) observed in 1978-1999. For the years 1996-1998, recruitment was set at 75% of the level initially estimated in the stock assessment (labeled MR for medium recruitment). This 75% level is intermediate between the 100% level (HR) and the 50% level (LR) presented as alternatives in the stock assessment. In terms of absolute recruitment, the 75% level is intermediate between the moderate recruitment level observed during the early 1980s and the low level observed during 1987-1995.

It is impossible to accurately predict future recruitment, and the best that scientists can do is make a best guess based on what has occurred in the past. Canary rockfish recruitment has been inconsistent, ranging from low levels that barely maintain the population, up to higher levels that could support more rapid rebuilding. For most of the years covered by the assessment, recruitment was low, but the last three years in the sequence appear substantially higher, perhaps unnaturally high. Typically, it takes several years to verify year-class (recruitment) strength, and verification of recent recruitment has not yet occurred. The Council did not want to ignore recent recruitment, in part because it offers a ray of hope the stock will rebuild. Also, there is evidence the ocean environment for canary rockfish and other groundfish has improved in recent years. Specifically, recent average ocean temperature is cooler than it has been since 1976. This ocean temperature should be beneficial to rockfish reproduction, and is consistent with the initial estimates of recruitment in the stock assessment. If we knew for certain that future recruitment will be low (less than this intermediate level), the conclusion would be that the stock will not recover unless harvest is reduced to about 13 mt per year. Some model runs indicate the stock would not recover even if humans inflict zero mortality on the canary rockfish stock, unless recruitment improves. If we knew for certain that future recruitment will be high (near the estimated recent levels), harvests could be up to 150 mt and the stock would still rebuild in 42 years.

Alternative 2 would set the target biomass at 13,600 mt. This biomass target is based on the assumption that older female canary rockfish are alive but for some reason caught at a much lower rate, giving the appearance their mortality rate is higher. Also, the analysis assumes only a fraction of the adult population is being sampled by the fishery and by research surveys, so the biomass estimate must be inflated to compensate. This leads to a larger estimate of current stock size, and also that the population has not been reduced as seriously as indicated by scenario 1. If future recruitment is similar to the low levels of the late 1980s to mid 1990s, the rate population would be even lower than estimated for scenario 1. Not more than 15 mt of mortality could be inflicted on the population without further depressing the stock. On the other extreme, if recruitment is near the high end, harvest could be set at 185 mt and the stock would have a 51% likelihood of rebuilding in 45 years.

The Council's proposed rebuilding target and rebuilding period are a reasonable compromise. In 2001, NMFS will conduct another groundfish survey that should help verify the strength of recent recruitment. If recruitment in 1996-2000 is observed to be near the initial estimates, the rebuilding period would be shorter than expected. If recent recruitment is lower than the initial estimates, the rebuilding period would be longer.

5.3 Harvest Rate Policy

In previous years, when directed fisheries for canary rockfish were allowed, harvest levels (OYs) were set in accordance with the standard ABC/OY method in the FMP. That method applies the MSY harvest rate (or a proxy value, currently $F_{50\%}$) to the estimated biomass, and then making an adjustment based on the ratio of current to historic abundance.

Alternative 1, the default method, would set harvest levels based on the $F_{50\%}$ harvest rate (the current MSY proxy), as adjusted by the default OY control rule in the FMP. Alternative 2 (adopted by the Council) sets the harvest level at 93 mt coastwide for the first two years of the rebuilding program and potentially for the entire 57 year rebuilding period. Realistically, however, this will be recalculated in 2002 for 2003. Alternative 3 would set the annual harvest as a fixed fraction of the population for the duration of the rebuilding period. This would allow increased harvest as the population rebuilds. Alternative 4 would prevent all harvest of canary rockfish, leaving only natural mortality to determine stock size. Alternative 5 would prohibit all fishing for canary rockfish and all retention of any canary rockfish caught incidentally to other fishing strategies. Alternative 6 would set the OY at 185 mt (plus an adjustment for the southern portion of the stock), based on scenario 2 and optimistic assumptions of future recruitment.

Alternative 1 was rejected because it sets OY at zero when the population is below 10% of initial biomass. Thus, in the short term, all fishing would be prohibited, including all incidental harvest. The Council could not accept this due to the severe impacts on fishing communities that would suffer not only the loss of canary rockfish landings and other shelf groundfish, but also the loss of non-groundfish landings such as pink shrimp. An additional impediment is that the Council lacks management authority to control the pink shrimp fishery, as well as other commercial non-groundfish fisheries that take incidental amounts of canary rockfish. Alternative 4 suffers the same problem. Alternative 3 (fixed fraction) is similar, but would allow a minimal take of canary rockfish in the short term. This option was rejected because the allowable harvest of canary rockfish would be only about 20 mt, and this also was viewed as an unacceptable burden on fishing communities. Alternative 5 would be less severe than Alternatives 1 and 4 but would still impose an unacceptable burden on fishing communities and would not necessarily keep harvest low enough to allow rebuilding. It would allow incidental fisheries to continue, and reduce directed fisheries as necessary to keep total catch to the specified levels. Alternative 6 would allow the largest harvest of the alternatives. If the model this alternative is based on is correct (or most nearly correct), the harvest of 185 mt per year would allow rebuilding within the designated period, and commercial and recreational fisheries would be better able to prosecute other shelf groundfish stocks. However, if the low recruitment assumption is correct, harvest of 185 mt for even a few years would greatly depress the stock. The Council adopted Alternative 2 because it allows for minimal harvest in the short term and, if harvest can be kept constant over the years, the stock is expected to rebuild in the specified time period. Alternative 2 allows less than half the harvest of Alternative 6 and is thus much more risk-averse. However, Alternative 2 anticipates a constant annual harvest; as the stock rebuilds, this constant harvest amount will translate into a smaller and smaller fraction of the total population. It is possible future losses by the commercial and recreational fisheries would exceed the short term costs. The Council considered this a viable compromise, stating the known short term cost to fishing communities would be extreme, while it is possible the impact on the stock would be minimal. That is, the Council believes a harvest of less than 93 mt cannot be achieved without elimination of at least a portion of the commercial fishing industry, perhaps a substantial portion. On the other hand, if the estimates of increased recruitment are verified, the stock is in substantially less danger than otherwise indicated. The Council was unwilling to take the chance of eliminating the commercial (and potentially also recreational) fisheries. The Council specifically stated its intention to review the rebuilding analysis and recalculate harvest in 2003 based on updated estimates of recent recruitment and/or revised estimates of future recruitment resulting from the NMFS survey.

5.4 Bycatch Controls Strategies

The main sources of bycatch of canary rockfish are believed to be trawl gear (commercial) and hook-and-line gear (both commercial and recreational) on the continental shelf, especially in rocky habitat areas. The pink shrimp fishery, which uses small mesh trawl gear, is a major source of canary rockfish bycatch.

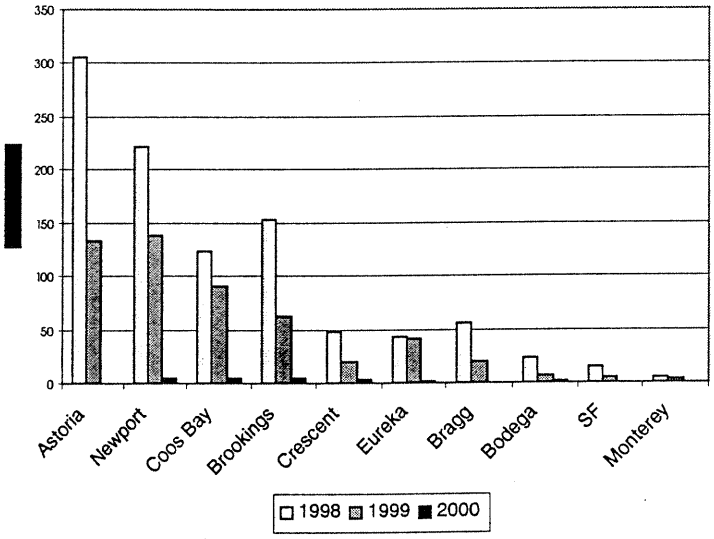
Under Alternative 1, (status quo) adopted by the Council, the 2000 management regime would be maintained for 2001. The current management regime reflects substantial restrictions implemented for commercial and recreational fisheries in 2000 and 2001. These include bag limit reductions in waters off each of the three coastal states, time/area closures for recreational fishers in waters off California, commercial trawl gear restrictions to make fishing impractical in rocky areas of the continental shelf, and substantially reduced trip limits for commercial trawl and hook-and-line vessels. In addition, time/area closures are established for commercial hook-and-line vessels in California, concurrent with recreational closures. Alternative 2, which

would establish broad time/area closures to eliminate fishing where canary rockfish are likely to be encountered, was rejected due to the severe impacts on fishing communities.

Alternative 3 would require pink shrimp trawl vessels to use bycatch reduction devices (commonly called finfish excluder devices) if they intend to land incidental amounts of groundfish captured when fishing for pink shrimp. Vessels not using such devices would be prohibited from retaining and landing any groundfish. The Council did not adopt this option because it would not necessarily reduce the incidental catch of canary rockfish, but would likely increase the percentage of groundfish bycatch (i.e., all groundfish caught by vessels without excluders would be discarded). Instead, the Council requested the states of Washington, Oregon, and California to consider state regulations to require such devices. If excluders are required by state law, canary rockfish incidental catch will most likely be reduced.

Alternative 4 would prohibit fishing for canary rockfish, but would require that all canary rockfish captured must be retained and landed for counting. This alternative, if all vessels complied, would ensure full accounting for nearly all canary rockfish mortality by the commercial sector. Compliance is a major concern, because if canary rockfish landings exceed the commercial harvest ceiling, commercial groundfish closures would be inevitable. Thus, commercial vessel operators could feel substantial pressure to discard fish rather than retain them. An observer program or other monitoring program would be necessary to evaluate compliance.

Canary Rockfish Landings, 1998-2000



Catch restrictions were implemented in 1999 to begin rebuilding the canary rockfish stock. The OY was reduced to 200 mt in 2000, and substantial landings restrictions (that meet the criteria of Alternative 2) were imposed on the commercial fleet. The effect was dramatic: commercial landings dropped more than 90%. ODFW undertook a comparison of trawl logbooks from 1999 and the first part of 2000 to determine if trawl vessel fishing locations changed. The preliminary results indicated trawl vessels avoided many rocky areas of the continental shelf, as anticipated, so a drop in canary rockfish catch is likely. The amount of actual catch reduction is less clear, however, because there is no system to record or observe discarded amounts of groundfish. Certainly, not all canary rockfish caught by commercial fishers in 2000 were landed (and perhaps not during 1999). The Council's Groundfish Management Team (GMT) has expressed concern that commercial fishers may be discarding all or nearly all of their canary rockfish catch, even the amounts they could legally retain and sell. The GMT is concerned the fleet may believe it is better to throw all the canary rockfish away than to risk reaching the OY early, which would trigger additional restrictions and potential closure of the entire fishery. It is clear that verification of total catch is necessary in order to monitor the effectiveness of the rebuilding program and the management measures used to achieve it. Absent a monitoring system, the Council and NMFS will have to develop alternative methods to ensure that total catch does not exceed 93 mt or whatever harvest ceilings might be set in the future.

Alternative 2 does not require exactly the same bycatch reduction measures be continued indefinitely. When an effective onboard observation program has improved the estimates of incidental catch, measures can be fine-tuned to improve effectiveness of bycatch reduction measures and potentially reduce the social and economic impacts on the commercial fleet.

6.0 CONSISTENCY WITH THE FMP AND OTHER APPLICABLE LAWS

6.1 Consistency with the FMP

The Pacific Coast Groundfish FMP states that

> "within one year of being notified by the Secretary that a stock is overfished, or approaching a condition of being overfished, the Council will prepare a recommendation to end the overfished condition and rebuild the stock(s) or to prevent the overfished condition from occurring. A new rebuilding plan or revision to an existing plan proposed by the Council will generally be submitted to the Secretary along with annual management recommendations as part of the regular annual management process. Once approved by the Secretary, a rebuilding plan will remain in effect for the specified duration of the rebuilding program, or until modified."

All management actions recommended by the Council are evaluated for consistency with the goals, objectives and procedures of the FMP.

Goals and Objectives of the FMP

The Council is committed to developing long-range plans for managing the Pacific Coast groundfish fisheries that prevent overfishing and loss of habitat, yet provide the maximum net value of the resource, and achieve maximum biological yield. The Council has prepared this rebuilding plan, consistent with the requirements and standards of the FMP. The status quo alternative (no rebuilding plan) is inconsistent with the resource conservation and utilization goals and standards of the FMP, as well as the requirement to prepare rebuilding plans for overfished groundfish stocks.

> Goal 1- Conservation: Prevent overfishing by managing for appropriate harvest levels, and prevent any net loss of the habitat of living marine resources.
>
> > Objective 2. Adopt harvest specifications and management measures consistent with resource stewardship responsibilities for each groundfish species or species group.

The target biomass and rebuilding period alternatives 2 and 3 are consistent with this objective. However, preferred Alternative 2 is a more risk-averse approach, and assumes the stock is more depressed than Alternative 3. Alternative 1 would establish an ad-hoc approach that lacks the certainty of the other alternatives.

All of the harvest rate policy alternatives (1-6) would establish harvest specifications consistent with the Council's resource responsibilities. Alternative 1 follows the default OY methodology in the FMP, and would result in zero harvest for several years until the population reaches 10% of the initial biomass. Alternative 4 also sets harvest at zero and would keep it there for the duration of the rebuilding period. In the short term, these two alternatives would result in the fastest initial steps toward rebuilding. Alternative 4 would continue the zero harvest policy and result in the fastest rebuilding. Alternative 1 may be the second fastest, but this would depend on whether the proposed total catch levels are actually achieved (bycatch amounts must be considered as well). Alternative 5 could result in a faster rebuilding program than Alternative 1 if bycatch is kept near zero throughout the period. Alternative 6, by allowing the largest harvests in the short term, runs the greatest risk of impeding the rebuilding process. However, if the assumptions are correct, rebuilding would occur within the required time frame. Preferred Alternative 2 runs a moderate risk of impeding the rebuilding period if the most pessimistic assumptions prove to be true. However, a built in re-evaluation in 2003 reduces the risk; stock assessment advisors assured the Council that harvest of 98 mt for two years would slightly delay rebuilding, at worst.

> Objective 3. For species or species groups which are below the level necessary to produce maximum sustainable yield (MSY), consider rebuilding the stock to the MSY level and, if necessary, develop a plan to rebuild the stock.

Alternative 1 under "Goals and Objectives of the Rebuilding Plan" (status quo) would not be consistent with this FMP objective. The preferred alternative is consistent with this objective.

Objective 5. Describe and identify essential fish habitat (EFH), adverse impacts on EFH, and other actions to conserve and enhance EFH, and **adopt management measures that minimize, to the extent practicable, adverse impacts from fishing on EFH.**

Deleterious impacts of fishing gear on the EFH of Pacific coast groundfish have not been documented. However, each alternative would reduce the magnitude of contact between on-bottom groundfish trawl gear and the ocean floor, compared to years prior to 2000.

Goal 2 - Economics

Objective 7. Identify those sectors of the groundfish fishery for which it is beneficial to promote year-round marketing opportunities and **establish management policies that extend those sectors' fishing and marketing opportunities as long as practicable during the fishing year.**

Harvest rate policy Alternative 1 follows the default OY methodology in the FMP, and would result in zero harvest for several years until the population reaches 10% of the initial biomass. Alternative 4 also sets harvest at zero and would keep it there for the duration of the rebuilding period. In the short term, these two alternatives would result in massive closures of the commercial groundfish fishery and would require elimination of certain non-groundfish fisheries as well. Alternative 4 would continue this zero harvest policy for the entire rebuilding period; when the canary stock recovers, there would be little left of the commercial groundfish fishing sector except participants who operate in the narrow nearshore belt or deepwater fisheries. Alternative 3, which sets harvest at a fixed fraction, would also result in near elimination of the groundfish fishery on the continental shelf for a period of years. However, as the stock recovers and biomass builds, harvest levels would increase (similar to Alternative 1). Alternative 5 by itself would not affect fishing as much; vessels would not be allowed to fish for or keep any canary rockfish. However, they could continue to fish as usual and just discard all canary rockfish. There is a social cost related to economic impact of discarding valuable fish. There is also a social cost about the morality of killing fish that are needed by the canary rockfish population in order to rebuild. The greater the bycatch/discard rate, the longer these social impacts would continue. However, fishing and marketing opportunities for other species would be available, consistent with this FMP objective. Alternative 6 would allow the largest harvest of the six alternatives, and result in the greatest opportunity to pursue a year-round fishery for rockfish and other species. However, if the optimistic assumptions prove to be false, Alternative 6 runs the greatest risk of total, long-term closure for a longer period than any other alternative. Alternative 2 (preferred) balances the short term risk to the fishing industry and year-round fishing and the stock rebuilding needs. It provides for non-groundfish fisheries to continue nearly at status quo levels. In these ways, it is superior to the other alternatives.

Objective 8. Gear restrictions to minimize the necessity for other management measures will be used whenever practicable.

Bycatch Control Strategy alternatives 1 and 3 address the use of gear restrictions. Alternative 1 envisions the use of restrictions on the type of bottom trawl gear (footrope and chafing gear) and recreational hook limits, which reduce the need for other management measures. Alternative 3 addresses gear requirements to reduce bycatch in the pink shrimp fishery. Each of these alternatives would reduce the need for broad area closures, shorter seasons, or other measures that could be used to reduce harvest of canary rockfish.

Goal 3 - Utilization

Objective 10. Recognizing the multispecies nature of the fishery and establish a concept of managing by species and gear or by groups of interrelated species.

Bycatch Control Strategy Alternatives 1 and 2 address this objective. Under Alternative 1 (status quo), the minor rockfish species are combined into groups of interrelated species, and trip limits are set in rough proportion to how the fish are caught. Trawl footrope requirements address the rockfish assemblages as well. By requiring the use of small footropes, most shelf rockfish (including canary rockfish) are protected from harvest by trawl gear. Alternative 2 would take a different approach, closing broad areas where canary rockfish occur. However, many non-associated species, particularly healthy flatfish stocks, would likely be

unavailable for harvest. If canary rockfish occurred in distinct, well-defined locations, Alternative 2 might be an effective management approach.

Objective 11. Strive to reduce the economic incentives and regulatory measures that lead to wastage of fish. Also, develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch.

The same discussion of Alternatives 1 and 2 for FMP objective 10 apply here. Bycatch Control Strategy Alternative 4 would reduce discard by requiring all canary rockfish to be retained. However, it is likely that sale of these fish would be prohibited, and thus they would be considered bycatch under the definitions of the Magnuson-Stevens Act and FMP. The basic trip limit management approach requires fishers to discard all fish in excess of the specified limits, which encourages discard, especially if compared to a management system that would require fishers to retain all fish they catch.

Social Factors.

Objective 13. When conservation actions are necessary to protect a stock or stock assemblage, attempt to develop management measures that will affect users equitably.

Objective 17. Consider the importance of groundfish resources to fishing communities, provide for the sustained participation of fishing communities, and minimize adverse economic impacts on fishing communities to the extent practicable.

Goals and Objectives Alternative 2 (the preferred alternative) and Harvest Policy Alternative 2 (prefferred) consider the tradeoffs between short term impact on fishing communities, recreational fishers and commercial fishers, and impacts on the canary rockfish resource. By setting an OY of 93 mt for two years (Harvest Policy Alternative 2), a minimal level of fishing will be allowed. Under the default OY control rule in the FMP (Harvest Policy Alternative 1), the annual harvest of canary rockfish would be set at zero because the stock is below 10% of its unfished level. No harvest, or a very small harvest, would be allowed for a number of years. After a number of years, harvest levels would gradually increase as the stock recovers. However, due to elimination of most commercial fishing activities on the continental shelf for a period of years, much of the commercial groundfish industry would likely have been eliminated also. Recreational groundfish fishing opportunities would also be nearly eliminated, the exception being in nearshore waters and in southern California (south of the canary rockfish distribution).

6.2 Likely Impacts on Other Management Measures and Other Fisheries

Harvest reductions that would be imposed by all the Harvest Rate Policy alternatives would continue the trend of reduced groundfish fishing opportunities for the commercial fishing sector. Under Alternatives 1, 3 and 4, commercial groundfish fishing on the continental shelf would be substantially eliminated, and fishers would respond either by leaving the fishing industry or searching for alternative fishing opportunities. Three primary alternatives are the pink shrimp trawl fishery, the Dungeness crab pot (trap) fishery, and the albacore hook-and-line fishery. Increased participation in the pink shrimp fishery could easily result in increased bycatch of canary rockfish. However, if the canary rockfish OY were set at zero, efforts to eliminate bycatch in the pink shrimp and other shelf fisheries would have to be considered. Such restrictions could also affect salmon fishing opportunities, potentially pushing the fishery into deeper water beyond the range of canary rockfish.

6.3 Economic Impacts, Particularly on the Cost to the Fishing Industry

The economic impacts and costs to the industry have been addressed in sections 5.1, 5.2, 5.3, and 5.4.

6.4 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Act provides parameters and guidance for federal fisheries management, requiring that the Councils and NMFS adhere to a broad array of policy ideals. Overarching principles for fisheries management are found in the Act's National Standards. In crafting rebuilding plans for overfished stocks and

fisheries management regimes to implement those plans, the Councils and NMFS must balance their recommendations to meet these different national standards.

The Council's recommendations were driven by Section 304 (e) of the Act, which requires that Councils rebuild species that have been designated as overfished.

"Goals and Objectives of the Rebuilding Plan" Alternative 1 and "Target Biomass land Rebuilding Period" Alternative 1 do not meet this mandate.

Managing to protect canary rockfish while also allowing the fisheries to have access to healthy stocks has been a challenging goal for the Council and has illustrated some of the conflicts that arise from trying to meet several different National Standards in one regulatory package. The following National Standards were of particular concern to the Council as it worked on the rebuilding plan and initial implementing management measures:

National Standard 1 requires that "Conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimum yield from each fishery for the United States fishing industry." Harvest Rate Alternative 5 would not prevent overfishing, but only prohibit retention, the primary reason for its rejection. Alternatives 1, 2, 3, and 4 would prevent overfishing, but Alternative 2 is the most balanced alternative for achieving the optimum yield from healthy stocks while still protecting canary rockfish.

National Standard 2 requires the use of the best available scientific information. In every case, the Council adheres to this standard. However, too often the best available scientific information is inadequate for informed decision making. Therefore, the Council generally follows a risk-averse path.

National Standard 6 requires that "Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches." "Goals and Objectives of the Rebuilding Plan" Alternative 1 does not establish a rebuilding plan, and therefor does not meet this standard. However, Alternative 2 does, as the initial implementation measures demonstrate. This is particularly evident in the state-specific management measures for recreational fisheries adopted in the 1999-2000 and 2000-2001 annual specifications processes. Under the initial rebuilding plan implementation measures, each state brings recreational fishery management measures to the Council that are designed to match the needs of the fisheries in those states, and to recognize the different effects that different State fisheries have on overfished species. Commercial management measures have also been designed to account for the differences in fishing activities in various parts of the coast.

While the Council's primary goal in crafting specifications and management measures for 2001 was to protect overfished species, it did so with an eye to how those measures would affect the various fisheries that incidentally take overfished species. Protecting canary rockfish from incidental capture was particularly challenging, as this species can be taken in almost every West Coast fishery: at-sea whiting, state-managed pink shrimp trawl fisheries, salmon troll fisheries, directed commercial groundfish fisheries, and recreational fisheries. Management measures for 2001 are intended, in part, to distribute the burdens of canary rockfish protection among these fleets, while still ensuring that these fleets have some access to the their target stocks, where those stocks are viable.

National Standard 8 provides protection to fishing communities: "Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities."

Each of the rebuilding time periods under consideration are extended to provide a degree of relief to fishing communities. However, harvest rate policy alternatives 1, 3, 4, and 5 would essentially close down most commercial fishing on the continental shelf for a period of at least a few years. These alternatives were rejected due to their impacts on west coast fishing communities and associated industries.

Implementing rebuilding measures for West Coast groundfish has been difficult on the socio-economic structure of fishing communities. In January 2000, the Secretary of Commerce declared West Coast groundfish fisheries to be a "federal fishery failure." There are two components that need protection in a federal fishery failure, the depleted fish stocks and the fishing communities that have traditionally depended on those stocks. For fishing communities to survive and thrive, West Coast groundfish stocks must be healthy. Where fish stocks are not healthy, the Council must consider even more carefully the economic burdens created by its policies. The 2001 annual specifications and management measures, which are consistent with this proposed canary rockfish rebuilding plan, are intended to provide as much access to healthy groundfish and non-groundfish stocks as possible while protecting overfished stocks. Numerous management measures have been recommended to soften the burden of rebuilding on fishing communities, particularly including area-specific regulations for recreational fisheries and for some of the smaller commercial fisheries.

National Standard 9 requires that conservation and management measures minimize bycatch and minimize the mortality of bycatch. As discussed above, measures to protect overfished species are essentially designed to prevent vessels from directed and incidental catch of those species, and where incidental catch is unavoidable, to allow some minimal retention. Recreational and commercial hook-and-line fisheries shelf rockfish have recently been closed for several months in central California to protect those species from incidental capture. The states have been asked to introduce fish excluder devices in the pink shrimp fisheries to reduce rockfish bycatch. For deepwater species, the Council recommends using updated bycatch rates for longspine and shortspine thornyheads, and for sablefish. These updated rates are expected to better reflect the actual encounter rates in the fishery. All of these measures are expected to either minimize bycatch and bycatch mortality, or to better account for unavoidable bycatch.

Essential Fish Habitat (EFH)

The Magnuson-Stevens Act defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." EFH for WOC groundfish is further defined in Amendment 11 to the Pacific Coast FMP as "the entire EEZ and marine coastal waters inshore of the EEZ." NMFS guidelines (62 FR 66553, December 19, 1997) state that "adverse effects from fishing may include physical, chemical, or biological alterations of the substrate, and loss of, or injury to, benthic organisms, prey species and their habitat, and other components of the ecosystem..." The proposed action under each alternative would allow commercial fishers to land several groundfish species only if they use trawl gear that is ineffective in rocky areas inhabited by canary rockfish and other depleted species. This should result in reduced impacts on the physical environment, particularly the rocky shelf strata. No adverse impacts on EFH are expected from any of the alternatives.

6.5 Paperwork Reduction Act

None of the alternatives require collection-of-information subject to the PRA.

6.6 Endangered Species Act

NMFS issued Biological Opinions under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999 pertaining to the effects of the groundfish fishery on chinook salmon (Puget Sound, Snake River spring/summer, Snake River fall, upper Columbia River spring, lower Columbia River, upper Willamette River, Sacramento River winter, Central Valley, California coastal), coho salmon (Central California coastal, southern Oregon/northern California coastal, Oregon coastal), chum salmon (Hood Canal, Columbia River), sockeye salmon (Snake River, Ozette Lake), steelhead (upper, middle and lower Columbia River, Snake River Basin, upper Willamette River, central California coast, California Central Valley, south-central California, southern California), and cutthroat trout (Umpqua River, southwest Washington/Columbia River). The biological opinions have concluded that implementation of the FMP for the Pacific Coast groundfish fishery is not expected to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS, or result in the destruction or adverse modification of critical habitat. NMFS has re-initiated consultation on the Pacific whiting fishery associated with the Biological Opinion issued on December 15, 1999. During the 2000 whiting season, the whiting fisheries exceeded the chinook bycatch amount specified in the Biological Opinion's incidental take statement's incidental take

estimates, 11,000 fish, by approximately 500 fish. The re-initiation will focus primarily on additional actions that the whiting fisheries would take to reduce chinook interception, such as time/area management. NMFS expects that the re-initiated Biological Opinion will be complete by May 2001. During the re-initiation, fishing under the FMP is within the scope of the December 15, 1999 Biological Opinion, so long as the annual incidental take of chinook stays under the 11,000 fish bycatch limit. The biological opinions have concluded that implementation of the FMP for the Pacific Coast groundfish fishery is not expected to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS, or result in the destruction or adverse modification of critical habitat. This action is within the scope of these consultations.

6.7 Marine Mammal Protection Act

Under the MMPA, marine mammals whose abundance falls below the optimum sustainable population level (usually regarded as 60% of carrying capacity or maximum population size) can be listed as "depleted". Populations listed as threatened or endangered under the ESA are automatically depleted under the terms of the MMPA. Currently the Stellar sea lion population in the WOC is listed as threatened under the ESA and the fur seal population is listed as depleted under the MMPA. Incidental takes of these species in the Pacific coast fisheries are well under the annual PBR. None of the proposed management alternatives are likely to affect the incidental mortality levels of species protected under the MMPA.

The WOC groundfish fisheries are considered category III fisheries where the annual mortality and serious injury of a stock by the fishery is less than or equal to 1 percent of the PBR level. Under all the alternatives, it is likely that information regarding the incidental take of marine mammals in the groundfish fishery will continue to be limited.

6.8 Coastal Zone Management Act

Section 307(c)(1) of the Federal Coastal Zone Management Act (CZMA) of 1972 requires all federal activities which directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. Under the CZMA, each state develops its own coastal zone management program which is then submitted for federal approval. This has resulted in programs which vary widely from one state to the next. Because the proposed action is to prevent overfishing and achieve the OY for the available groundfish resource, the Council believes that it is consistent with each state's coastal management program.

6.9 Executive Orders 12866 and 13132

None of the recommended changes to annual specifications and management measures for 2001 would be a significant action according to E.O. 12866. This action will not have a cumulative effect on the economy of $100 million or more nor will it result in a major increase in costs to consumers, industries, government agencies, or geographical regions. No significant adverse impacts are anticipated on competition, employment, investments, productivity, innovation, or competitiveness of U.S.-based enterprises.

None of the alternative actions would have federalism implications subject to E.O. 13132.

Table 6. Summary of Potential Impacts from Alternative Actions

	Goals and Objectives Alternatives	Target Biomass and Rebuilding Period Alternatives	Harvest Rate Policy Alternatives	Bycatch Control Strategy Alternatives
	Substantial Impacts Expected?	Substantial Impacts Expected?	Substantial Impacts Expected?	Substantial Impacts Expected?
Coastal Zone	No	No	No	No
Public Health and Safety	No	No	No	No
Unique Geographical Characteristics	No	No	No	No
Historical/Cultural Impacts	No	No	No	No
Endangered/Threatened Species	No	No	No	No
Uncertainty or Unique/Unknown Risks	No	No	No	No
Existing Habitat Protection Laws	No	No	No	No
Essential Fish Habitat	No	No	No	No
Marine Mammals	No	No	No	No
Seabirds	No	No	No	No

7.0 CONCLUSIONS OR FINDINGS OF NO SIGNIFICANT IMPACT

This action would establish a rebuilding plan for canary rockfish in accordance with the Pacific Coast Groundfish Fishery Management Plan. The rebuilding plan will provide guidance in the development and implementation of management measures until the canary rockfish stock has fully recovered or until this rebuilding plan is amended in accordance with the FMP. To implement the rebuilding plan, annual fishery specifications and the management measures designed to rebuild this overfished stock will be established. Harvest levels of canary rockfish will be achieved through constraining direct and incidental mortality, while achieving as much of the OYs as practicable for healthier groundfish stocks managed under the FMP. Under Magnuson-Stevens Act requirements for protecting overfished species, managing to keep directed and incidental catch of overfished species at levels that will allow those species to rebuild their populations has become the Council's first priority for setting annual specifications and management measures for all West Coast groundfish. For 2001, commercial landings limits and recreational bag limits have been reduced, and time/area closures have been expanded. These fisheries have been operating under protective measures for several years.

Based on the biological, physical and socio-economic impacts of the alternatives that have been assessed in this document, it has been determined that implementation of the proposed rebuilding plan would not significantly affect the quality of the human environment. Therefore, the preparation of an environmental impact statement for the proposed action is not required by Section 102 (2) (C) of the National Environmental Policy Act or its implementing regulations.

_____ _____

Assistant Administrator for Fisheries, NOAA Date

APPENDIX A: Preliminary Rebuilding Analysis for Canary Rockfish

August 24, 2000
Richard Methot
National Marine Fisheries Service

Summary

Canary rockfish exhibit extremely low productivity (level of recruits per spawner) which has contributed to their decline in the northern area and impedes their recovery. There is tremendous uncertainty in these rebuilding projections due to extremely low levels of R/S during 1987-1995 and high, but very uncertain, levels in 1996-1998. On the low side, rebuilding time frames stretch out to 136 to 217 years. During these delayed rebuilding scenarios, catch would need to be only about 15 mt per year in order for the stock to begin to grow out of its current low state. Increased catch later in the rebuilding period is likely to be possible, but not quantitatively examined here. On the high side, the median rebuilding time frame could be as short as 41-45 years and annual catches of 150-185 mt in the north would allow rebuilding. Such an optimistic scenario is risky because it is based upon three large, but poorly estimated, recruitments in 1996-1998. Intermediate scenarios use the 1996-1998 recruitments, but on a reduced level. Such intermediate results allow catches of 25-40 mt while rebuilding in 80-100 years.

A further uncertainty is due to the observation that the southern area of the stock appears to have greater productivity (higher R/S at low spawning biomass). Rough calculations based upon combining northern and southern information are more consistent with the optimistic rebuilding scenario. A new assessment and updated rebuilding analysis that examines the northern and southern data in a holistic manner should be conducted as soon as possible after the trawl survey in summer 2001 provides a new data point.

Introduction

The most recent stock assessment for canary rockfish in the northern area (Columbia and U.S. Vancouver INPFC areas) indicated that a long-term decline had continued and that the abundance of the female spawning biomass had fallen below the depleted threshold (Crone et al., 1999). The assessment in the southern area indicates a somewhat different timeframe for the downtrend, but a similar conclusion regarding the depleted status of this stock is obtained (Williams et al., 1999). Canary rockfish was determined to be in an "overfished" state on Jan. 1, 2000 which initiated development of a rebuilding plan.

The purpose of this document is to estimate the potential rate of rebuilding of canary rockfish. The analysis will focus on the northern area which has had a larger population and fishery historically; then results will be extrapolated to the entire coast. The analysis will involve six steps:

(1) examining the recruitment-spawner information to determine probable levels of recruitment in the near future and as the stock rebuilds;
(2) determine unfished level of spawning biomass in order to calculate target levels for rebuilding;
(3) determining the generation time, which affects the potential duration or rebuilding;
(4) determining expected levels of recruitment during the rebuilding period;
(5) calculating in rebuilding can occur within 10 years, and if not then calculating the time to rebuild with no fishing mortality;
(6) finally, calculate the degree of reduction in fishing mortality needed to rebuild within a time period equal to one mean generation time plus the time to rebuild with no fishing mortality.

The canary rock fish assessment explored two scenarios regarding natural mortality and fishery selectivity for females. These two scenarios provide alternative explanations for the relative low occurrence of old females compared to the occurrence of old males. Scenario #1 has increasing natural mortality for older females and asymptotic fishery selectivity for both sexes. Scenario #2 has constant natural mortality for both sexes and dome-shaped fishery selectivity to explain the low incidence of old females in the fishery samples. Neither the STAT or STAR in 1999 was able to develop a preference between these two hypotheses, so both are carried forward in this rebuilding analysis. The model developed for the southern area was based on constant female natural mortality and a new approach to modeling fishery selectivity (Williams et al., 1999).

Assessment Summary

Before beginning this analysis of rebuilding, it is helpful to review the basic conclusions of the northern and southern assessments which provide the basic information for any rebuilding analysis.

Northern Area, scenario #1 -

A. In the era prior to 1967, a mean level of recruitment of 2,872 thousand age 1 fish occurred. This level of recruitment would produce a female spawning biomass of 22,376 mt if unfished, but a historical average catch of 1,000 mt reduced this to 16,811 mt at the beginning of the modeled period in 1967.

B. Recruitment over the 1967-1977 period averaged 1,859 thousand fish, which will be taken as the relevant estimate of "virgin" recruitment level. This lower recruitment level and an average catch of 1,845 mt reduced spawning biomass to 13,757 mt in 1978.

C. Over the period 1978-1986, recruitment averaged 1,621 thousand fish; catch averaged 2,860 mt; and spawning biomass declined to 6,613 mt in 1987. This level is barely above the overfished threshold.

D. Over the period 1987-1995, recruitment declined precipitously to an average of only 622 thousand fish. Assessments conducted during this era resulted in quotas that reduced annual catch to approximately 1,000 mt per year. But with the low recruitment (which could not be well estimated by these early assessments), female spawning biomass continued to decline to only 949 mt in 1999.

Northern Area, scenario #2 -

A. In the era prior to 1967, a mean level of recruitment of 2,744 thousand age 1 fish occurred. This level of recruitment would produce a female spawning biomass of 44,991 mt if unfished, but a historical average catch of 1,000 mt reduced this to 34,210 mt at the beginning of the modeled period in 1967. Female biomass per recruit is lower in scenario #1 because of higher female natural mortality compared to that in scenario #2.

B. Recruitment over the 1967-1977 period averaged 1,763 thousand fish, which will be taken as the relevant estimate of "virgin" recruitment level. This lower recruitment level and an average catch of 1,845 mt reduced spawning biomass to 27,683 mt in 1978.

C. Over the period 1978-1986, recruitment averaged 1,634 thousand fish; catch averaged 2,860 mt; and spawning biomass declined to 16,859 mt in 1987.

D. Over the period 1987-1995, recruitment declined precipitously to an average of only 802 thousand fish. Assessments conducted during this era resulted in quotas that reduced annual catch to approximately 1,000 mt per year. But with the low recruitment (which could not be well estimated by these early assessments), female spawning biomass continued to decline to 7,157 mt in 1999, which is at the overfished level.

Southern Area -

A. In the era prior to 1965, a mean level of recruitment of 1,060 thousand age 1 fish occurred. This level of recruitment would produce a female spawning biomass of 11,657 mt if unfished, but average catch of 1,495 mt during 1950-1965 reduced this to 697 mt at the beginning of the modeled period in 1965, which is only 10% of the "virgin" spawning biomass level (6,850 mt) calculated from a long-term average recruitment of 617 thousand recruits.

B. Recruitment over the 1965-1977 period averaged only 473 thousand fish. This lower recruitment level and a much lower average catch of 620 mt allowed spawning biomass to recover to 1,280 mt in 1978, which is still below 25% of the "virgin" level.

C. Over the period 1978-1986, recruitment increased to 620 thousand fish; catch increased to 773 mt; and spawning biomass declined to 381 mt in 1987.

D. Over the period 1987-1995, recruitment continued to average 620 thousand fish and average catch was 486 mt. Female spawning biomass continued to decline to 261 mt in 1993 and has increased to 400 mt recently, but is still below the overfished threshold.

<u>Overview</u> -

A. Both areas have high historical catches which mined an accumulated biomass that is estimated to have been based upon a pre-historical recruitment level that substantially exceeds the recruitment levels occurring during the period of the assessments.

B. Even though pre-historical recruitment was high, the southern area's stock was already below the overfished threshold by 1965. In the northern area, the decline was slower.

C. In the southern area, the stock continued to produce moderate levels of recruitment in spite of low spawning biomass and high fishing mortality rates. In the northern area, recruitment continued to decline through 1995. By the 1990s, both areas were producing 600-800 thousand recruits per year, but the southern area does it from a spawning biomass that is much smaller than the biomass in the north.

D. The high current "recruits per spawner" in the southern area indicates a resilient stock that would be expected to increase rapidly if fishing pressure was much reduced. In contrast, the current "recruits per spawner" in the northern area is extremely low and barely above the level that would allow the stock to recover even without fishing.

E. The increase in northern area recruitment in 1996-1998 is promising and consistent with the level of recruits per spawner found in the south, but these recent recruitment estimates are highly uncertain until these young fish have been seen in more than one survey and several years of fishery age composition data.

F. These north-south comparisons must be accompanied with a large caveat of uncertainty regarding stock structure. The division of the stock into north-south zones at Cape Blanco (Eureka-Columbia dividing line) does not represent knowledge of biological stock boundaries. Canary rockfish distribution in trawl surveys shows no break at this point of the coast and there is no other information with which to establish a biological stock boundary at that point. Although the northern and portions of the southern canary rockfish population are not likely to be completely separate, nor are they likely to be well-mixed annually, as evidenced by the different trends in stock abundance estimated in the two areas. There certainly is potential for oceanographic conditions to favor recruitment in the north versus recruitment in the south on a year-to-year and on a longer term basis. The degree of intermingling of these northern and southern recruits during their lifetime is unknown, and probably influenced by oceanographic conditions.

Projection model configuration

Projects were made using the synthesis assessment model in forecast mode. Most projections were done by resampling from the observed time series of recruits per spawner (R/S) and calculating the median time to rebuild among 500 trials.

Conditions for these projections were the same as those as estimated in Crone et al (1999) with the following exceptions:

1. Recent recruitments - Small fish occurring in the 1998 survey resulted in large estimates for recruitment of age 1 fish in 1996-1998. The assessment review in 1999 recommended an alternative scenario with these 3 recruitments set at half of their estimated value. Examination of the detailed model results support this alternative, and it is taken as the baseline conditions for this rebuilding analysis. Tables 1 and 2, and Figures 1,2,4 and 5 present the original "high" recruitment values. Recruitment in 1999 and 2000 is set equal to the average recruitment during 1987-1995.
2. Recent catch - The assessment was conducted with the assumption that 1999 catch would be the same as 1998 (996 mt). Available data indicate that total catch in 1999 was only 528 mt and this lower value is used in calculation the population numbers at age in 2001. Catch in 2000 is assumed to be 150 mt.
3. Maturity at age - These values were not correctly set in the 1999 analysis. Correcting these values changes the spawning biomass calculations presented in the 1999 assessment, but does not affect the fitting of the model because spawner-recruitment relationships were not included in the 1999 assessment. The corrected maturity schedule and spawning biomass calculations are used throughout this rebuilding analysis.

Scenario #1

Spawner-Recruit Relationship

The level of recruitment estimated in the most recent canary rockfish assessment exhibits a substantial decline. During 1987-1995, average recruitment was only 33% of the average that occurred during 1967-1977 (Table 1, Figure 1). As long as this low level of recruitment persists, the stock cannot rebuild to the 40% biomass level, even without fishing. The level of recruits per spawner for canary rockfish is barely above the replacement level throughout the time series (Figure 2). As long as similar levels of recruits/spawner occur, any rebuilding will be extremely slow. However, adding recruitment levels from the northern and southern regions moderates this decline, so that the 1987-1995 mean recruitment is 54% of the mean during 1967-1977.

Spawner-recruitment results of the canary rockfish assessment were used in the meta-analysis of general patterns of spawner-recruitment curvature for rockfish (Dorn 2000) based upon adding the northern and southern assessment results together. Dorn (2000) estimated a moderate level of steepness (0.55) in his examination of the combined northern and southern assessment results. The Beverton-Holt spawner-recruitment relationship was parameterized so that the steepness was defined as the level of recruitment when spawning biomass was at 20% of its unfished level.

Here we explore the parameters of the canary rockfish spawner-recruitment relationship for the northern area alone. The synthesis assessment model was rerun with the same data set as used in the1999 assessment. The parameters for year-specific recruitment were kept at the same values as estimated in the 1999 assessment, so only the parameters of the spawner-recruitment relationship were estimated.

The estimated S/R steepness was only 0.381 (Figure 1). Hence, canary rockfish in the northern area are estimated to have a high level of decline in recruitment as spawning biomass is reduced to a low level. The low recruitments during 1987-1995 and the high recruitments during 1996-1998 create a poor fit to these spawner-recruitment information. If the 1996-1998 recruitments are replaced by half their value, then the estimated steepness is reduced and the overall fit is improved. If these 3 ending recruitments are deleted from the spawner-recruitment curve fitting, then the estimated steepness declines to 0.23 and the 1987-1995 recruitments are well fit by the estimated curve. When synthesis is allowed to re-estimate the year-specific recruitment parameters while estimating the spawner-recruitment relationship, the estimated S-R curvature is 0.389 and the poorly estimated early and late recruitment values are moved towards the curve.

Unfished Abundance Level

Three possibilities are the level from the assessment model, the level from the fitted spawner-recruitment curve, and the level calculated from the mean recruitment level in the early years of the time series.

The highest value comes from the initial assessment where a recruitment level of 2,872 million age 1 recruits would produce an unfished female spawning biomass of 22,376 mt. In the initial assessment modeling, this initial recruitment level is acted on by a fishing mortality sufficient to produce a catch of 1,000 mt which reduces the initial spawning biomass down to 18,971 mt (Table 1, Figure 1).

The lowest level comes from the intercept between the estimated spawner-recruitment curve and the recruits/spawner replacement line. This level has 1,301milllion recruits producing a spawning biomass of 10,136 mt. However, because this relationship is fitted to the logarithm of recruitment, a correction when backtransforning to mean recruitment is necessary. These transformed values are 1,598 million recruits producing an unfished spawning biomass of 12,450 mt (Table 1, Figure 1).

An intermediate level comes from taking the early mean recruitment level (1,859 million recruits in 1967 through 1977) which would produce a spawning biomass of 14,483 mt if unfished.

The intermediate level is taken as the best estimate of unfished spawning biomass (Figure 1). Note, however, that high historical catches were obtained while fishing down from an even higher level of biomass. The rebuilding target is set at 40% of the unfished spawning biomass level, which is 5,793 mt of female spawners.

This rebuilding target is essentially identical to the biomass level associated with MSY on the basis of the estimated spawner-recruitment curve. MSY is estimated to be approximately 725 mt which occurs at a spawning biomass of about 5,700 mt and a fishing mortality rate corresponding to a SPR of 63%. Note that because of the low S/R steepness for canary, fishing at an SPR of 65% is expected to produce a spawning biomass level equal to about 40% of the unfished level. The equilibrium catch at $F_{50\%}$ to $F_{70\%}$ ranges from 689 to 724 mt, but at F levels of $F_{50\%}$ - $F_{60\%}$ the equilibrium stock level would be less than the rebuilding target of 40%. Thus, upon completion of the rebuilding, the long-term harvest policy for canary rockfish should be no more aggressive than $F_{65\%}$ if the goal is to keep the stock size above the 40% level.

Note that the canary rockfish stock is estimated to have declined rapidly through the 40% biomass level, so few recruitments were observed while the biomass was in its target range (Figure 1). The estimated spawner-recruitment curvature and projected rebuilding rates could easily change if the next several years of canary rockfish recruitment indicate that the stock has greater capacity to produce strong recruitment from intermediate stock levels.

Generation Time

This is calculated as the mean age of female spawners in an unfished population. It is calculated to be 16.8 years in scenario #1 in which female natural mortality increases at older ages.

Expected Recruitment Level

Three methods of calculating recruitment during rebuilding were considered. These are random resampling of observed recruitment levels, random resampling of observed levels of recruits/spawner (R/S) and random resampling of deviations from the estimated spawner-recruitment relationship. The first method is not used here because of the large change in recruitment level observed during the time series. The second method has been used in some other rebuilding analyses and will be the baseline approach here, but we note here that such a method incorporates no population compensation, so often leads to exponential model population growth as the stock increases above its current low level. The third method incorporates compensation in the form of the spawner-recruitment curve, and results from this method will be presented in comparison to the R/S method.

The main approach to estimating future recruitment levels is through randomly resampling the historical values of R/S (Figure 2) and multiplying the selected value by the previous year's spawning biomass to estimate the current year's recruitment of age 1 fish. These R/S values indicate very little ability of the population to compensate for fishing mortality. The 1996-1998 R/S values are higher, but these values are driven nearly solely by the highly variable occurrence of young canary rockfish in the 1998 triennial trawl survey. Most projections will be based upon resampling the R/S from 1978-1995. Sensitivity analyses will utilize different ranges of years for the resampling.

Rebuilding in the Absence of Fishing

The rate of rebuilding with no fishing mortality depends only upon the level of recruitment that occurs during the rebuilding period, which begins in 2001. It is informative to consider first how rebuilding would proceed if various constant levels of future recruitment occurred. As noted above, mean recruitment during 1987-1995 was less than 40% of the 1,859 thousand recruits in the "virgin" level, so if this low recruitment level persists the stock cannot rebuild to the 40% target. If the average recruitment immediately increased to 782 thousand (which is the mean recruitment during 1987-1991 as the spawning stock was declining through the 40% biomass level), then rebuilding to that 40% biomass level would occur in 23 years. This scenario with relatively constant recruitment (and increasing R/S) at lower spawning stock size is consistent with combining the northern and southern results. However, in the northern area alone, lower recruitment levels have occurred as the stock continued to decline and the relative constancy of R/S (Figure 2) indicates that resampling from recent R/S values is a more realistic characterization of the likely rate of rebuilding.

With resampling R/S, the time to rebuild is sensitive to the range of years from which this resampling occurs (Table 3) and to the level of the 1996-1998 recruitments. Using the reduced 1996-1998 recruitments in the calculation of the starting population in 2001, then resampling from 1978-1995 produces a median time to rebuild of 119 years (Table 3).

Preliminary calculations used the higher estimates of recruitment in 1996-1998. These higher recruitments start the rebuilding early and provided high R/S values in the future resampling. If the resampling includes 1987-1997, then 2 of the 10 possible values are from the uncertain high estimates. This provides an optimistic result with median rebuilding in 24 years. Even when the higher recruitments are not used in the resampling, their contribution to the starting population in 2001 reduces median rebuilding from 119 years to 82 years.

The range of years used to resample also has a great impact on the results. Higher R/S during 1978-1986 produces rebuilding in 74 years, but lower R/S in 1987-1995 delays rebuilding substantially. Adding the higher R/S values from 1996 and 1997 reduces the time to rebuild.

Similar calculations of time to rebuild occur if the calculations are based upon deviations from the estimated spawner-recruitment curve.

The time to rebuild ranges from an optimistic level of 23 or 24 years if either there is an immediate increase in recruitment to an intermediate level (782 thousand fish), or if the high estimated R/S values during 1996-1998 represent a substantial probability for future recruitment, respectively. More realistic scenarios are based upon lower recruitment levels in 1996-1998 and R/S levels observed over a longer period. These

scenarios produce rebuilding time frames of at least 74 years, and the recommended result (resampling from 1978-1995) shows a median time to rebuild of 119 years.

The assessment of canary rockfish in the southern area (Eureka-Monterey) found continued moderate recruitment and high R/S values at low levels of spawner abundance (Figure 3). The combined average historical recruitment from north plus south would produce a spawning biomass of 18,477 mt if unfished (using unfished S/R from the northern analysis). The 1987-1995 average recruitment from the combined areas has no obvious trend and averaged 1,291 thousand fish. At this level of recruitment, the combined area population would rebuild in 16 years. This calculation should not be considered definitive. At this time we have not quantitatively combined the northern and southern results in a way that would allow rebuilding calculations based upon R/S deviations.

The target rebuilding time is equal to one generation time plus the time to rebuild with zero fishing.

Rebuilding

Rebuilding scenarios were conducted at various levels of constant catch. The level of catch that can be sustained during rebuilding is strongly related to the degree that R/S during rebuilding are above the F=0 replacement level. Under the scenario with lower 1996-1998 recruitment and resampling from 1978-1995, the stock can only sustain 13 mt of catch per year without delaying rebuilding beyond 136 years (Table 3). This extremely low level of potential catch is extraordinary in comparison to the >1000 mt catches that occurred for many years. The difference is due to the fact that the high catches were not sustainable and were reducing the stock size, and that R/S has been extremely low for canary rockfish. It is unknown what sort of prolonged climate conditions would have allowed historical R/S to be sufficiently high to build up the biomass that supported the historical fishery.

Under the higher recruitment scenario with resampling from 1987-1997, the stock can rebuild in 42 years 67% of the time while catch is 150 mt per year. Preliminary calculations were also made with the higher recruitment scenario and constant exploitation rate rather than a constant catch level. In this case, fishing at $F_{80\%}$ (without 40-10 adjustment) would allow rebuilding in 42 years. During early years (while biomass is low) the annual catch would be about 50 mt. As the stock approached the rebuilt level, the annual catch would be near 300 mt. Over the course of the rebuilding, the median total catch from this $F_{80\%}$ policy would be 37% greater than that obtained from a constant catch of 150 mt per year.

Scenario #2

Spawner-Recruit Relationship

The level of decline estimated in scenario #2 is not as extreme as that estimated in scenario #1. In addition, the absolute level of recruitment has not declined as much (Table 3, Figure 4). During 1987-1995, average recruitment was 46% of the average that occurred during 1967-1977 (Table 3). However, the level of recruits per spawner in the late 1980s to mid 1990s is very low (Figure 5) and even closer to the replacement line than in scenario #1. As long as this low level of recruitment per spawner persists, any rebuilding will be very slow. As in scenario #1, the 1996-1998 recruitment estimates are higher, but based on limited data.

A spawner-recruitment curve fitted as in scenario #1 produces an estimate of curvature equal to 0.403 (Figure 4), which is similar to the 0.38 level estimated in scenario #1.

Unfished Abundance Level

Three possibilities are the level from the assessment model, the level from the fitted spawner-recruitment curve, and the level calculated from the mean recruitment level in the early years of the time series.

The highest value comes from the initial assessment where a recruitment level of 2,744 million age 1 recruits would produce an unfished female spawning biomass of 44,991 mt. Note that the level of female spawning biomass per recruit is much higher in scenario #2 than in scenario #1 because of the lower female natural mortality in the second scenario. In the initial assessment modeling, this initial recruitment level is acted on by a fishing mortality sufficient to produce a catch of 1,000 mt which reduces the initial spawning biomass down to 34,210 mt (Table 2, Figure 4).

The lowest level comes from the intercept between the estimated spawner-recruitment curve and the recruits/spawner replacement line. This level has 1,250 million recruits producing a spawning biomass

of 20,495 mt. However, because this relationship is fitted to the logarithm of recruitment, a correction when back transforning to mean recruitment is necessary. These transformed values are 1,567 million recruits producing an unfished spawning biomass of 25,693 mt (Table 2, Figure 4).

An intermediate level comes from taking the early mean recruitment level (1,763 million recruits in 1967 through 1977) which would produce a spawning biomass of 28,909 mt if unfished.

The intermediate level is taken as the best estimate of unfished spawning biomass Figure 4. We note, however, that high historical catches were obtained while fishing down from an even higher level of biomass. The rebuilding target is set at 40% of the unfished spawning biomass level, which is 10,277 mt of female spawners. The spawning biomass in 1999 is at 25% of the unfished level according to scenario #2.

Generation Time

This is calculated as the mean age of female spawners in an unfished population. It is calculated to be 24.7 years in scenario #2.

Expected Recruitment Level

The main approach to estimating future recruitment levels is through randomly resampling the historical values of recruits per spawner (Figure 5) and multiplying the selected value by the previous year's spawning biomass to estimate the current year's recruitment of age 1 fish. These R/S values indicate very little ability of the northern portion of the stock to compensate for fishing mortality.

Rebuilding in the Absence of Fishing

The rate of rebuilding with no fishing mortality depends only upon the level of recruitment that occurs during the rebuilding period, which begins in 2001. With resampling R/S, the time to rebuild is sensitive to the range of years from which this resampling occurs (Table 3) and to the level of the 1996-1998 recruitments. Using the reduced 1996-1998 recruitments in the calculation of the starting population in 2001, then resampling from 1978-1995 produces a median time to rebuild of 192 years (Table 3).

Preliminary calculations used the higher estimates of recruitment in 1996-1998. These higher recruitments start the rebuilding early and provided high R/S values in the future resampling. If the resampling includes 1987-1997, then 2 of the 10 possible values are from the uncertain high estimates. This provides an optimistic result with median rebuilding in 20 years. Even when the higher recruitments are not used in the resampling, their contribution to the starting population in 2001 reduces median rebuilding from 192 years to 85 years.

The range of years used to resample also has a great impact on the results. Higher R/S during 1978-1986 produces rebuilding in 75 years, but lower R/S in 1987-1995 delays rebuilding beyond the timeframe of the simulations. Adding the higher R/S values from 1996 and 1997 reduces the time to rebuild to 98 and 84 years.

The time to rebuild ranges from an optimistic level of 20 years if the high estimated R/S values during 1996-1998 represent a substantial probability for future recruitment. More realistic scenarios are based upon lower recruitment levels in 1996-1998 and R/S levels observed over a longer period. These scenarios produce rebuilding time frames of at least 75 years.

Adding southern area results to this scenario #2 northern result probably will not have as great an impact as adding the south to the scenario #1 north. This is because the northern abundance in scenario #2 is larger, so adding the southern recruitments will have a diminished proportional contribution.

Rebuilding

Rebuilding scenarios were conducted at various levels of constant catch. The level of catch that can be sustained during rebuilding is strongly related to the degree that R/S levels during rebuilding are above the F=0 replacement level. Under the scenario with lower 1996-1998 recruitment and resampling from 1978-1995, the stock can sustain less than 15 mt of catch per year without delaying rebuilding beyond 217 years (Table 3). Even adding the R/S from 1996 and 1997 would only allow 25 mt of catch per year during rebuilding. Under the higher recruitment scenario with resampling from 1987-1997, the stock can rebuild in 45 years 51% of the time while catch is 185 mt per year.

Expansion for Southern Area

The estimate of female spawning biomass in the southern area in 1998 was 376 mt, which is 20.2% of the combined north-south female spawning biomass according to scenario #1, but only 4.7% according to scenario #2. A simple estimate of allowable catch in the combined north-south areas could be based upon these percentages. However, the level of recruitment in the southern area is nearly on par with that in the northern area, so this simple expansion based upon current distribution of biomass may underestimate the combined potential. The current $F_{50\%}$ yield (with no adjustment for the 40-10 OY policy) in the southern area is approximately 55 mt, which would represent an upper bound on possible short-term contribution from that area.

Table 1. Time series of canary rockfish abundance in the northern area according to scenario #1 in which fishery selectivity is asymptotic at older ages, and females are estimated to have increasing natural mortality (Crone et al 1999). The high recruitment values in 1996-1998 reported here are adjusted downwards by 50% for the baseline rebuilding analysis.

YR	Total Biomass	Female Spawning Biomass	Age 1 Recruits	Catch
Initial Equilibrium	53109	18971	2872	1000
67	53016	18971	526	2504
68	51145	18384	526	2802
69	48833	17639	3692	1731
70	47612	17366	1606	1607
71	46499	17110	3278	1427
72	45529	16856	847	1382
73	44538	16522	1312	4181
74	40492	14912	2333	860
75	40117	14773	1842	1351
76	39166	14421	1652	785
77	38831	14294	2834	1672
78	37528	13757	1309	2326
79	35583	12912	2423	3192
80	32857	11712	3170	3215
81	30269	10600	570	2608
82	28481	9801	1845	4352
83	24871	8298	1254	4277
84	21482	6995	1429	1839
85	20784	6873	1173	2084
86	19804	6696	1417	1848
87	19001	6613	652	2698
88	17161	6065	670	2578
89	15359	5497	946	2820
90	13185	4734	681	2174
91	11643	4205	960	2802
92	9381	3302	704	2433
93	7488	2556	540	1982
94	6034	1962	346	960
95	5631	1826	101	770
96	5420	1789	1351	974
97	4977	1644	936	920
98	4612	1480	1083	996
99	4197	1265	473	996
Alternative Calculations of unfished level:				
S/R equil	30912	10136	1301	0
S/R, with bias adjust	37969	12450	1598	0
67-77 recr mean	44168	14483	1859	0
init. Equilibrium	68240	22376	2872	0

Table 2. Revised time series of canary rockfish abundance in the northern area according to scenario #2 in which fishery selectivity is dome-shaped and natural mortality is constant for all ages and both sexes (Crone et al 1999).

YR	Total Biomass	Female Spawning Biomass	Age 1 Recruits	Catch
Initial Equilibrium	67277	34210	2744	1000
67	67186	34210	433	2504
68	65297	33639	433	2802
69	62933	32822	3542	1731
70	61626	32467	1425	1607
71	60413	32112	3162	1427
72	59332	31752	723	1382
73	58226	31305	1277	4181
74	54024	29468	2226	860
75	53460	29147	1751	1351
76	52337	28626	1618	785
77	51857	28361	2805	1672
78	50423	27683	1270	2326
79	48326	26646	2395	3192
80	45405	25164	3140	3215
81	42563	23691	581	2608
82	40482	22509	1858	4352
83	36530	20500	1269	4277
84	32731	18657	1465	1839
85	31604	18050	1217	2084
86	30208	17402	1519	1848
87	29013	16859	749	2698
88	26805	15841	792	2578
89	24658	14815	1178	2820
90	22166	13593	898	2174
91	20337	12628	1286	2802
92	17819	11288	928	2433
93	15706	10132	764	1982
94	14049	9147	500	960
95	13468	8677	129	770
96	13127	8356	2240	974
97	12620	7961	1580	920
98	12270	7574	1840	996
99	11945	7157	960	996
Alternative Calculations of unfished level:				
S/R equil	40545	20495	1250	0
S/R, with bias adjust	50827	25693	1567	0
67-77 recr mean	57190	28909	1763	0
init. Equilibrium	89004	44991	2744	0

Table 3. Summary results of rebuilding calculations. All scenarios present results from 500 trials. R/S refers to scenarios based upon resampling recruits per spawner. HR represents scenarios with the 1996-1998 recruitments at their original (high) level. Other scenarios have these 3 recruitments at half of their original level.

Scenario #1

Conditions	% Rebuilt	Years to Rebuild			Annual Catch
		Min	Max	Median	
Resamp R/S 78-95	-	55	249	119	0
Resamp R/S 87-97, HR	-	13	57	24	0
Resamp R/S 78-95, HR	-	39	231	82	0
Resamp R/S 78-86	-	47	165	74	0
Resamp R/S 87-95	-	114	999	369	0
Resamp R/S 78-96	-	38	176	74	0
Resamp R/S 78-97	-	37	129	64	0
Resamp R/S 78-95	53%	63	275	132	13
Resamp R/S 78-95	42%	75	344	144	20
Resamp R/S 87-97, HR	67%	17	97	35	150
Resamp R/S 78-97	47%	42	203	81	40

Scenario #2

Conditions	% Rebuilt	Years to Rebuild			Annual Catch
		Min	Max	Median	
Resamp R/S 78-95		58	797	192	0
Resamp R/S 87-97, HR		10	66	20	0
Resamp R/S 78-95, HR		23	675	85	0
Resamp R/S 78-86	-	35	180	75	0
Resamp R/S 87-95		999	999	999	0
Resamp R/S 78-96		37	312	98	0
Resamp R/S 78-97		33	228	84	0
Resamp R/S 78-95	34%	66	999	273	15
Resamp R/S 87-97, HR	51%	14	999	45	185
Resamp R/S 87-97, HR	68%	12	183	36	150
Resamp R/S 78-97	51%	51	338	108	25

Figure 1. Estimated recruitment and spawner levels for scenario #1

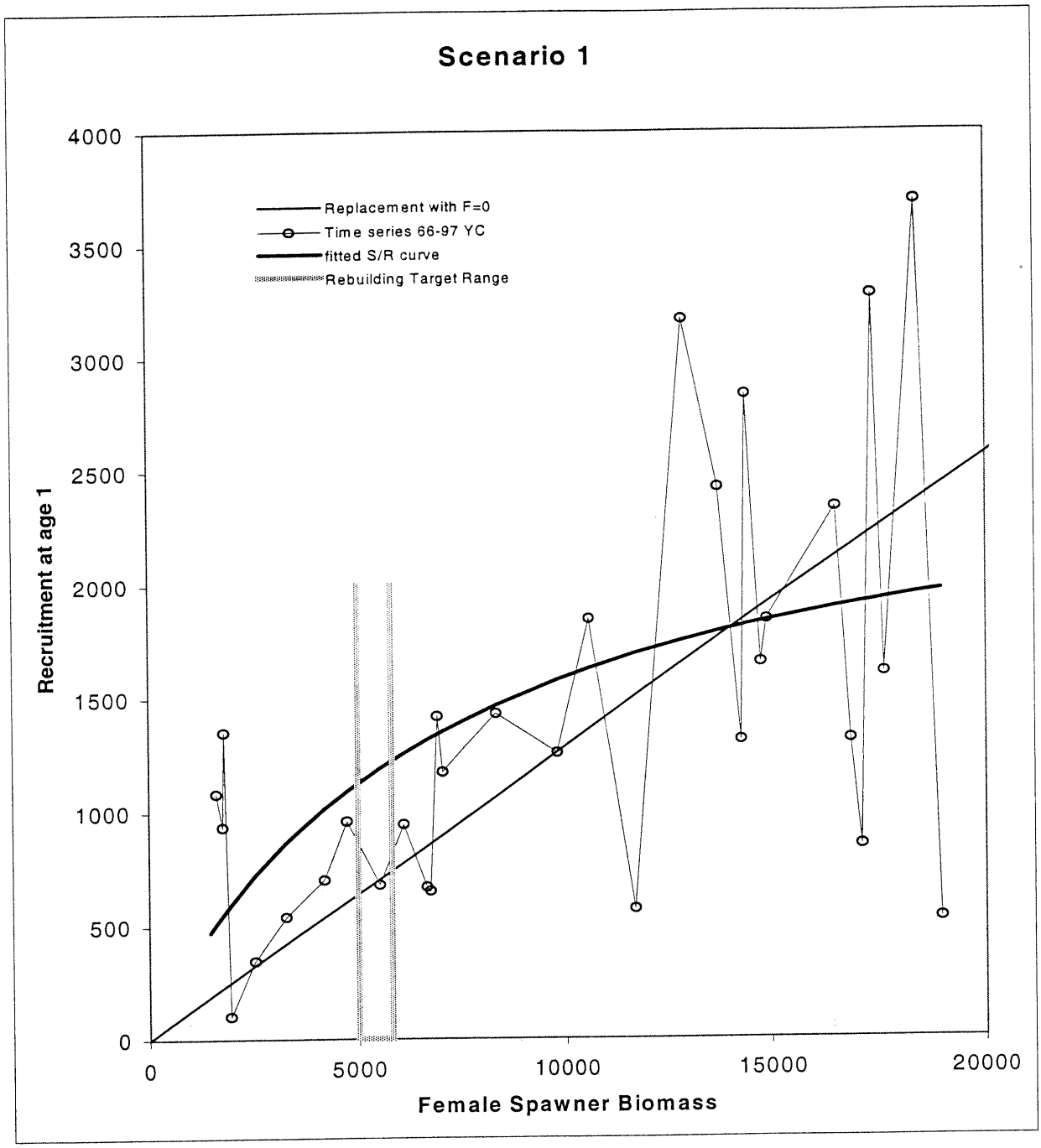


Figure 2. Recruits per Spawner time series for scenario #1. The bold horizontal line represents the replacement level with no fishing. The curved line is from the estimated recruitment-spawner relationship.

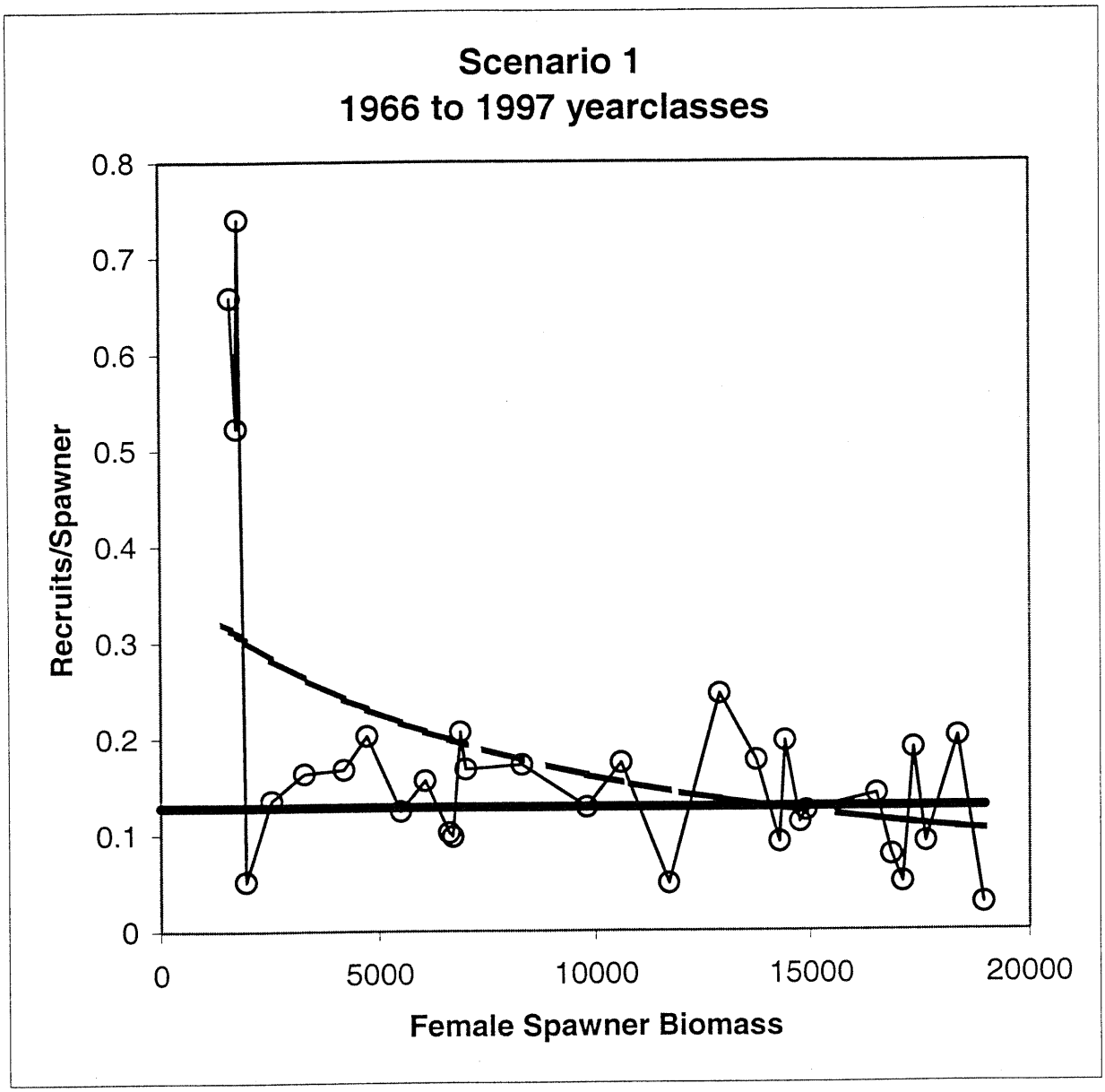


Figure 3. Comparison of recruits per spawner between the northern and southern assessment areas (based upon scenario #1 in the north). Unlike Figures 1 and 2, the recruitment values for 1996-1998 in the north are adjusted down to 50% of their original estimated value.

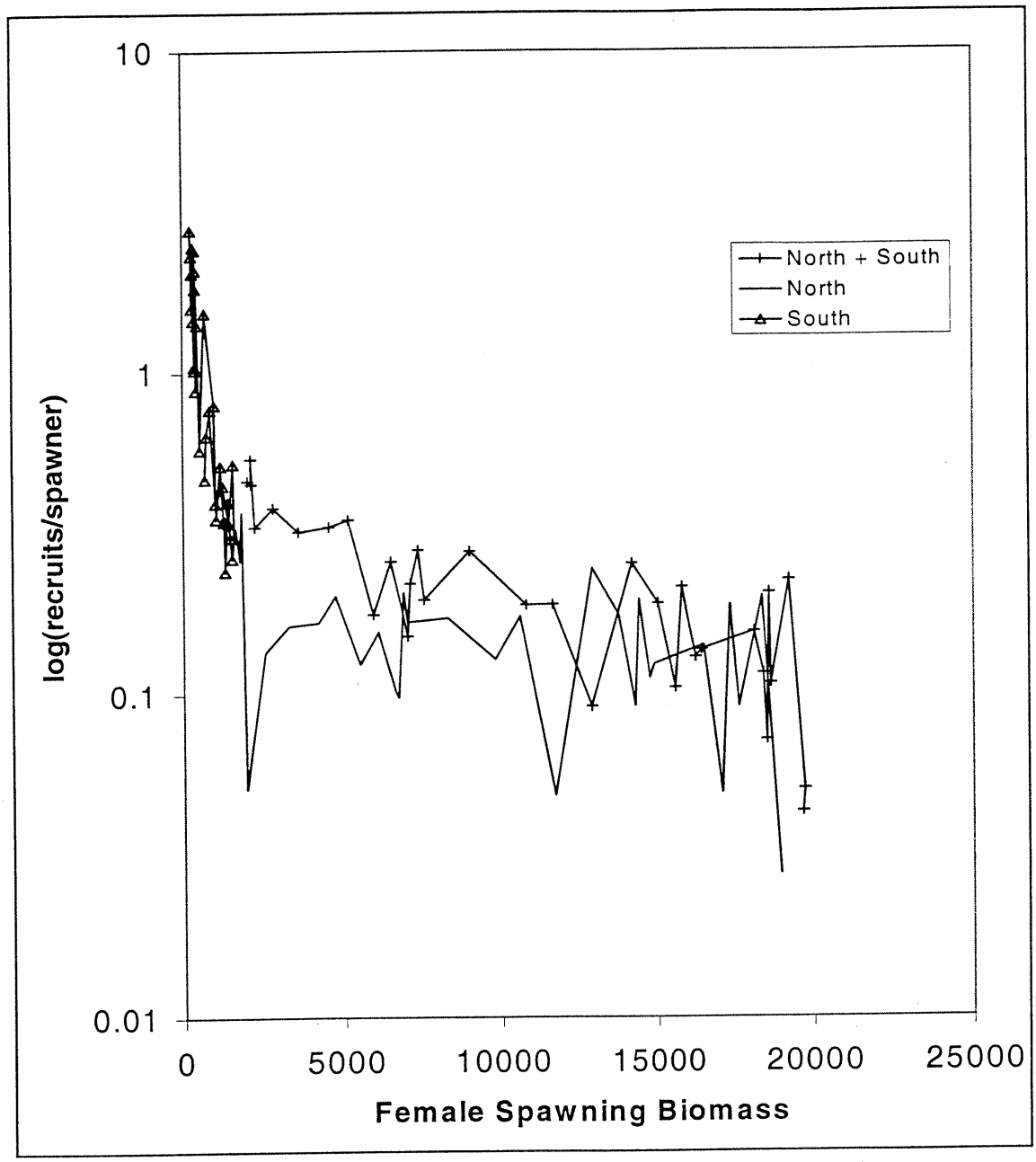


Figure 4. Estimated recruitment and spawner levels for scenario #2. Values for 1996-1998 are at their original estimated value (high recruitment).

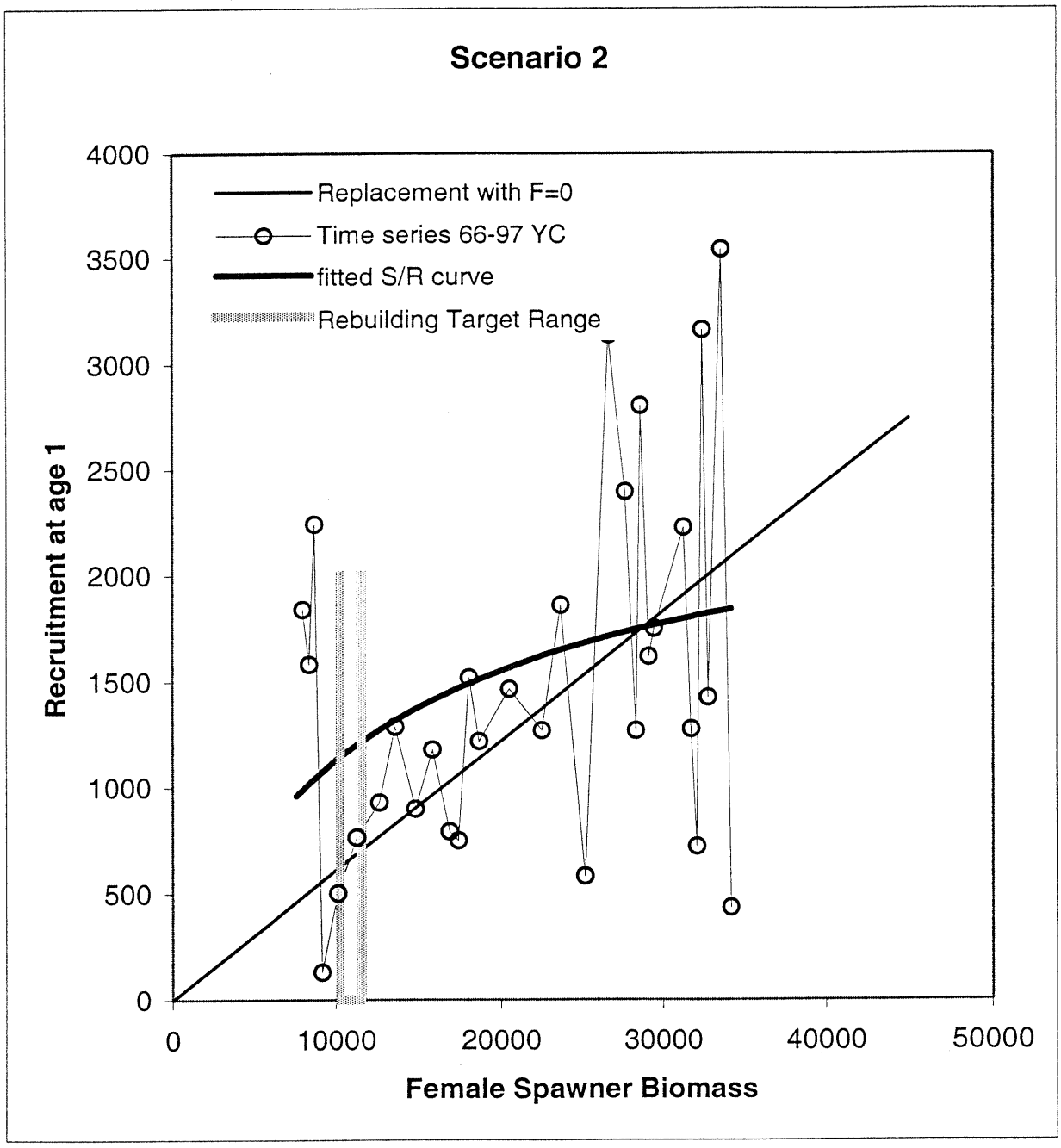
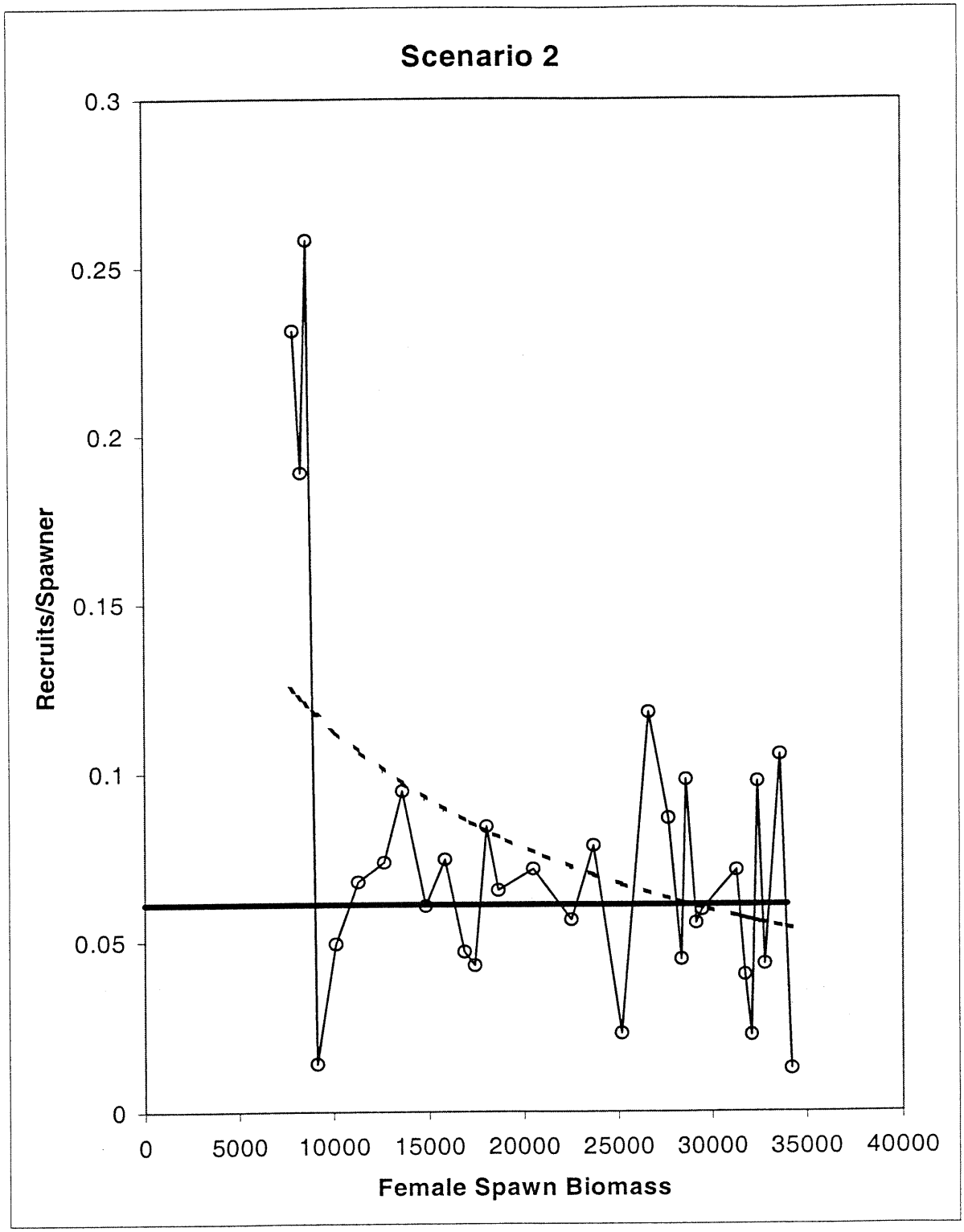


Figure 5. Estimated time series of recruits per spawner for scenario #2.



APPENDIX B: Canary Rockfish Rebuilding Analysis Addendum for November 2000 PFMC meeting (revised December 7, 2000)

This addendum to the canary rockfish rebuilding analysis documents the expected impact of the scenario selected by the PFMC at its November 2000 meeting. The revised addendum maintains the extensive calculations based upon "low recruitment" as presented at the September 2000 PFMC meeting and adds the final set of calculations based upon "medium recruitment" (MR) as defined here. In addition, the results of other assessment and rebuilding scenarios are tabulated in Tables 1 and 2.

Based upon the MR scenario, the northern stock would be expected to rebuild from its current level (8.7% of unfished level) to the target level (40% of unfished level) in 41 years with no fishing. With a mean generation time of 17 years, the allowable time to rebuild is calculated to be 58 years. A constant catch of 73 mt per year would allow the stock to rebuild in 57 years in 52% of the simulations, so meets the rebuilding requirements.

Features of Selected Assessment and Rebuilding Scenario:

1. Age-specific female natural mortality (scenario #1 from northern area assessment).
2. Expected unfished female spawning biomass is calculated from the average age 1 recruitment level in 1967-1977 (Figure 1).
3. Current female spawning stock size is at 8.7% of the unfished level in scenario #1[3/].
4. Rebuilding target is 40% of unfished biomass level.
5. Rebuilding rates are based upon random resampling of recruits per spawner (R/S) observed in 1978-1997 (Figure 2)
6. Rebuilding forecasts were conducted using a range of constant catch levels, rather than constant fishing mortality level. This allows a higher catch in the early years, but no increased catch in later years if the stock rebuilds along the currently forecasted trajectory.
7. The rate of rebuilding is extremely sensitive to the level of recruitment in 1996-1998. These recruitments are at the end of the time series so have little supporting data and are estimated with low precision. The final set of rebuilding forecasts are based upon recruitment in 1996-1998 set at 75% of the level initially estimated in the stock assessment (labeled MR for medium recruitment). This 75% level is intermediate between the 100% level (HR) and the 50% level (LR) presented as alternatives in the stock assessment. In terms of absolute recruitment, the 75% level is intermediate between the moderate recruitment level observed during the early 1980s and the low level observed during 1987-1995.

Results with Low Recruitment

1. Rebuilding with no fishing occurs in 64 years in 50% of the simulations (Table 1, Figure 3).
2. Generation time is 17 years, so allowed rebuilding time frame is 64+17 = 81 years.
3. Catch in the northern area of 39 mtons per year would allow rebuilding in 81 years in 50% of the simulations (Figure 3 and Figure 4).
4. The range of possible rates of rebuilding is wide (Figure 3) due to the high variability in recruitment.
5. A constant catch of 39 mtons per year represents an exploitation rate of less than 1% per year during the early years of rebuilding. A constant exploitation rate of only 0.37% would also achieve rebuilding in 81 years, but would have short-term catch levels of only 16 mtons then higher catch levels as the stock rebuilds.

3/ Similar overall rebuilding results are obtained from scenario #2 which has a lesser decline in biomass, but a greater decline in recruitment compared to scenario #1.

6. Over the next five years, abundance is expected to increase even if the catch is as high as the current ABC of approximately 200 mtons, but lower catches are necessary to achieve the rebuilding target.

Results with Medium Recruitment

1. Rebuilding with no fishing occurs in 41 years in 50% of the simulations (Table 1)

2. Generation time is 17 years, so allowed rebuilding time frame is 41+17 = 58 years

3. Catch in the northern area of 73 mtons per year would allow rebuilding in 57 years in 52% of the simulations. This scenario is selected as the basis for the rebuilding plan.

4. The expected trajectory of female spawning biomass is presented in Figure 5 and Table 3.

Discussion Points:

1. The extremely low rate of rebuilding, and the low level of allowable catch while rebuilding, is due to the low level of R/S (Figure 2) that has been observed for canary rockfish. There are two reasonable explanations for this low recruitment:

   A. STOCK - If the low level of R/S observed during the 1990s is due to an inherent inability of the canary rockfish stock to produce good recruitment at low spawner levels, then rebuilding is unlikely to be faster than calculated here, and future fishery productivity of canary rockfish could be lower than for other rockfish species.
   B. CLIMATE - If the low level of R/S observed during the 1990s is due to long term, climate-related fluctuations in fish productivity, then a change to more productive ocean conditions could restore higher recruitment levels sooner and produce more rapid rebuilding. The timing and magnitude of such a current or future climate shift and its effect on recruitment of canary rockfish cannot be predicted with available information. As more information on climate effects on recruitment is obtained, better forecasts of rebuilding times should be possible.

2. A coastwide annual catch of 93 mtons is based upon the calculated 73 mtons for the northern area and an expansion to the southern area. Because of uncertainty in the north-south boundary in the assessment, there is not sufficient evidence to require a strict north-south allocation of the 93 mton coastwide catch. An updated stock assessment that carefully examines the north-south characteristics of the stock should be conducted after results of the summer 2001 survey are available.

3. Future rebuilding analyses will present the progress towards rebuilding and will update information on expected future rates of rebuilding. These analyses will incorporate updated stock assessments and should have more information on effects of climate on recruitment, so it is highly likely that some adjustment to the rebuilding plan will be necessary.

Table 1. Summary results of rebuilding calculations for assessment scenario #1. Each row of table summarizes results from 500 trials. **Allowable Years** is the median number of years to rebuild without fishing plus the mean generation time. The **%Rebuilt** is the percentage of trials that achieve rebuilding within the allowable number of years. HR represents scenarios with the 1996-1998 recruitments at their original (high) level. The outlined, selected scenario has these recruitments at 75% of their original level (MR) and other scenarios have these 3 recruitments at 50% of their original level.

Scenario #1

Years for Resampling	% Rebuilt	Years to Rebuild			Annual Catch	Allow-able Years
		Min	Max	Median		
78-95	-	55	249	119	0	136
78-95	53%	63	275	132	13	
78-86	-	47	165	74	0	
87-95	-	114	999	369	0	
78-96	-	38	176	74	0	
78-97	-	37	129	64	0	81
78-97	50%	43	167	80	39	
78-95, HR	-	39	231	82	0	
87-97, HR	-	13	57	24	0	41
87-97, HR	67%	17	97	35	150	
78-97 HR	--	14	105	31	0	48
78-97 HR	51%	18	136	47	125	
78-97, MR	-	21	101	41	0	58
78-97, MR	52%	0.52	22	155	57	73

Table 2. Summary results of rebuilding calculations for assessment scenario #2.

Scenario #2

Years for Resampling	% Rebuilt	Years to Rebuild			Annual Catch	Allow-able Years
		Min	Max	Median		
78-95	-	58	797	192	0	218
78-95	34%	66	999	273	15	
78-86	-	35	180	75	0	
87-95	-	999	999	999	0	
78-96	-	37	312	98	0	
78-97	-	33	228	84	0	110
78-97	51%	51	338	108	25	
78-95, HR	-	23	675	85	0	
87-97, HR	-	10	66	20	0	46
87-97, HR	68%	12	183	36	150	
87-97, HR	51%	14	999	45	185	
78-97, HR	-	11	77	24	0	50
78-97, HR	59%	14	262	45	100	
78-97, HR	52%	14	313	48	125	

Table 3. Expected trajectory of female spawning biomass under northern assessment scenario #1, with medium level of recent recruitment and constant catch of 73 mt per year. Statistics are based upon 500 simulations.

Year	min	max	mean	25%	50%	75%
2000	1248	1248	1248	1248	1248	1248
2001	1412	1412	1412	1412	1412	1412
2002	1629	1629	1629	1629	1629	1629
2003	1863	1864	1864	1864	1864	1864
2004	2107	2113	2109	2108	2108	2109
2005	2343	2365	2350	2347	2349	2351
2006	2551	2615	2569	2562	2566	2572
2007	2709	2860	2749	2733	2743	2757
2008	2809	3102	2882	2854	2871	2898
2009	2855	3339	2968	2924	2952	2996
2010	2857	3560	3017	2955	2995	3067
2011	2819	3748	3037	2950	3008	3109
2012	2761	3893	3040	2931	3005	3138
2013	2707	3991	3038	2903	2997	3154
2014	2615	4048	3037	2863	2989	3176
2015	2515	4076	3046	2848	3004	3218
2016	2408	4088	3063	2830	3013	3264
2017	2304	4196	3090	2815	3051	3317
2018	2217	4389	3125	2825	3077	3376
2019	2164	4611	3167	2847	3117	3440
2020	2171	4812	3224	2873	3173	3506
2021	2220	4971	3279	2900	3237	3596
2022	2213	5093	3338	2941	3292	3681
2023	2210	5234	3395	2978	3334	3766
2024	2214	5486	3453	3026	3389	3853
2025	2218	5737	3508	3063	3445	3937
2026	2220	5984	3566	3099	3489	4011
2027	2223	6202	3625	3134	3544	4063
2028	2222	6371	3685	3171	3606	4127
2029	2224	6493	3745	3192	3653	4197
2030	2231	6569	3806	3227	3715	4279
2031	2244	6603	3867	3256	3782	4372
2032	2258	6604	3928	3295	3824	4451
2033	2275	6611	3991	3325	3883	4557
2034	2303	6719	4056	3340	3955	4644
2035	2333	7041	4122	3409	4018	4739
2036	2301	7402	4190	3445	4072	4805
2037	2270	7871	4260	3508	4127	4892
2038	2234	8283	4330	3565	4197	4971
2039	2196	8595	4401	3637	4258	5041
2040	2155	8813	4473	3673	4325	5136
2041	2117	8961	4546	3738	4412	5227
2042	2087	9072	4620	3774	4486	5264
2043	2070	9199	4696	3827	4586	5361
2044	2080	9391	4773	3855	4651	5471
2045	2119	9608	4853	3950	4750	5543
2046	2185	9846	4935	3979	4831	5661
2047	2265	10085	5019	4045	4928	5775
2048	2350	10315	5103	4127	4994	5869
2049	2433	10544	5189	4204	5088	5943
2050	2515	10801	5276	4274	5138	6110
2051	2601	11138	5365	4334	5228	6221
2052	2627	11542	5456	4399	5304	6313
2053	2624	11975	5549	4442	5397	6467
2054	2625	12390	5645	4472	5510	6577
2055	2626	12781	5744	4498	5640	6732
2056	2623	13077	5846	4587	5735	6853
2057	2618	13322	5949	4674	5788	7025
2058	2610	13514	6053	4726	5850	7113

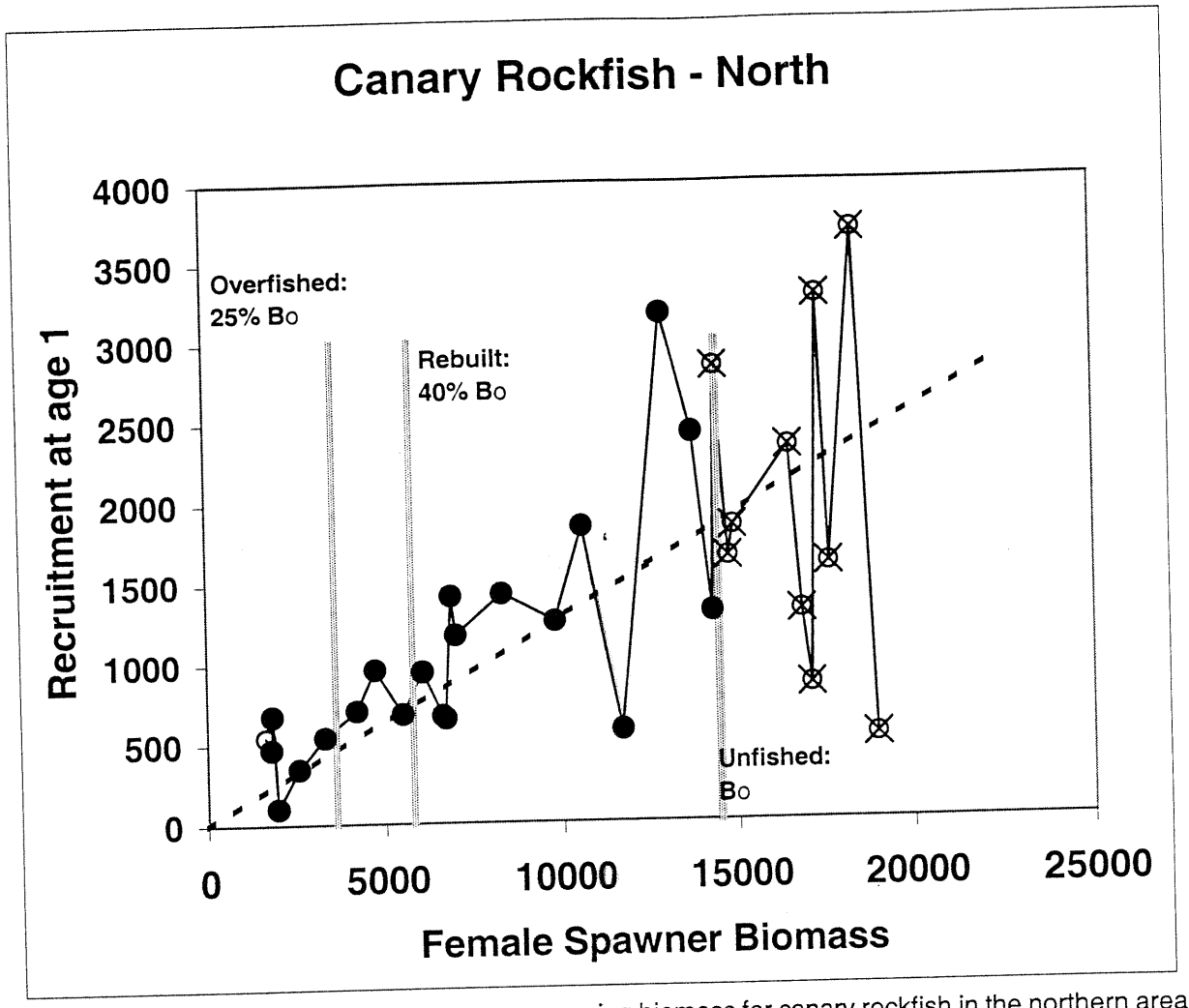


Figure 1. Time series of recruitment versus spawning biomass for canary rockfish in the northern area according to scenario #1 and with recruitments in 1996-1998 (leftmost points on figure) reduced to 50% of value in stock assessment according to recommendations of STAR panel. The recruitment points with an X were used to calculate the unfished biomass level, B_0. The dashed line shows the level of recruitment that would maintain that level of female spawning biomass with no fishing. The recruits/spawner values for the solid points (see Figure 2) were resampled to calculate rebuilding rates.

Figure 2. Level of recruitment per spawner that was used to calculate rebuilding rate in the LR scenario.

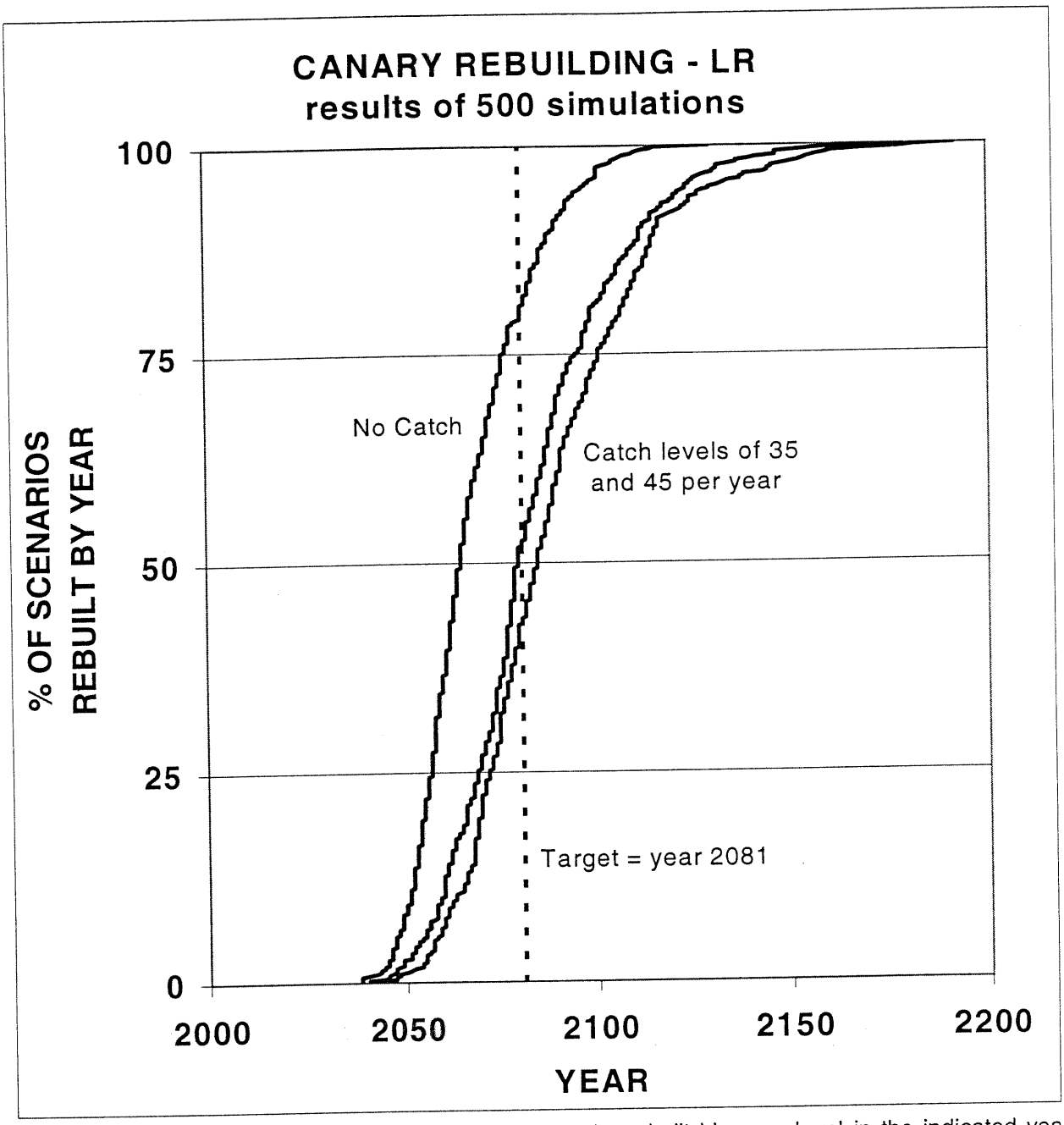


Figure 3. Percentage of 500 simulations that achieve the rebuilt biomass level in the indicated year according to the LR scenario. The "no catch" line shows that 50% of the simulations achieve the rebuilt level in 64 years. At a catch of 39 mtons per year (intermediate between displayed levels of 35 and 45 mtons) the stock is expected to rebuild in 50% of the simulations by the year 2081. Similar calculations with the MR scenario would shift the curves to the left (earlier) and be based upon higher catch levels.

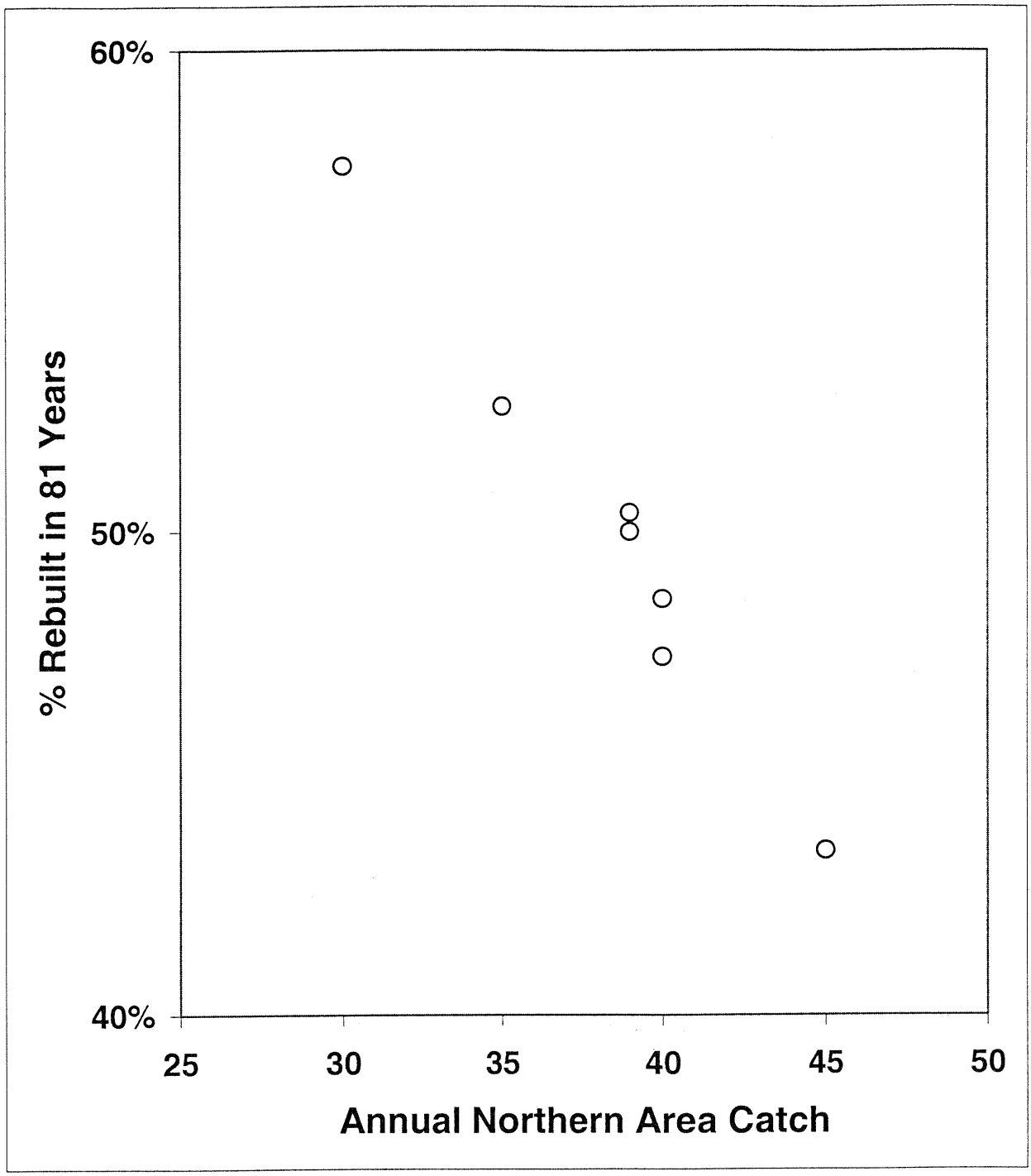


Figure 4. Relationship between annual catch level in the northern area (scenario #1, LR) and the probability of being rebuilt in 81 years. The multiple points shown at catch levels of 39 and 40 mtons demonstrate the level of variability in this calculation due to the use of only 500 simulations.

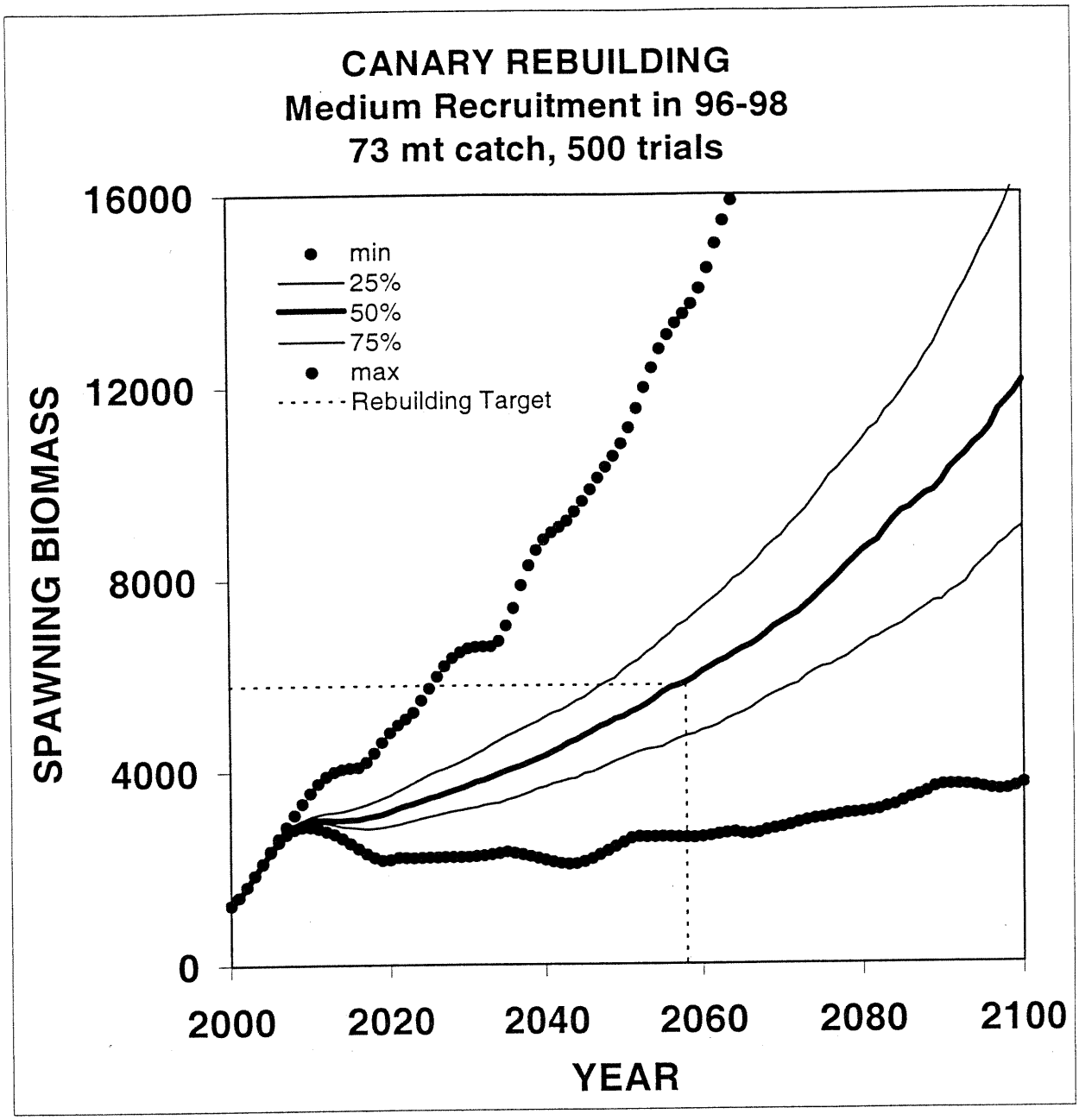


Figure 5. Trajectory of spawning biomass expected in the MR scenario with an annual catch of 73 mtons and recruitment levels selected by randomly resampling recruits per spawner from 1978-1997. The initial steeper recovery is due to the sequence of stronger recruitment during 1996-1998. The maximum (MAX) rate of rebuilding occurs when similarly large recruitments occur frequently in the future. The MIN rate shows that if larger recruitments occur infrequently, then the stock will maintain itself, but little rebuilding will occur. The 50% line (median) is the target with 50% of the simulations reaching the rebuilt level in 57 years.

THE FOLLOWING TABLES AND FIGURES WERE NOT INCLUDED IN MAIN DOCUMENT

TABLE 3-1. Groundfish incidental catch in the shrimp fishery by state and by open access and limited entry trawl vessels, 1999 and 2000.

TABLE 3-3. Groundfish landings (mts) for 1994-1999 and projected landings for 2000, by species group and management area.

TABLE 3-4. Real ex-vessel revenue ($1,000s, 2000=1) from groundfish for 1994-1999 and projected revenue for 2000, by species group and management area.

TABLE 3-5. Real ex-vessel revenues (millions of 1999 dollars) for vessels with some groundfish, and percentage of total revenue derived from groundfish and rockfish, by year and fleet, 1994-99.

TABLE 3-6. Purchase information for processing plants (coastwide) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999.

TABLE 3-7 . Number of ocean area recreational trips by region and for rockfish and lingcod trips.

TABLE 3-9. Real ex-vessel revenue (thousands of 1999 dollars) for open-access vessels that earned more than $5,000 in coastwide fishery revenue, and average vessel percentages of total income from selected groundfish categories, by port-groups, 1994-2000

TABLE 3-10. Real ex-vessel revenue (thousands of 1999 dollars) earned by vessels with limited-entry fixed-gear permits within specified groups of ports, and average vessel percentages of total income from selected groundfish categories, 1994-2000.

TABLE 3-11. Real ex-vessel revenue (thousands of 1999 dollars) earned by vessels with limited-entry trawl permits within specified groups of ports, and average vessel percentages of total income from selected groundfish categories, 1994-2000.

TABLE 3-12. Purchase information for processing plants (by port group) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999.

LIST OF FIGURES

Figure 3-1. Landings trends in West Coast groundfish, 1994-2000.

Figure 3-2. Real ex-vessel revenue trends in west coast groundfish, 1994-2000.

Figure 3-3a. Number of groundfish **open access** vessels by level of dependence on groundfish.

Figure 3-3b. Number of groundfish **limited entry** vessels by level of dependence on groundfish.

Figure 3-4a . Number of **open access** vessels by level of groundfish revenue.

Figure 3-4b. Number of **limited entry** vessels by level of groundfish revenue.

Figure 3-5. Proportion of total trips that were targeted on rockfish or included rockfish in the catch and proportion of total recreational angler trips that were targeted on lingcod or included lingcod in the catch.

TABLE 3-1. Groundfish incidental catch in the shrimp fishery by state and by open access (OA) and limited entry (LE) trawl vessls, 1999 and 2000.

	California			Oregon			Washington			Coastwide		
	OA	LE	All	OA	LE	All	OA	LE	All	OA	LE	All
Metric tons												
1999												
Shrimp	775.4	1,122.8	1,898.2	5,628.4	3,648.3	9,276.6	1,006.3	197.7	1,204.0	7,410.0	4,968.8	12,378.8
Canary	**0.6**	**2.1**	**2.7**	**19.3**	**11.8**	**31.1**	**0.7**	**0.4**	**1.2**	**20.7**	**14.4**	**35.1**
Yellowtail	0.2	1.5	1.7	29.2	15.3	44.5	14.8	3.3	18.0	44.2	20.1	64.3
Other rock	7.1	13.6	20.7	19.2	18.1	37.2	4.6	0.2	4.7	30.9	31.8	62.7
Sablefish	0.5	0.8	1.3	27.1	11.8	38.9	4.9	0.3	5.2	32.5	12.9	45.4
Lingcod	1.0	1.0	2.0	14.5	13.1	27.5	1.7	0.5	2.2	17.2	14.5	31.8
All GF	11.7	22.6	34.2	167.6	131.4	299.0	38.5	8.3	46.8	217.8	162.2	380.0
2000												
Shrimp	503.0	477.5	980.5	4,559.3	4,063.5	8,622.8	933.7	343.6	1,277.4	5,996.1	4,884.6	10,880.7
Canary	**0.4**	**0.0**	**0.4**	**4.8**	**3.3**	**8.1**	**0.2**	**0.3**	**0.4**	**5.3**	**3.5**	**8.9**
Yellowtail	0.4	0.3	0.7	32.6	21.9	54.5	12.4	10.0	22.4	45.5	32.2	77.7
Other rock	1.1	0.9	2.0	5.2	3.5	8.7	0.9	0.2	1.1	7.1	4.7	11.8
Sablefish	0.4	0.5	0.8	13.3	13.0	26.3	2.2	0.7	2.8	15.8	14.1	29.9
Lingcod	0.2	0.0	0.2	7.1	5.2	12.4	1.8	0.5	2.3	9.1	5.7	14.9
All GF	2.8	2.9	5.6	82.6	72.9	155.5	22.4	14.0	36.4	107.7	89.8	197.5
Species % of shrimp mts												
1999												
Canary	**0.08%**	**0.19%**	**0.14%**	**0.34%**	**0.32%**	**0.34%**	**0.07%**	**0.22%**	**0.10%**	**0.28%**	**0.29%**	**0.28%**
Yellowtail	0.02%	0.14%	0.09%	0.52%	0.42%	0.48%	1.47%	1.66%	1.50%	0.60%	0.40%	0.52%
Other rock	0.92%	1.21%	1.09%	0.34%	0.50%	0.40%	0.45%	0.08%	0.39%	0.42%	0.64%	0.51%
Sablefish	0.06%	0.07%	0.07%	0.48%	0.32%	0.42%	0.49%	0.14%	0.43%	0.44%	0.26%	0.37%
Lingcod	0.14%	0.09%	0.11%	0.26%	0.36%	0.30%	0.17%	0.25%	0.19%	0.23%	0.29%	0.26%
All GF	1.50%	2.01%	1.80%	2.98%	3.60%	3.22%	3.83%	4.18%	3.89%	2.94%	3.26%	3.07%
2000												
Canary	**0.07%**	**0.00%**	**0.04%**	**0.11%**	**0.08%**	**0.09%**	**0.02%**	**0.07%**	**0.03%**	**0.09%**	**0.07%**	**0.08%**
Yellowtail	0.08%	0.06%	0.07%	0.72%	0.54%	0.63%	1.33%	2.91%	1.76%	0.76%	0.66%	0.71%
Other rock	0.22%	0.19%	0.21%	0.11%	0.09%	0.10%	0.09%	0.07%	0.09%	0.12%	0.10%	0.11%
Sablefish	0.08%	0.09%	0.09%	0.29%	0.32%	0.30%	0.24%	0.19%	0.22%	0.26%	0.29%	0.28%
Lingcod	0.03%	0.00%	0.02%	0.16%	0.13%	0.14%	0.20%	0.13%	0.18%	0.15%	0.12%	0.14%
All GF	0.55%	0.60%	0.57%	1.81%	1.79%	1.80%	2.40%	4.08%	2.85%	1.80%	1.84%	1.82%
Change from 1999 to 2000												
Canary	**-0.01%**	**-0.19%**	**-0.11%**	**-0.24%**	**-0.24%**	**-0.24%**	**-0.06%**	**-0.15%**	**-0.07%**	**-0.19%**	**-0.22%**	**-0.20%**
Yellowtail	0.06%	-0.07%	-0.02%	0.20%	0.12%	0.15%	-0.14%	1.25%	0.26%	0.16%	0.25%	0.19%
Other rock	-0.69%	-1.02%	-0.88%	-0.23%	-0.41%	-0.30%	-0.36%	-0.01%	-0.31%	-0.30%	-0.55%	-0.40%
Sablefish	0.01%	0.02%	0.02%	-0.19%	-0.00%	-0.11%	-0.26%	0.05%	-0.21%	-0.17%	0.03%	-0.09%
Lingcod	-0.10%	-0.08%	-0.09%	-0.10%	-0.23%	-0.15%	0.03%	-0.12%	-0.00%	-0.08%	-0.18%	-0.12%
All GF	-0.95%	-1.41%	-1.23%	-1.17%	-1.81%	-1.42%	-1.43%	-0.10%	-1.04%	-1.14%	-1.43%	-1.25%

TABLE 3-3. Groundfish landings (mts) for 1994-1999 and projected landings for 2000, by species group and management area.

Area/Species	1994	1995	1996	1997	1998	1999	2000	Percentage Change From 94-00	97-00	99-00
Coastwide										
Sablefish	7,579	7,905	8,317	7,942	4,372	6,645	4,300	-43%	-46%	-35%
Pacific whiting	248,815	174,771	191,355	230,468	231,358	223,926	200,935	-19%	-13%	-10%
Lingcod	1,904	1,467	1,557	1,568	349	357	130	-93%	-92%	-64%
Dover sole	9,359	10,565	12,187	10,117	8,004	9,137	8,500	-9%	-16%	-7%
Other flatfish	8,186	7,672	7,173	8,103	7,457	9,710	6,500	-21%	-20%	-33%
Longspine Thornyhead	4,385	5,411	4,596	3,935	2,249	1,791	1,700	-61%	-57%	-5%
Shortspine Thornyhead	3,282	1,946	1,798	1,453	1,213	808	650	-80%	-55%	-20%
Thornyheads (Mixed)	382	197	138	109	49	46	50	-87%	-54%	9%
Total thornyheads	8,049	7,554	6,533	5,498	3,511	2,645	2,400	-70%	-56%	-9%
Nearshore rockfish	734	690	616	693	608	438	260	-65%	-62%	-41%
Shelf rockfish	17,699	16,771	16,461	13,436	10,339	8,195	5,880	-67%	-56%	-28%
Slope rockfish	4,033	3,600	3,628	3,408	4,160	1,375	730	-82%	-79%	-47%
Unsp. rockfish	1,063	918	962	746	1,144	806	80	-93%	-89%	-90%
Total rockfish	31,578	29,533	28,200	23,780	19,762	13,458	9,350	-70%	-61%	-31%
Other groundfish	3,297	1,972	2,449	2,185	1,915	1,489	1,800	-45%	-18%	21%
Total groundfish	310,717	233,885	251,236	284,162	273,218	264,724	231,515	-25%	-19%	-13%
Total excluding whiting	61,902	59,114	59,882	53,695	41,860	40,797	30,580	-51%	-43%	-25%
Monterey and Conception INPFC Areas										
Sablefish	1,224	1,820	2,160	1,822	833	1,151	689	-44%	-62%	-40%
Pacific whiting	3	1	71	1	2	0	5	38%	431%	881%
Lingcod	462	376	355	372	98	84	19	-96%	-95%	-77%
Dover sole	3,094	4,351	4,564	3,844	1,844	2,184	1,789	-42%	-53%	-18%
Other flatfish	1,674	1,874	1,906	2,006	1,366	1,490	902	-46%	-55%	-39%
Longspine Thornyhead	813	1,350	1,081	1,041	616	564	498	-39%	-52%	-12%
Shortspine Thornyhead	823	665	701	487	350	266	198	-76%	-59%	-25%
Thornyheads (Mixed)	110	191	137	93	48	35	21	-81%	-78%	-40%
Total thornyheads	1,746	2,206	1,920	1,622	1,014	865	718	-59%	-56%	-17%
Nearshore rockfish	400	383	331	322	299	199	90	-77%	-72%	-55%
Shelf rockfish	4,157	4,499	3,826	4,233	2,804	1,505	580	-86%	-86%	-61%
Slope rockfish	1,197	1,273	1,435	1,499	2,378	283	130	-89%	-91%	-54%
Unsp. rockfish	155	63	187	98	151	224	40	-74%	-59%	-82%
Total rockfish	7,655	8,425	7,699	7,773	6,646	3,076	1,558	-80%	-80%	-49%
Other groundfish	372	492	1,195	718	651	453	390	5%	-46%	-14%
Total groundfish	14,484	17,339	17,950	16,536	11,439	8,439	5,352	-63%	-68%	-37%
Total excluding whiting	14,481	17,338	17,879	16,535	11,438	8,438	5,347	-63%	-68%	-37%
Vancouver-Columbia-Eureka INPFC Areas										
Sablefish	6,355	6,085	6,157	6,120	3,539	5,494	3,611	-43%	-41%	-34%
Pacific whiting	248,812	174,769	191,284	230,467	231,356	223,926	200,933	-19%	-13%	-10%
Lingcod	1,442	1,091	1,202	1,196	251	273	111	-92%	-91%	-59%
Dover sole	6,265	6,214	7,622	6,273	6,160	6,952	6,711	7%	7%	-3%
Other flatfish	6,512	5,798	5,267	6,097	6,092	8,220	5,598	-14%	-8%	-32%
Longspine Thornyhead	3,572	4,061	3,515	2,894	1,633	1,228	1,202	-66%	-58%	-2%
Shortspine Thornyhead	2,459	1,282	1,097	966	863	541	451	-82%	-53%	-17%
Thornyheads (Mixed)	272	6	1	15	1	11	29	-89%	87%	159%
Total thornyheads	6,303	5,348	4,613	3,876	2,497	1,780	1,682	-73%	-57%	-5%
Nearshore rockfish	335	306	285	371	309	239	170	-49%	-54%	-29%
Shelf rockfish	13,542	12,272	12,635	9,203	7,535	6,690	5,300	-61%	-42%	-21%
Slope rockfish	2,836	2,326	2,193	1,909	1,782	1,092	600	-79%	-69%	-45%
Unsp. rockfish	908	855	775	649	993	582	40	-96%	-94%	-93%
Total rockfish	23,923	21,108	20,501	16,007	13,116	10,383	7,792	-67%	-51%	-25%
Other groundfish	2,924	1,480	1,253	1,467	1,264	1,037	1,410	-52%	-4%	36%
Total groundfish	296,233	216,546	233,286	267,626	261,778	256,285	226,166	-24%	-15%	-12%
Total excluding whiting	47,421	41,776	42,002	37,160	30,422	32,359	25,233	-47%	-32%	-22%

TABLE 3-4. Real ex-vessel revenue ($1,000s, 2000=1) from groundfish for 1994-1999 and projected revenue for 2000, by species group and management area.

Area / Species	1994	1995	1996	1997	1998	1999	2000	Percentage Change From 94-00	97-00	99-00
Coastwide										
Sablefish	15,319	25,510	27,579	29,195	11,732	17,405	11,597	-24%	-60%	-33%
Pacific whiting	20,507	19,311	17,373	27,944	18,744	18,976	19,027	-7%	-32%	0%
Lingcod	1,934	1,618	1,714	1,740	591	639	325	-83%	-81%	-49%
Dover sole	6,767	8,255	8,855	6,857	6,236	6,759	6,491	-4%	-5%	-4%
Other flatfish	6,835	7,678	7,238	7,595	6,182	6,662	7,278	6%	-4%	9%
Longspine Thornyhead	7,895	12,656	8,963	6,658	3,336	3,127	3,396	-57%	-49%	9%
Shortspine Thornyhead	5,670	5,107	4,087	2,970	2,277	1,944	1,653	-71%	-44%	-15%
Thornyheads (Mixed)	755	495	378	357	169	112	134	-82%	-63%	19%
Total thornyheads	14,320	18,258	13,429	9,985	5,782	5,183	5,183	-64%	-48%	-0%
Nearshore rockfish	1,879	2,059	1,928	1,875	1,862	1,830	1,586	-16%	-15%	-13%
Shelf rockfish	16,128	15,855	14,516	12,186	10,207	7,966	6,002	-63%	-51%	-25%
Slope rockfish	3,469	3,403	3,146	2,661	3,432	1,126	738	-79%	-72%	-34%
Unsp. rockfish	1,197	1,064	1,260	917	1,396	1,271	267	-78%	-71%	-79%
Total rockfish	36,993	40,639	34,278	27,625	22,679	17,376	13,777	-63%	-50%	-21%
Other groundfish	1,895	1,732	1,950	2,019	2,253	1,943	2,063	9%	2%	6%
Total groundfish	90,250	104,743	98,987	102,976	68,417	69,760	60,558	-33%	-41%	-13%
Total excluding whiting	69,743	85,432	81,613	75,032	49,673	50,784	41,531	-40%	-45%	-18%
Monterey and Conception INPFC areas										
Sablefish	1,993	4,960	6,294	5,916	1,978	2,572	1,767	-11%	-70%	-31%
Pacific whiting	4	4	6	2	2	0	1	-76%	-43%	184%
Lingcod	541	474	468	470	197	192	65	-88%	-86%	-66%
Dover sole	2,186	3,293	3,206	2,497	1,390	1,590	1,264	-42%	-49%	-21%
Other flatfish	1,991	2,269	2,330	2,338	1,545	1,585	1,162	-42%	-50%	-27%
Longspine Thornyhead	1,473	3,284	2,174	1,819	1,034	1,099	1,139	-23%	-37%	4%
Shortspine Thornyhead	1,417	1,782	1,604	1,065	736	803	625	-56%	-41%	-22%
Thornyheads (Mixed)	276	484	375	327	168	89	66	-76%	-80%	-25%
Total thornyheads	3,167	5,551	4,153	3,211	1,938	1,991	1,830	-42%	-43%	-8%
Nearshore rockfish	1,473	1,619	1,529	1,346	1,476	1,316	904	-39%	-33%	-31%
Shelf rockfish	5,282	5,408	4,629	4,812	3,510	1,873	823	-84%	-83%	-56%
Slope rockfish	1,291	1,427	1,418	1,286	1,952	225	173	-87%	-87%	-23%
Unsp. rockfish	250	127	424	194	311	588	194	-23%	-0%	-67%
Total rockfish	11,464	14,131	12,154	10,850	9,188	5,994	3,924	-66%	-64%	-35%
Other groundfish	489	923	1,299	1,158	1,480	1,299	1,416	189%	22%	9%
Total groundfish	18,667	26,054	25,756	23,230	15,780	13,232	9,598	-49%	-59%	-27%
Total excluding whiting	18,663	26,050	25,751	23,229	15,778	13,231	9,597	-49%	-59%	-27%
Vancouver-Columbia-Eureka INPFC areas										
Sablefish	13,327	20,550	21,285	23,279	9,754	14,833	9,830	-26%	-58%	-34%
Pacific whiting	20,503	19,307	17,368	27,942	18,742	18,976	19,026	-7%	-32%	0%
Lingcod	1,393	1,144	1,246	1,271	394	447	260	-81%	-80%	-42%
Dover sole	4,582	4,962	5,649	4,360	4,846	5,169	5,228	14%	20%	1%
Other flatfish	4,843	5,409	4,908	5,257	4,637	5,078	6,116	26%	16%	20%
Longspine Thornyhead	6,421	9,372	6,790	4,840	2,303	2,028	2,257	-65%	-53%	11%
Shortspine Thornyhead	4,253	3,325	2,484	1,905	1,540	1,140	1,028	-76%	-46%	-10%
Thornyheads (Mixed)	479	11	3	30	1	23	67	-86%	125%	187%
Total thornyheads	11,153	12,708	9,276	6,774	3,844	3,192	3,352	-70%	-51%	5%
Nearshore rockfish	406	440	398	529	386	514	536	32%	1%	4%
Shelf rockfish	10,846	10,447	9,886	7,374	6,697	6,092	5,053	-53%	-31%	-17%
Slope rockfish	2,177	1,976	1,727	1,375	1,480	901	548	-75%	-60%	-39%
Unsp. rockfish	947	937	836	723	1,084	682	73	-92%	-90%	-89%
Total rockfish	25,530	26,508	22,124	16,775	13,491	11,382	9,563	-63%	-43%	-16%
Other groundfish	1,406	809	651	861	774	644	948	-33%	10%	47%
Total groundfish	71,583	78,689	73,231	79,745	52,638	56,528	50,970	-29%	-36%	-10%
Total excluding whiting	51,080	59,382	55,863	51,803	33,895	37,552	31,944	-37%	-38%	-15%

TABLE 3-5. Real ex-vessel revenues (millions of 1999 $s) for vessels with some groundfish, and percentage of total revenue derived from groundfish and rockfish, by year and fleet, 1994-99. (Page 1 of 2).

	Vessels with < 50% of revenue from groundfish						Vessels with > 50% of revenue from groundfish						All vessels					
		Revenue ($ mil.) from			% of rev. from			Revenue ($ mil.) from			% of rev. from			Revenue ($ mil.) from			% of rev. from	
	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish
1994																		
Limited entry																		
0-$5,000	81	6.8	0.10	0.04	6%	1%	14	0.0	0.03	0.02	93%	61%	95	6.8	0.13	0.06	19%	10%
$5,000-100,000	104	15.7	3.62	0.93	27%	7%	126	6.8	5.61	1.92	87%	32%	230	22.5	9.22	2.86	60%	20%
> $100,000	17	7.0	2.68	0.74	39%	10%	178	58.8	52.52	26.26	91%	44%	195	65.8	55.20	27.00	86%	41%
Total	202	29.5	6.39	1.71	19%	5%	318	65.7	58.16	28.21	90%	40%	520	95.1	64.55	29.92	62%	26%
Open access																		
0-$5,000	967	33.3	0.57	0.36	7%	5%	556	0.7	0.64	0.51	93%	75%	1,523	34.0	1.21	0.87	39%	30%
$5,000-100,000	101	11.7	1.20	0.96	21%	18%	209	4.7	4.30	3.44	93%	74%	310	16.4	5.50	4.40	70%	56%
> $100,000	1	0.4	0.22	0.00	49%	0%	7	1.9	1.45	1.02	83%	66%	8	2.3	1.66	1.02	79%	58%
Total	1,069	45.4	1.99	1.32	9%	6%	772	7.3	6.39	4.97	93%	74%	1,841	52.7	8.37	6.29	44%	35%
1995																		
Limited entry																		
0-$5,000	28	2.2	0.03	0.01	5%	1%	10	0.0	0.03	0.02	93%	57%	38	2.2	0.06	0.03	28%	16%
$5,000-100,000	82	12.1	2.87	0.50	27%	5%	128	7.4	6.09	1.40	87%	20%	210	19.5	8.95	1.89	64%	14%
> $100,000	19	8.5	3.47	0.88	40%	10%	210	74.5	67.16	31.25	91%	40%	229	83.1	70.63	32.13	87%	37%
Total	129	22.8	6.37	1.38	24%	5%	348	81.9	73.27	32.67	89%	33%	477	104.7	79.64	34.05	72%	25%
Open access																		
0-$5,000	967	36.7	0.63	0.37	5%	4%	471	0.6	0.51	0.38	95%	72%	1,438	37.3	1.14	0.75	35%	26%
$5,000-100,000	121	15.3	1.56	0.90	19%	10%	237	6.2	5.58	3.67	92%	62%	358	21.4	7.15	4.58	67%	44%
> $100,000							4	1.5	1.41	0.69	93%	51%	4	1.5	1.41	0.69	93%	51%
Total	1,088	52.0	2.19	1.28	7%	4%	712	8.3	7.50	4.74	94%	68%	1,800	60.3	9.69	6.01	41%	30%
1996																		
Limited entry																		
0-$5,000	23	2.2	0.03	0.01	5%	1%	6	0.0	0.01	0.00	90%	45%	29	2.2	0.05	0.01	23%	10%
$5,000-100,000	104	17.4	3.88	0.83	26%	6%	146	9.0	7.40	1.58	88%	18%	250	26.4	11.28	2.41	62%	13%
> $100,000	19	10.3	3.57	0.70	36%	8%	204	67.5	59.33	25.78	89%	36%	223	77.8	62.91	26.48	85%	34%
Total	146	29.9	7.48	1.54	24%	6%	356	76.5	66.75	27.36	89%	29%	502	106.4	74.23	28.90	70%	22%
Open access																		
0-$5,000	974	39.0	0.62	0.35	6%	4%	440	0.6	0.57	0.37	95%	65%	1,414	39.6	1.19	0.71	34%	23%
$5,000-	132	17.1	1.58	0.83	18%	9%	250	5.8	5.27	3.11	93%	51%	382	22.9	6.85	3.95	67%	36%

TABLE 3-5. Real ex-vessel revenues (millions of 1999 $s) for vessels with some groundfish, and percentage of total revenue derived from groundfish and rockfish, by year and fleet, 1994-99. (Page 2 of 2).

	Vessels with < 50% of revenue from groundfish						Vessels with > 50% of revenue from groundfish						All vessels					
		Revenue ($ mil.) from			% of rev. from			Revenue ($ mil.) from			% of rev. from			Revenue ($ mil.) from			% of rev. from	
	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish
100,000																		
> $100,000	1	0.2	0.10	0.10	46%	45%	1	0.2	0.21	0.03	100%	14%	2	0.4	0.31	0.13	73%	30%
Total	1,107	56.2	2.30	1.28	8%	5%	691	6.6	6.05	3.51	94%	60%	1,798	62.9	8.35	4.79	41%	26%
1997																		
Limited entry																		
0-$5,000	18	0.8	0.03	0.01	9%	5%	12	0.0	0.02	0.01	88%	28%	30	0.8	0.05	0.02	41%	14%
$5,000-100,000	64	10.3	2.75	0.32	30%	5%	136	10.0	8.23	1.10	88%	14%	200	20.2	10.98	1.42	69%	11%
> $100,000	27	9.7	3.72	1.22	41%	11%	224	63.8	55.52	19.75	88%	29%	251	73.5	59.24	20.97	83%	27%
Total	109	20.7	6.50	1.55	29%	6%	372	73.8	63.77	20.86	88%	24%	481	94.5	70.27	22.41	75%	20%
Open access																		
0-$5,000	1,015	44.3	0.73	0.39	6%	4%	442	0.6	0.58	0.35	94%	60%	1,457	45.0	1.32	0.74	33%	21%
$5,000-100,000	125	9.4	1.43	0.72	24%	12%	245	5.3	4.69	2.84	91%	50%	370	14.6	6.12	3.56	68%	37%
> $100,000							4	1.0	0.74	0.24	84%	28%	4	1.0	0.74	0.24	84%	28%
Total	1,140	53.7	2.16	1.11	8%	5%	691	6.9	6.02	3.42	93%	56%	1,831	60.6	8.18	4.54	40%	24%
1998																		
Limited entry																		
0-$5,000	30	1.7	0.06	0.02	8%	4%	8	0.0	0.02	0.00	86%	11%	38	1.8	0.07	0.03	24%	5%
$5,000-100,000	89	12.2	3.22	0.73	29%	7%	143	7.4	6.22	2.12	89%	28%	232	19.5	9.44	2.84	66%	20%
> $100,000	10	3.3	1.24	0.56	40%	17%	162	39.7	35.36	14.71	90%	37%	172	43.0	36.60	15.27	87%	36%
Total	129	17.2	4.52	1.31	25%	7%	313	47.1	41.60	16.83	90%	32%	442	64.3	46.11	18.14	71%	25%
Open access																		
0-$5,000	868	29.6	0.58	0.33	6%	4%	378	0.6	0.51	0.32	93%	62%	1,246	30.2	1.09	0.65	32%	22%
$5,000-100,000	81	6.5	0.82	0.55	20%	13%	190	4.5	4.03	2.74	91%	57%	271	11.1	4.85	3.29	70%	44%
> $100,000							1	0.1	0.12	0.07	100%	55%	1	0.1	0.12	0.07	100%	55%
Total	949	36.1	1.40	0.88	7%	5%	569	5.2	4.67	3.13	93%	61%	1,518	41.4	6.06	4.01	39%	26%
1999																		
Limited entry																		
0-$5,000	30	2.0	0.05	0.02	7%	4%	6	0.0	0.02	0.01	89%	36%	36	2.1	0.06	0.03	21%	9%
$5,000-100,000	94	16.4	4.12	0.75	28%	5%	128	7.7	6.67	1.77	91%	24%	222	24.1	10.78	2.52	64%	16%
> $100,000	22	9.3	3.33	0.73	37%	8%	158	40.6	34.81	10.71	88%	27%	180	49.9	38.13	11.44	81%	25%
Total	146	27.8	7.49	1.50	25%	5%	292	48.3	41.49	12.49	89%	26%	438	76.1	48.98	13.98	68%	19%
Open access																		

TABLE 3-5. Real ex-vessel revenues (millions of 1999 $s) for vessels with some groundfish, and percentage of total revenue derived from groundfish and rockfish, by year and fleet, 1994-99. (Page 3 of 2).

	Vessels with < 50% of revenue from groundfish						Vessels with > 50% of revenue from groundfish						All vessels					
		Revenue ($ mil.) from			% of rev. from			Revenue ($ mil.) from			% of rev. from			Revenue ($ mil.) from			% of rev. from	
	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of ves	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish
0-$5,000	807	33.9	0.57	0.29	5%	3%	389	0.5	0.49	0.33	94%	62%	1,196	34.4	1.05	0.61	34%	22%
$5,000-100,000	90	11.3	1.00	0.41	20%	9%	196	3.7	3.30	1.90	91%	53%	286	15.0	4.30	2.32	68%	39%
> $100,000							3	0.4	0.38	0.07	90%	19%	3	0.4	0.38	0.07	90%	19%
Total	897	45.2	1.57	0.70	7%	4%	588	4.7	4.16	2.30	93%	58%	1,485	49.9	5.73	3.00	41%	26%

TABLE 3-6. Purchase information for processing plants (coastwide) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999.

	Plants with < 50% purchases of groundfish						Plants with > 50% purchases groundfish						All plants					
		Purchases ($ mil.) from			% Purchases of			Purchases ($ mil.) of			% Purchases of			Purchases ($ mil.) from			% of rev. from	
Groundfish Purchases for Plant	# of plants	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of plants	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish	# of plants	All species	Grnd-fish	Rock-fish	Grnd-fish	Rock-fish
1994																		
0-$10,000	667	1.6	0.04	0.02	3%	2%	198	0.4	0.36	0.29	94%	73%	865	2.0	0.40	0.31	24%	18%
$10,000-100,000	319	11.5	0.50	0.37	4%	3%	79	2.8	2.48	1.66	88%	63%	398	14.4	2.98	2.02	21%	15%
$100,000-500,000	122	28.7	1.89	1.26	6%	4%	22	5.0	4.17	1.86	84%	41%	144	33.6	6.06	3.12	18%	10%
> $500,000	99	167.6	23.62	11.58	11%	6%	26	57.6	39.86	19.17	72%	35%	125	225.2	63.49	30.75	23%	12%
Total	1,207	209.3	26.05	13.23	4%	3%	325	65.8	46.88	22.98	90%	65%	1,532	275.1	72.93	36.21	22%	16%
1995																		
0-$10,000	543	1.4	0.04	0.02	2%	1%	128	0.3	0.24	0.18	93%	66%	671	1.7	0.28	0.20	20%	14%
$10,000-100,000	290	11.2	0.51	0.38	4%	3%	65	2.1	1.91	1.33	89%	65%	355	13.4	2.42	1.70	20%	14%
$100,000-500,000	108	24.7	1.59	1.03	6%	4%	19	5.5	4.52	1.77	82%	35%	127	30.2	6.11	2.79	18%	9%
> $500,000	103	183.7	26.98	11.47	10%	4%	31	77.1	53.54	23.89	73%	31%	134	260.8	80.52	35.36	25%	11%
Total	1,044	221.1	29.12	12.89	4%	2%	243	85.0	60.22	27.17	88%	59%	1,287	306.1	89.33	40.06	20%	13%
1996																		
0-$10,000	534	1.5	0.03	0.02	2%	1%	110	0.3	0.24	0.16	91%	60%	644	1.7	0.27	0.18	17%	11%
$10,000-100,000	265	9.5	0.55	0.36	5%	3%	63	2.1	1.90	1.22	89%	58%	328	11.7	2.45	1.58	21%	14%
$100,000-500,000	121	30.5	1.38	0.83	5%	3%	25	6.0	4.75	1.84	82%	32%	146	36.5	6.13	2.67	18%	8%
> $500,000	97	203.6	26.58	10.22	10%	4%	32	72.9	47.15	19.02	71%	28%	129	276.4	73.73	29.24	25%	10%
Total	1,017	245.0	28.53	11.43	4%	2%	230	81.3	54.04	22.25	87%	52%	1,247	326.3	82.58	33.68	19%	11%
1997																		
0-$10,000	538	1.5	0.06	0.04	3%	2%	135	0.3	0.23	0.18	91%	65%	673	1.8	0.29	0.22	21%	15%
$10,000-100,000	270	9.2	0.57	0.38	5%	3%	61	2.2	1.89	1.19	89%	60%	331	11.4	2.46	1.56	20%	14%
$100,000-500,000	104	25.7	1.40	0.81	6%	3%	29	6.6	5.21	1.95	82%	31%	133	32.3	6.61	2.76	22%	9%
> $500,000	103	180.0	26.69	9.17	11%	4%	30	58.1	42.40	13.24	75%	22%	133	238.1	69.09	22.41	25%	8%
Total	1,015	216.4	28.72	10.39	5%	3%	255	67.2	49.73	16.56	87%	55%	1,270	283.7	78.45	26.95	21%	13%
1998																		
0-$10,000	665	1.9	0.05	0.03	2%	1%	125	0.3	0.30	0.23	94%	73%	790	2.3	0.35	0.26	16%	13%
$10,000-100,000	311	11.1	0.53	0.35	4%	3%	70	2.2	1.80	1.20	85%	60%	381	13.3	2.33	1.55	19%	13%
$100,000-500,000	119	28.9	1.33	0.82	5%	3%	31	8.0	6.56	2.83	81%	36%	150	36.9	7.89	3.65	21%	10%
> $500,000	58	94.7	13.05	5.64	13%	6%	22	41.9	28.56	11.05	72%	28%	80	136.6	41.61	16.69	29%	12%
Total	1,153	136.6	14.96	6.84	3%	2%	248	52.4	37.22	15.31	88%	61%	1,401	189.0	52.18	22.15	18%	13%
1999																		
0-$10,000	682	1.8	0.05	0.04	3%	2%	129	0.3	0.29	0.21	91%	65%	811	2.1	0.34	0.25	17%	12%
$10,000-100,000	282	10.0	0.50	0.27	4%	2%	41	1.5	1.27	0.77	85%	61%	323	11.5	1.77	1.03	14%	10%
$100,000-500,000	126	29.1	1.34	0.77	5%	3%	23	5.5	4.47	1.48	83%	29%	149	34.6	5.81	2.24	17%	7%
> $500,000	87	159.4	19.71	6.25	8%	3%	20	41.6	27.07	7.21	74%	18%	107	201.0	46.78	13.46	21%	6%
Total	1,177	200.3	21.60	7.32	4%	2%	213	48.9	33.11	9.66	88%	56%	1,390	249.2	54.71	16.98	17%	10%

TABLE 3-7 . Number of ocean area recreational trips by region and for rockfish and lingcod trips.[a/b/]

Region/Year	Total Recreational Trips	Rockfish Trips			Lingcod Trips		
		All	No Catch	Percent No Catch	All	No Catch	Percent No Catch
Washington							
1994	60	NA	NA		NA	NA	
1995	100	NA	NA		NA	NA	
1996	154	12	6	0.52	4	0	0.13
1997	107	NA	NA		NA	NA	
1998	246	86	36	0.42	17	9	0.53
1999	186	51	9	0.18	21	5	0.26
Oregon[c/]							
1994	179	231	38	0.16	76	19	0.25
1995	196	216	41	0.19	52	24	0.45
1996	146	206	44	0.21	57	24	0.42
1997	206	288	61	0.21	68	29	0.43
1998	307	409	92	0.22	87	48	0.56
1999	279	337	60	0.18	65	35	0.54
California - northern[d/]							
1994	1,538	1,055	358	0.34	167	98	0.59
1995	1,413	959	315	0.33	186	112	0.60
1996	992	852	256	0.30	145	74	0.51
1997	1,226	1,374	448	0.33	185	115	0.63
1998	1,187	881	243	0.28	142	82	0.58
1999	959	1,012	256	0.25	139	67	0.48
California - southern							
1994	4,076	918	341	0.37	26	17	0.66
1995	3,550	599	204	0.34	20	12	0.61
1996	2,819	949	260	0.27	33	25	0.76
1997	2,680	308	84	0.27	10	6	0.64
1998	2,531	495	146	0.29	15	10	0.70
1999	1,989	853	238	0.28	40	32	0.80
Total[e/]							
1994	5,853	2,204	736	0.33	269	134	0.50
1995	5,260	1,774	559	0.32	475	189	0.40
1996	4,111	2,018	566	0.28	239	123	0.51
1997	4,219	1,970	592	0.30	263	151	0.57
1998	4,271	1,871	517	0.28	261	150	0.57
1999	3,413	2,253	563	0.25	266	140	0.53

TABLE 3-8. West Coast ocean area angler trips by type of fishing platform (mode), 1994-1999.[/]

	Manmade	Beach/Bank	Party/Charter Boat	Private/Rental Boat	Total Trips
1994	1,238	771	1,289	2,554	5,853
1995	1,078	817	1,230	2,136	5,260
1996	909	565	1,176	1,461	4,111
1997	1,000	627	1,066	1,526	4,219
1998	729	519	950	2,074	4,271
1999	489	291	903	1,731	3,413
Average	907	598	1,103	1,914	4,521

Proportion of Total Trips

1994	0.21	0.13	0.22	0.44
1995	0.20	0.16	0.23	0.41
1996	0.22	0.14	0.29	0.36
1997	0.24	0.15	0.25	0.36
1998	0.17	0.12	0.22	0.49
1999	0.14	0.09	0.26	0.51
Average	0.20	0.13	0.25	0.43

TABLE 3-9. Real ex-vessel revenue ($1,000s of 1999 $s) for open-access vessels that earned more than $5,000 in coastwide fishery revenue, and average vessel percentages of total income from selected groundfish categories, by port-groups, 1994-2000. (Page 1 of 2)

		Ex-vessel revenue ($1,000s) from:								Average % of revenue from:		
	# of	All species		Groundfish		Sablefish		Rockfish		Ground-	Sable-	Rock-
	ves	total	avg.	total	avg.	total	avg.	total	avg.	fish	fish	fish
WA: Puget Sound												
1994	21	310	14.8	224	10.7	87	4.1	50	2.4	79%	28%	28%
1995	15	213	14.2	137	9.1	70	4.7	52	3.5	70%	28%	27%
1996	21	194	9.2	184	8.8	114	5.4	41	2.0	95%	51%	21%
1997	28	391	14.0	359	12.8	279	10.0	19	0.7	71%	40%	11%
1998	7	75	10.7	46	6.6	40	5.8	6	0.8	70%	54%	16%
1999	21	226	10.8	38	1.8	25	1.2	11	0.5	22%	15%	6%
WA: Coastal ports												
1994	75	6,233	83.1	413	5.5	51	0.7	269	3.6	22%	3%	14%
1995	72	7,778	108.0	456	6.3	150	2.1	210	2.9	20%	10%	8%
1996	58	6,419	110.7	715	12.3	243	4.2	226	3.9	34%	21%	7%
1997	66	3,899	59.1	325	4.9	191	2.9	110	1.7	30%	21%	7%
1998	43	2,889	67.2	203	4.7	70	1.6	122	2.8	21%	8%	12%
1999	46	4,075	88.6	126	2.7	91	2.0	22	0.5	13%	12%	1%
OR: North of Nehalem												
1994	51	3,216	63.1	444	8.7	53	1.0	303	5.9	15%	1%	9%
1995	59	4,816	81.6	888	15.0	404	6.9	174	2.9	9%	3%	3%
1996	62	4,037	65.1	237	3.8	66	1.1	134	2.2	8%	2%	5%
1997	50	3,635	72.7	109	2.2	39	0.8	50	1.0	8%	3%	4%
1998	48	2,286	47.6	109	2.3	25	0.5	65	1.4	9%	3%	5%
1999	43	3,782	87.9	168	3.9	48	1.1	41	0.9	11%	5%	3%
OR: Nehalem-Yachats												
1994	100	4,754	47.5	175	1.7	8	0.1	131	1.3	10%	1%	6%
1995	140	6,012	42.9	181	1.3	20	0.1	122	0.9	8%	0%	5%
1996	147	6,888	46.9	259	1.8	41	0.3	172	1.2	6%	1%	4%
1997	164	6,494	39.6	275	1.7	46	0.3	155	0.9	7%	1%	4%
1998	136	4,548	33.4	199	1.5	13	0.1	160	1.2	7%	0%	6%
1999	103	5,559	54.0	261	2.5	130	1.3	90	0.9	8%	1%	6%
OR: South of Yachats												
1994	132	7,386	56.0	1,647	12.5	377	2.9	906	6.9	24%	2%	14%
1995	138	6,222	45.1	1,330	9.6	233	1.7	819	5.9	17%	4%	10%
1996	157	6,518	41.5	566	3.6	103	0.7	380	2.4	17%	3%	11%
1997	154	5,727	37.2	1,200	7.8	257	1.7	699	4.5	25%	6%	15%
1998	131	3,372	25.7	562	4.3	35	0.3	443	3.4	23%	2%	16%
1999	164	4,870	29.7	616	3.8	63	0.4	415	2.5	18%	1%	12%
CA: North of Bodega Bay												
1994	152	7,773	51.1	621	4.1	143	0.9	422	2.8	20%	2%	15%
1995	140	6,474	46.2	1,221	8.7	766	5.5	365	2.6	34%	16%	14%
1996	187	9,383	50.2	1,165	6.2	668	3.6	376	2.0	30%	15%	10%
1997	212	9,529	44.9	1,462	6.9	637	3.0	598	2.8	38%	16%	15%
1998	140	4,537	32.4	754	5.4	115	0.8	428	3.1	35%	7%	17%
1999	138	5,992	43.4	981	7.1	204	1.5	358	2.6	40%	8%	15%
CA: Bodega Bay-Santa Cruz												
1994	321	6,958	21.7	1,846	5.8	29	0.1	1,570	4.9	28%	1%	24%
1995	335	8,745	26.1	2,238	6.7	415	1.2	1,557	4.6	30%	5%	21%
1996	290	7,812	26.9	1,960	6.8	669	2.3	1,045	3.6	33%	11%	18%
1997	288	9,343	32.4	1,933	6.7	322	1.1	1,199	4.2	30%	6%	18%
1998	242	6,385	26.4	1,769	7.3	97	0.4	1,340	5.5	36%	3%	25%
1999	244	5,304	21.7	989	4.1	180	0.7	640	2.6	29%	4%	19%
CA: Santa Cruz-Oxnard												
1994	229	8,707	38.0	2,156	9.4	11	0.0	1,799	7.9	45%	1%	37%
1995	286	12,088	42.3	2,948	10.3	56	0.2	2,124	7.4	41%	1%	29%
1996	261	10,845	41.6	2,584	9.9	22	0.1	1,732	6.6	46%	1%	29%
1997	242	10,772	44.5	1,786	7.4	2	0.0	1,117	4.6	40%	0%	24%
1998	209	9,336	44.7	1,740	8.3	4	0.0	977	4.7	36%	1%	20%
1999	194	10,395	53.6	1,765	9.1	12	0.1	899	4.6	38%	1%	22%

TABLE 3-9. Real ex-vessel revenue ($1,000s of 1999 $s) for open-access vessels that earned more than $5,000 in coastwide fishery revenue, and average vessel percentages of total income from selected groundfish categories, by port-groups, 1994-2000. (Page 2 of 2)

		Ex-vessel revenue ($1,000s) from:								Average % of revenue from:		
	# of	All species		Groundfish		Sablefish		Rockfish		Ground-	Sable-	Rock-
	ves	total	avg.	total	avg.	total	avg.	total	avg.	fish	fish	fish
CA: South of Oxnard												
1994	183	4,842	26.5	1,012	5.5	75	0.4	853	4.7	35%	2%	29%
1995	156	5,409	34.7	884	5.7	96	0.6	698	4.5	26%	3%	21%
1996	138	5,754	41.7	669	4.9	53	0.4	524	3.8	22%	2%	18%
1997	149	6,505	43.7	444	3.0	6	0.0	339	2.3	20%	1%	15%
1998	108	4,425	41.0	456	4.2	0	0.0	380	3.5	20%	0%	16%
1999	107	4,719	44.1	395	3.7	64	0.6	244	2.3	17%	3%	11%

Note: vessels may be included in more than one port group. Revenue shares are calculated for each vessel for landings made only within a port group.

TABLE 3-10. Real ex-vessel revenue ($1,000s of 1999 $s) earned by vessels with limited-entry fixed-gear permits within specified groups of ports, and average vessel percentages of total income from selected groundfish categories, 1994-2000. (Page 1 of 2).

		Ex-vessel revenue ($1,000s) from								Average % of revenue from:		
	# of	All species		Groundfish		Sablefish		Rockfish		Ground-	Sable-	Rock-
	ves	total	avg.	total	avg.	total	avg.	total	avg.	fish	fish	fish
WA: Puget Sound												
1994	40	1,293	32.3	1,138	28.4	934	23.4	144	3.6	74%	60%	10%
1995	52	1,969	37.9	1,963	37.7	1,732	33.3	227	4.4	99%	82%	17%
1996	53	1,952	36.8	1,930	36.4	1,724	32.5	199	3.7	99%	85%	13%
1997	50	2,185	43.7	2,166	43.3	2,127	42.5	38	0.8	97%	89%	8%
1998	42	1,018	24.2	1,013	24.1	966	23.0	44	1.0	95%	91%	4%
1999	44	1,688	38.4	1,672	38.0	1,554	35.3	92	2.1	95%	85%	9%
WA: Coastal ports												
1994	31	1,560	50.3	874	28.2	566	18.3	306	9.9	73%	52%	21%
1995	33	2,192	66.4	1,441	43.7	1,220	37.0	220	6.7	82%	72%	10%
1996	43	2,340	54.4	1,311	30.5	1,147	26.7	163	3.8	78%	69%	9%
1997	37	2,731	73.8	2,093	56.6	1,863	50.4	225	6.1	80%	73%	7%
1998	30	1,101	36.7	752	25.1	514	17.1	236	7.9	75%	54%	21%
1999	29	1,722	59.4	829	28.6	633	21.8	194	6.7	71%	55%	14%
OR: North of Nehalem												
1994	12	1,805	150.4	1,447	120.6	1,409	117.5	36	3.0	86%	73%	14%
1995	13	2,269	174.5	1,029	79.1	799	61.5	229	17.6	69%	53%	17%
1996	17	4,648	273.4	1,083	63.7	952	56.0	129	7.6	43%	36%	7%
1997	21	2,817	134.2	1,092	52.0	1,027	48.9	64	3.1	51%	48%	3%
1998	19	1,549	81.5	674	35.5	560	29.5	113	5.9	61%	51%	10%
1999	20	4,171	208.6	1,248	62.4	1,181	59.1	65	3.3	49%	43%	5%
OR: Nehalem-Yachats												
1994	21	2,223	105.9	926	44.1	865	41.2	54	2.6	44%	36%	7%
1995	23	3,480	151.3	1,383	60.1	1,335	58.0	41	1.8	43%	37%	6%
1996	24	3,907	162.8	1,880	78.3	1,801	75.0	70	2.9	52%	48%	4%
1997	23	3,186	138.5	1,818	79.1	1,715	74.6	98	4.3	62%	59%	3%
1998	22	2,057	93.5	866	39.4	804	36.5	61	2.8	55%	52%	3%
1999	22	3,439	156.3	1,408	64.0	1,336	60.7	67	3.1	46%	44%	2%
OR: South of Yachats												
1994	37	3,603	97.4	2,206	59.6	2,068	55.9	125	3.4	69%	49%	20%
1995	33	3,327	100.8	1,977	59.9	1,842	55.8	124	3.8	66%	54%	12%
1996	37	4,089	110.5	2,051	55.4	1,881	50.8	157	4.2	61%	55%	6%
1997	34	3,760	110.6	2,496	73.4	2,260	66.5	190	5.6	73%	63%	7%
1998	30	2,298	76.6	886	29.5	534	17.8	298	9.9	44%	25%	14%
1999	37	4,621	124.9	1,744	47.1	1,367	36.9	316	8.5	45%	32%	11%
CA: North of Bodega Bay												
1994	19	2,086	109.8	969	51.0	772	40.6	175	9.2	46%	30%	13%
1995	33	2,636	79.9	1,367	41.4	1,027	31.1	296	9.0	63%	49%	13%
1996	35	2,978	85.1	1,303	37.2	887	25.3	363	10.4	54%	37%	16%
1997	36	4,133	114.8	2,128	59.1	1,767	49.1	317	8.8	59%	51%	7%
1998	29	1,566	54.0	523	18.0	360	12.4	141	4.9	46%	30%	13%
1999	25	2,022	80.9	644	25.8	532	21.3	79	3.2	42%	31%	8%
CA: Bodega Bay-Santa Cruz												
1994	30	1,287	42.9	696	23.2	326	10.9	347	11.6	52%	22%	27%
1995	37	2,657	71.8	1,427	38.6	1,079	29.2	311	8.4	57%	40%	15%
1996	46	3,622	78.7	2,809	61.1	2,063	44.9	531	11.6	73%	57%	14%
1997	44	3,252	73.9	2,469	56.1	1,879	42.7	471	10.7	73%	52%	18%
1998	37	1,444	39.0	956	25.8	418	11.3	401	10.8	77%	38%	31%
1999	31	1,748	56.4	1,274	41.1	604	19.5	565	18.2	73%	40%	29%

TABLE 3-10. Real ex-vessel revenue ($1,000s of 1999 $s) earned by vessels with limited-entry fixed-gear permits within specified groups of ports, and average vessel percentages of total income from selected groundfish categories, 1994-2000. (Page 2 of 2).

	# of	Ex-vessel revenue ($1,000s) from								Average % of revenue from:		
		All species		Groundfish		Sablefish		Rockfish		Ground-	Sable-	Rock-
	ves	total	avg.	total	avg.	total	avg.	total	avg.	fish	fish	fish
CA: Santa Cruz-Oxnard												
1994	13	486	37.4	182	14.0	2	0.1	136	10.5	78%	1%	75%
1995	20	583	29.1	119	5.9	26	1.3	80	4.0	55%	4%	48%
1996	14	787	56.2	390	27.9	55	4.0	323	23.1	63%	7%	54%
1997	19	1,073	56.5	646	34.0	186	9.8	443	23.3	80%	20%	56%
1998	14	709	50.6	326	23.3	55	3.9	264	18.8	63%	12%	51%
1999	18	466	25.9	121	6.7	27	1.5	90	5.0	64%	15%	47%
CA: South of Oxnard												
1994	12	507	42.3	384	32.0	184	15.3	193	16.1	74%	29%	42%
1995	11	445	40.5	358	32.5	143	13.0	210	19.1	91%	27%	62%
1996	17	619	36.4	520	30.6	220	12.9	298	17.5	81%	31%	49%
1997	17	517	30.4	465	27.4	217	12.8	245	14.4	85%	36%	49%
1998	19	868	45.7	682	35.9	267	14.0	412	21.7	63%	21%	41%
1999	14	625	44.7	548	39.1	264	18.8	277	19.8	73%	29%	43%

Note: vessels may be included in more than one port group. Revenue shares are calculated for each vessel for landings made only within a port group.

TABLE 3-11. Real ex-vessel revenue ($1,000s of 1999 $s) earned by vessels with limited-entry trawl permits within specified groups of ports, and average vessel percentages of total income from selected groundfish categories, 1994-2000. (Page 1 of 2)

		Ex-vessel revenue ($1,000s)From								Average % of revenue from:		
	# of	All species		Groundfish		DTS species*		Rockfish*		Ground-	Sable-	Rock-
	ves	total	avg.	total	avg.	total	avg.	total	avg.	fish	species*	fish*
WA: Puget Sound												
1994	28	3,228	115.3	3,185	113.7	641	22.9	1,275	45.5	95%	12%	37%
1995	23	2,728	118.6	2,612	113.6	865	37.6	979	42.6	95%	29%	30%
1996	22	2,860	130.0	2,763	125.6	947	43.1	1,041	47.3	95%	21%	39%
1997	20	3,093	154.7	3,026	151.3	950	47.5	795	39.7	95%	22%	28%
1998	17	2,715	159.7	2,624	154.3	639	37.6	698	41.0	92%	20%	25%
1999	17	3,112	183.1	2,955	173.8	808	47.5	715	42.1	97%	28%	24%
WA: Coastal ports												
1994	48	4,567	95.1	3,848	80.2	1,525	31.8	1,223	25.5	74%	23%	27%
1995	35	6,214	177.5	5,841	166.9	2,355	67.3	1,891	54.0	84%	32%	29%
1996	34	5,103	150.1	4,449	130.9	1,889	55.6	1,199	35.3	84%	35%	24%
1997	25	3,795	151.8	3,481	139.2	1,285	51.4	776	31.0	88%	38%	17%
1998	21	2,566	122.2	2,278	108.5	573	27.3	671	32.0	81%	23%	23%
1999	20	2,716	135.8	2,175	108.8	594	29.7	472	23.6	83%	29%	19%
OR: North of Nehalem												
1994	56	12,480	222.9	11,531	205.9	5,188	92.6	3,449	61.6	89%	34%	26%
1995	56	15,016	268.1	13,363	238.6	5,828	104.1	3,280	58.6	83%	33%	20%
1996	52	14,970	287.9	12,404	238.5	5,794	111.4	3,161	60.8	84%	38%	20%
1997	59	12,859	218.0	11,571	196.1	4,579	77.6	2,243	38.0	88%	35%	14%
1998	54	9,034	167.3	8,372	155.0	2,870	53.1	2,637	48.8	83%	26%	25%
1999	59	11,935	202.3	10,094	171.1	3,539	60.0	2,201	37.3	78%	28%	17%
OR: Nehalem-Yachats												
1994	50	10,838	216.8	9,637	192.7	2,559	51.2	3,254	65.1	85%	23%	31%
1995	48	11,471	239.0	10,140	211.3	2,409	50.2	2,393	49.8	82%	29%	25%
1996	48	9,835	204.9	8,500	177.1	2,931	61.1	2,690	56.0	83%	30%	24%
1997	40	9,140	228.5	8,547	213.7	2,518	62.9	1,778	44.4	92%	32%	22%
1998	46	6,154	133.8	5,466	118.8	1,441	31.3	1,391	30.2	78%	26%	25%
1999	48	7,868	163.9	6,427	133.9	1,887	39.3	1,568	32.7	71%	24%	23%
OR: South of Yachats												
1994	61	10,786	176.8	7,232	118.6	4,619	75.7	1,249	20.5	58%	33%	8%
1995	56	13,107	234.1	10,066	179.8	7,072	126.3	1,503	26.8	66%	44%	11%
1996	57	12,815	224.8	8,674	152.2	6,058	106.3	1,276	22.4	57%	41%	6%
1997	52	11,345	218.2	7,834	150.6	4,888	94.0	1,433	27.5	61%	39%	9%
1998	51	7,865	154.2	6,079	119.2	3,564	69.9	1,274	25.0	64%	40%	12%
1999	56	10,298	183.9	5,978	106.8	3,618	64.6	943	16.8	56%	32%	8%
CA: North of Bodega Bay												
1994	75	16,401	218.7	10,549	140.7	7,060	94.1	1,682	22.4	58%	39%	8%
1995	75	17,370	231.6	14,561	194.2	10,356	138.1	2,188	29.2	74%	52%	9%
1996	80	17,902	223.8	12,765	159.6	9,179	114.7	1,696	21.2	65%	46%	7%
1997	84	18,074	215.2	11,976	142.6	7,712	91.8	1,828	21.8	60%	38%	7%
1998	77	12,355	160.5	8,594	111.6	5,187	67.4	1,840	23.9	69%	41%	12%
1999	78	11,714	150.2	7,800	100.0	5,320	68.2	1,027	13.2	65%	43%	8%
CA: Bodega Bay-Santa Cruz												
1994	43	5,172	120.3	4,285	99.7	1,773	41.2	1,186	27.6	78%	36%	20%
1995	52	8,603	165.4	7,698	148.0	3,963	76.2	2,111	40.6	84%	49%	20%
1996	55	8,859	161.1	7,845	142.6	3,568	64.9	2,436	44.3	83%	47%	19%
1997	53	7,677	144.9	5,971	112.7	2,550	48.1	1,953	36.8	69%	33%	20%
1998	44	5,507	125.2	4,051	92.1	1,356	30.8	1,603	36.4	66%	25%	27%
1999	50	4,663	93.3	3,507	70.1	1,558	31.2	776	15.5	70%	37%	14%
CA: Santa Cruz-Oxnard												
1994	29	3,421	118.0	2,686	92.6	1,642	56.6	678	23.4	65%	46%	10%

TABLE 3-11. Real ex-vessel revenue ($1,000s of 1999 $s) earned by vessels with limited-entry trawl permits within specified groups of ports, and average vessel percentages of total income from selected groundfish categories, 1994-2000. (Page 2 of 2)

		Ex-vessel revenue ($1,000s)From								Average % of revenue from:		
	# of	All species		Groundfish		DTS species*		Rockfish*		Ground-	Sable-	Rock-
	ves	total	avg.	total	avg.	total	avg.	total	avg.	fish	species *	fish*
1995	22	4,078	185.4	3,230	146.8	2,525	114.8	478	21.7	66%	53%	8%
1996	22	3,722	169.2	2,916	132.6	2,336	106.2	352	16.0	70%	58%	8%
1997	18	3,259	181.1	2,523	140.1	1,918	106.6	396	22.0	64%	49%	9%
1998	21	2,842	135.3	1,869	89.0	1,140	54.3	604	28.8	61%	38%	18%
1999	17	1,669	98.2	918	54.0	750	44.1	104	6.1	58%	49%	6%
CA: South of Oxnard												
1994	4											
1996	1											
1998	2											

Note: vessels may be included in more than one port group. Revenue shares are calculated for each vessel for landings made only within a port group.

* DTS species are sablefish, Dover sole, and lonspine and shortspine thornyhead rockfish.

The "rockfish" category includes all rockfish except thornyheads.

TABLE 3-12. Purchase information for processing plants (by port group) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999. (Page 1 of 5)

	Groundfish Purchases for Plant	# of Plants	Purchases ($ million) of			% Purchases of	
			All species	Groundfish	Rockfish	Groundfish	Rockfish
Puget Sound							
1994	0-$10,000	24	0.0	0.01	0.01	50%	28%
	$10,000-100,000	16	0.6	0.30	0.05	30%	5%
	$100,000-500,000	5	1.4	1.11	0.18	76%	20%
	> $500,000	3	4.7	3.33	1.46	57%	26%
	Total	48	6.7	4.75	1.70	46%	19%
1995	0-$10,000	27	0.1	0.01	0.00	26%	11%
	$10,000-100,000	8	0.4	0.03	0.01	6%	2%
	$100,000-500,000	8	2.2	1.37	0.28	50%	16%
	> $500,000	5	5.4	3.33	1.28	51%	15%
	Total	48	8.1	4.74	1.57	29%	11%
1996	0-$10,000	24	0.1	0.00	0.00	25%	15%
	$10,000-100,000	8	0.3	0.12	0.09	31%	18%
	$100,000-500,000	8	2.1	0.82	0.03	42%	1%
	> $500,000	4	4.3	3.96	1.39	95%	27%
	Total	44	6.7	4.90	1.51	35%	14%
1997	0-$10,000	21	0.1	0.01	0.00	29%	13%
	$10,000-100,000	12	0.5	0.22	0.02	36%	9%
	$100,000-500,000	8	1.6	0.72	0.04	45%	3%
	> $500,000	4	4.8	4.63	1.00	98%	16%
	Total	45	6.9	5.58	1.06	40%	10%
1998	0-$10,000	18	0.1	0.01	0.00	15%	1%
	$10,000-100,000	21	0.7	0.10	0.00	10%	0%
	$100,000-500,000	12	2.4	1.31	0.15	45%	5%
	> $500,000	2	2.4	2.28	0.69	94%	28%
	Total	53	5.5	3.70	0.84	23%	3%
1999	0-$10,000	13	0.0	0.00	0.00	8%	0%
	$10,000-100,000	18	0.8	0.21	0.00	17%	0%
	$100,000-500,000	9	2.6	0.69	0.10	20%	3%
	> $500,000	5	4.6	3.78	0.77	74%	12%
	Total	45	8.0	4.68	0.87	21%	2%
WA Coast							
1994	0-$10,000	32	0.1	0.00	0.00	5%	3%
	$10,000-100,000	23	0.9	0.12	0.03	11%	3%
	$100,000-500,000	9	2.1	0.01	0.01	1%	1%
	> $500,000	12	35.0	5.73	2.75	10%	6%
	Total	76	38.1	5.86	2.80	7%	3%
1995	0-$10,000	34	0.1	0.00	0.00	4%	2%
	$10,000-100,000	20	0.7	0.01	0.00	4%	1%
	$100,000-500,000	7	1.7	0.29	0.00	15%	0%
	> $500,000	16	44.3	7.48	3.38	7%	3%
	Total	77	46.8	7.77	3.39	6%	2%
1996	0-$10,000	29	0.1	0.00	0.00	14%	4%
	$10,000-100,000	16	0.5	0.03	0.00	10%	1%
	$100,000-500,000	10	2.4	0.25	0.00	19%	0%
	> $500,000	14	45.9	6.48	2.26	10%	3%
	Total	69	48.9	6.75	2.27	13%	3%
1997	0-$10,000	21	0.1	0.01	0.01	19%	12%
	$10,000-100,000	14	0.5	0.02	0.01	3%	1%
	$100,000-500,000	8	2.3	0.25	0.02	16%	1%
	> $500,000	11	28.0	5.64	1.44	14%	3%
	Total	54	30.8	5.91	1.48	13%	6%
1998	0-$10,000	37	0.1	0.00	0.00	0%	0%
	$10,000-100,000	15	0.7	0.01	0.00	2%	1%
	$100,000-500,000	8	2.2	0.21	0.07	7%	3%
	> $500,000	8	21.8	3.01	1.09	8%	3%
	Total	68	24.8	3.23	1.17	2%	1%
1999	0-$10,000	27	0.1	0.00	0.00	0%	0%
	$10,000-100,000	13	0.3	0.01	0.00	4%	0%
	$100,000-500,000	9	2.3	0.00	0.00	0%	0%
	> $500,000	11	28.0	3.14	0.76	7%	2%
	Total	60	30.7	3.15	0.77	2%	0%

OR: N. of Nehalem

TABLE 3-12. Purchase information for processing plants (by port group) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999. (Page 2 of 5)

	Groundfish Purchases for Plant	# of Plants	Purchases ($ million) of			% Purchases of	
			All species	Groundfish	Rockfish	Groundfish	Rockfish
1994	0-$10,000	18	0.0	0.01	0.00	6%	1%
	$10,000-100,000	12	0.5	0.08	0.03	18%	4%
	$100,000-500,000	2	0.3	0.01	0.00	3%	1%
	> $500,000	9	20.6	13.42	6.49	58%	28%
	Total	41	21.4	13.52	6.51	20%	8%
1995	0-$10,000	14	0.0	0.00	0.00	0%	0%
	$10,000-100,000	11	0.4	0.03	0.00	9%	0%
	$100,000-500,000	2	0.3	0.01	0.00	3%	1%
	> $500,000	10	28.7	15.25	6.42	42%	16%
	Total	37	29.5	15.28	6.43	14%	4%
1996	0-$10,000	11	0.0	0.00	0.00	8%	3%
	$10,000-100,000	9	0.3	0.03	0.00	12%	1%
	$100,000-500,000	2	0.5	0.01	0.01	4%	2%
	> $500,000	10	29.8	13.96	5.54	40%	15%
	Total	32	30.7	14.00	5.55	19%	6%
1997	0-$10,000	18	0.0	0.00	0.00	12%	7%
	$10,000-100,000	7	0.2	0.03	0.00	12%	1%
	$100,000-500,000	3	0.5	0.06	0.02	19%	6%
	> $500,000	8	23.6	12.52	3.73	50%	10%
	Total	36	24.3	12.61	3.76	21%	7%
1998	0-$10,000	27	0.1	0.01	0.01	3%	3%
	$10,000-100,000	12	0.3	0.02	0.00	6%	1%
	$100,000-500,000	5	0.9	0.18	0.03	15%	3%
	> $500,000	6	17.8	8.86	3.53	44%	15%
	Total	50	19.1	9.07	3.57	10%	4%
1999	0-$10,000	28	0.1	0.01	0.00	4%	3%
	$10,000-100,000	8	0.2	0.00	0.00	0%	0%
	> $500,000	8	24.2	11.12	2.90	40%	7%
	Total	44	24.4	11.13	2.90	10%	3%
OR: Nehalem-Yachats							
1994	0-$10,000	50	0.1	0.01	0.00	10%	4%
	$10,000-100,000	21	0.6	0.06	0.03	12%	6%
	$100,000-500,000	2	0.4	0.34	0.02	55%	6%
	> $500,000	6	19.8	10.30	4.71	52%	22%
	Total	79	20.9	10.71	4.76	15%	6%
1995	0-$10,000	44	0.1	0.00	0.00	7%	3%
	$10,000-100,000	21	0.7	0.08	0.06	11%	7%
	$100,000-500,000	4	1.1	0.41	0.27	26%	17%
	> $500,000	7	22.9	11.14	3.16	62%	18%
	Total	76	24.9	11.63	3.49	14%	6%
1996	0-$10,000	53	0.2	0.00	0.00	7%	3%
	$10,000-100,000	18	0.5	0.06	0.04	14%	8%
	$100,000-500,000	5	1.4	0.54	0.19	35%	12%
	> $500,000	6	23.8	9.76	3.62	50%	16%
	Total	82	25.8	10.37	3.85	14%	5%
1997	0-$10,000	41	0.1	0.01	0.01	6%	5%
	$10,000-100,000	29	0.7	0.11	0.08	12%	6%
	$100,000-500,000	3	0.6	0.39	0.01	42%	2%
	> $500,000	5	20.4	10.00	2.61	53%	12%
	Total	78	21.8	10.51	2.71	13%	6%
1998	0-$10,000	63	0.2	0.01	0.00	7%	4%
	$10,000-100,000	26	0.7	0.06	0.05	5%	4%
	$100,000-500,000	3	0.6	0.28	0.03	37%	4%
	> $500,000	5	13.2	6.16	1.87	46%	12%
	Total	97	14.7	6.50	1.95	9%	4%
1999	0-$10,000	47	0.2	0.01	0.00	7%	4%
	$10,000-100,000	22	0.7	0.07	0.05	7%	5%
	$100,000-500,000	3	0.8	0.45	0.02	35%	2%
	> $500,000	5	18.3	7.49	2.02	41%	8%
	Total	77	19.9	8.01	2.09	10%	4%
OR: S. of Yachats							
1994	0-$10,000	56	0.1	0.02	0.01	6%	6%
	$10,000-100,000	16	0.6	0.03	0.01	5%	3%

TABLE 3-12. Purchase information for processing plants (by port group) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999. (Page 3 of 5)

	Groundfish Purchases for Plant	# of Plants	Purchases ($ million) of			% Purchases of	
			All species	Groundfish	Rockfish	Groundfish	Rockfish
	$100,000-500,000	6	1.9	0.54	0.17	34%	11%
	> $500,000	10	23.8	10.77	4.73	47%	21%
	Total	88	26.5	11.35	4.93	13%	7%
1995	0-$10,000	52	0.1	0.01	0.01	11%	9%
	$10,000-100,000	12	0.4	0.06	0.05	14%	10%
	$100,000-500,000	6	1.2	0.39	0.18	24%	12%
	> $500,000	11	24.7	12.96	6.01	44%	18%
	Total	81	26.4	13.42	6.25	17%	11%
1996	0-$10,000	54	0.2	0.01	0.01	10%	6%
	$10,000-100,000	16	0.5	0.08	0.05	12%	9%
	$100,000-500,000	4	1.3	0.36	0.18	20%	10%
	> $500,000	10	26.6	10.87	4.20	40%	14%
	Total	84	28.5	11.32	4.43	14%	8%
1997	0-$10,000	51	0.1	0.01	0.01	11%	9%
	$10,000-100,000	14	0.4	0.09	0.06	11%	7%
	$100,000-500,000	3	1.0	0.22	0.14	22%	14%
	> $500,000	10	21.9	11.27	3.96	53%	17%
	Total	78	23.4	11.58	4.17	17%	10%
1998	0-$10,000	67	0.2	0.01	0.01	4%	3%
	$10,000-100,000	17	0.5	0.11	0.06	19%	10%
	$100,000-500,000	5	1.5	0.57	0.30	37%	25%
	> $500,000	7	13.8	6.89	2.74	47%	21%
	Total	96	16.0	7.58	3.10	12%	7%
1999	0-$10,000	61	0.2	0.01	0.01	3%	2%
	$10,000-100,000	18	0.6	0.12	0.06	12%	6%
	$100,000-500,000	7	1.7	0.69	0.38	38%	22%
	> $500,000	9	20.0	7.57	2.11	40%	10%
	Total	95	22.4	8.39	2.56	11%	5%
CA: N. of Bodega Bay							
1994	0-$10,000	109	0.2	0.06	0.05	32%	27%
	$10,000-100,000	24	0.8	0.07	0.05	11%	9%
	$100,000-500,000	14	3.9	0.53	0.38	12%	8%
	> $500,000	20	38.7	11.99	6.20	27%	13%
	Total	167	43.6	12.65	6.67	26%	21%
1995	0-$10,000	50	0.1	0.04	0.02	41%	21%
	$10,000-100,000	19	0.7	0.19	0.09	36%	19%
	$100,000-500,000	16	4.4	0.98	0.46	21%	10%
	> $500,000	15	31.3	16.02	7.46	37%	17%
	Total	100	36.5	17.23	8.03	36%	18%
1996	0-$10,000	73	0.2	0.04	0.02	26%	12%
	$10,000-100,000	35	1.4	0.40	0.17	26%	12%
	$100,000-500,000	15	3.7	0.42	0.22	9%	4%
	> $500,000	19	36.0	14.41	5.91	33%	13%
	Total	142	41.3	15.26	6.32	25%	11%
1997	0-$10,000	81	0.2	0.06	0.05	38%	25%
	$10,000-100,000	27	0.9	0.28	0.14	34%	20%
	$100,000-500,000	14	2.9	0.96	0.40	39%	17%
	> $500,000	20	36.8	14.38	5.18	39%	15%
	Total	142	40.7	15.68	5.77	37%	22%
1998	0-$10,000	68	0.2	0.05	0.03	24%	17%
	$10,000-100,000	28	1.0	0.24	0.15	28%	18%
	$100,000-500,000	15	4.5	1.15	0.58	25%	13%
	> $500,000	17	21.9	8.53	3.60	35%	15%
	Total	128	27.7	9.97	4.35	27%	17%
1999	0-$10,000	99	0.2	0.06	0.03	23%	8%
	$10,000-100,000	24	0.7	0.14	0.10	15%	10%
	$100,000-500,000	19	4.5	0.71	0.26	18%	6%
	> $500,000	15	23.9	8.61	2.80	30%	10%
	Total	157	29.4	9.52	3.19	22%	8%
CA: Bodega Bay - Santa Cruz							
1994	0-$10,000	245	0.5	0.13	0.10	24%	18%
	$10,000-100,000	102	3.8	1.15	0.90	32%	26%
	$100,000-500,000	36	7.8	1.52	0.89	21%	12%
	> $500,000	19	22.6	4.38	2.19	23%	12%

TABLE 3-12. Purchase information for processing plants (by port group) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999. (Page 4 of 5)

	Groundfish Purchases for Plant	# of Plants	Purchases ($ million) of			% Purchases of	
			All species	Groundfish	Rockfish	Groundfish	Rockfish
	Total	402	34.7	7.18	4.08	26%	19%
1995	0-$10,000	195	0.5	0.12	0.09	26%	18%
	$10,000-100,000	99	3.5	0.90	0.69	27%	21%
	$100,000-500,000	31	7.1	1.27	0.59	19%	10%
	> $500,000	25	34.7	9.21	4.48	26%	13%
	Total	350	45.7	11.50	5.84	26%	18%
1996	0-$10,000	178	0.4	0.11	0.07	22%	15%
	$10,000-100,000	93	3.0	0.63	0.44	24%	17%
	$100,000-500,000	38	9.4	1.94	0.77	24%	11%
	> $500,000	25	34.7	9.94	4.11	29%	12%
	Total	334	47.5	12.62	5.39	23%	15%
1997	0-$10,000	199	0.5	0.10	0.08	23%	17%
	$10,000-100,000	87	3.0	0.72	0.55	26%	19%
	$100,000-500,000	37	9.6	2.43	1.06	24%	11%
	> $500,000	32	42.1	7.26	2.99	18%	7%
	Total	355	55.2	10.50	4.68	23%	16%
1998	0-$10,000	259	0.7	0.13	0.10	22%	18%
	$10,000-100,000	100	3.3	0.87	0.64	26%	20%
	$100,000-500,000	36	9.3	2.08	1.20	21%	12%
	> $500,000	15	11.8	3.82	2.05	31%	16%
	Total	410	25.0	6.90	3.99	23%	18%
1999	0-$10,000	241	0.6	0.13	0.09	21%	16%
	$10,000-100,000	93	3.5	0.72	0.48	21%	15%
	$100,000-500,000	33	7.8	1.55	0.52	20%	6%
	> $500,000	15	13.5	3.50	1.48	24%	12%
	Total	382	25.4	5.89	2.57	21%	15%
CA: Santa Cruz-Oxnard 1994	0-$10,000	160	0.4	0.09	0.07	33%	26%
	$10,000-100,000	87	3.3	0.68	0.57	21%	18%
	$100,000-500,000	43	9.9	1.52	1.15	14%	11%
	> $500,000	28	33.5	3.12	1.85	10%	6%
	Total	318	47.1	5.41	3.63	25%	20%
1995	0-$10,000	138	0.3	0.04	0.03	19%	16%
	$10,000-100,000	74	2.9	0.48	0.40	19%	15%
	$100,000-500,000	29	6.4	1.19	0.86	15%	10%
	> $500,000	28	40.0	4.75	2.81	12%	7%
	Total	269	49.7	6.46	4.11	18%	14%
1996	0-$10,000	118	0.4	0.05	0.05	19%	16%
	$10,000-100,000	53	2.0	0.53	0.44	26%	20%
	$100,000-500,000	40	9.8	1.50	1.12	16%	12%
	> $500,000	23	36.8	4.05	1.91	13%	6%
	Total	234	49.0	6.13	3.51	19%	15%
1997	0-$10,000	122	0.3	0.05	0.04	23%	17%
	$10,000-100,000	60	2.2	0.52	0.44	22%	19%
	$100,000-500,000	35	8.9	1.38	0.92	18%	12%
	> $500,000	25	26.6	3.19	1.32	10%	4%
	Total	242	38.0	5.13	2.71	20%	15%
1998	0-$10,000	135	0.4	0.08	0.07	19%	16%
	$10,000-100,000	81	3.2	0.56	0.39	22%	17%
	$100,000-500,000	36	8.5	1.44	0.86	17%	11%
	> $500,000	10	9.0	1.97	1.04	17%	9%
	Total	262	21.1	4.06	2.36	20%	15%
1999	0-$10,000	154	0.4	0.10	0.09	25%	21%
	$10,000-100,000	60	2.3	0.30	0.21	16%	13%
	$100,000-500,000	39	8.7	1.03	0.60	12%	7%
	> $500,000	20	33.4	1.53	0.58	3%	1%
	Total	273	44.8	2.95	1.48	19%	16%
CA: S. of Oxnard 1994	0-$10,000	171	0.4	0.08	0.07	21%	17%
	$10,000-100,000	97	3.5	0.50	0.35	16%	12%
	$100,000-500,000	27	5.9	0.49	0.33	12%	8%
	> $500,000	18	26.4	0.44	0.39	4%	3%
	Total	313	36.1	1.51	1.14	18%	14%

TABLE 3-12. Purchase information for processing plants (by port group) stratified by groundfish purchases and implied groundfish and rockfish dependence, 1994 - 1999. (Page 5 of 5)

	Groundfish Purchases for Plant	# of Plants	Purchases ($ million) of			% Purchases of	
			All species	Groundfish	Rockfish	Groundfish	Rockfish
1995	0-$10,000	117	0.3	0.05	0.05	15%	12%
	$10,000-100,000	91	3.6	0.64	0.41	18%	12%
	$100,000-500,000	24	5.7	0.21	0.15	5%	4%
	> $500,000	17	28.9	0.39	0.36	3%	3%
	Total	249	38.6	1.31	0.97	14%	11%
1996	0-$10,000	104	0.3	0.04	0.04	11%	8%
	$10,000-100,000	80	3.2	0.58	0.36	17%	12%
	$100,000-500,000	24	5.9	0.29	0.17	8%	4%
	> $500,000	18	38.5	0.31	0.29	2%	2%
	Total	226	47.9	1.23	0.85	12%	9%
1997	0-$10,000	119	0.3	0.03	0.02	13%	10%
	$10,000-100,000	81	2.9	0.49	0.27	16%	10%
	$100,000-500,000	22	5.0	0.22	0.15	7%	5%
	> $500,000	18	34.2	0.21	0.18	2%	1%
	Total	240	42.4	0.95	0.62	13%	9%
1998	0-$10,000	116	0.3	0.05	0.04	17%	14%
	$10,000-100,000	81	3.0	0.38	0.27	16%	12%
	$100,000-500,000	30	7.0	0.67	0.44	12%	9%
	> $500,000	10	24.8	0.09	0.08	1%	1%
	Total	237	35.2	1.19	0.84	15%	12%
1999	0-$10,000	141	0.3	0.04	0.03	12%	9%
	$10,000-100,000	67	2.4	0.21	0.13	10%	7%
	$100,000-500,000	30	6.3	0.69	0.36	16%	8%
	> $500,000	19	35.2	0.05	0.05	0%	0%
	Total	257	44.2	0.99	0.56	11%	7%

Figure 3-1. Landings trends in West Coast groundfish, 1994-2000.

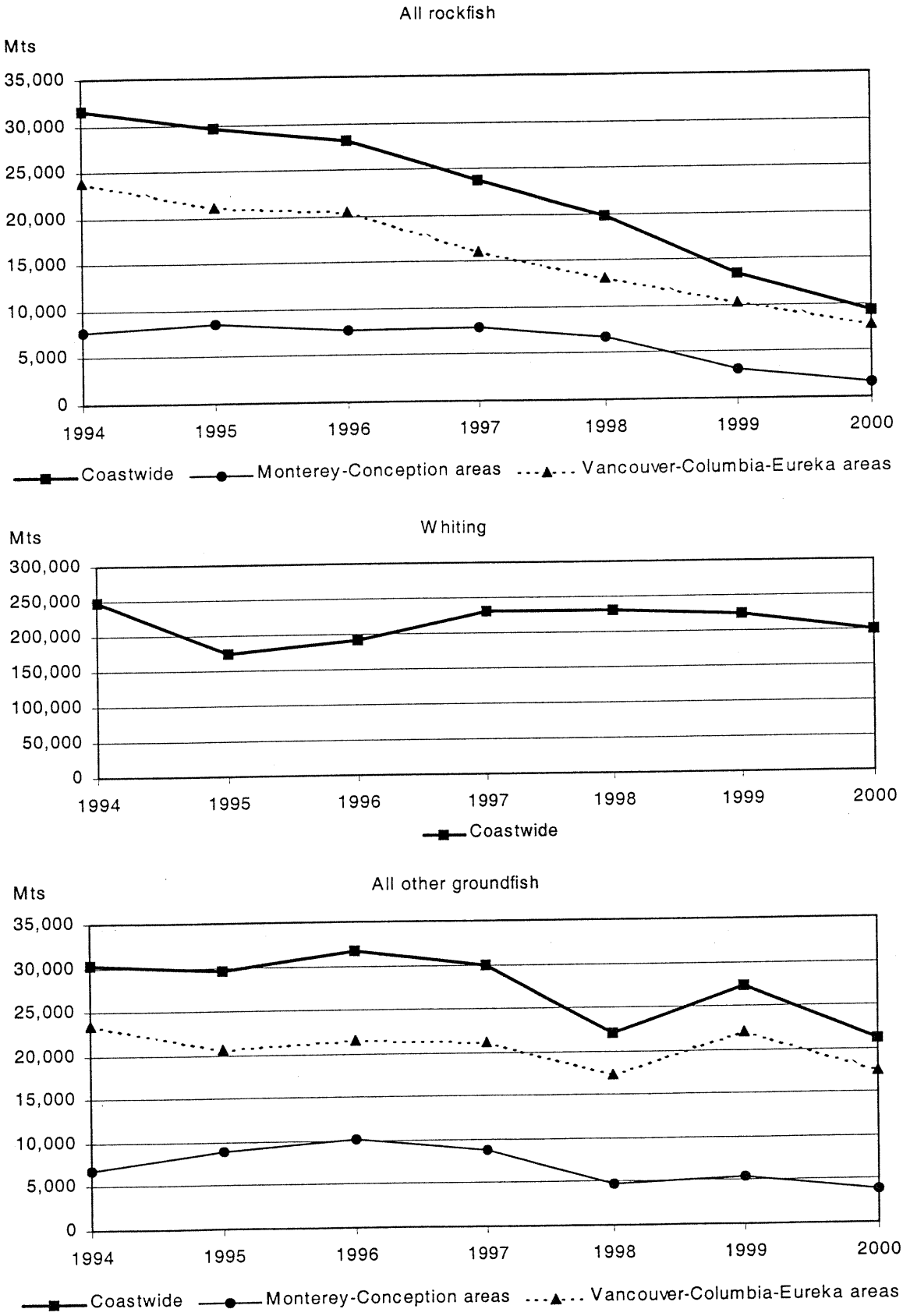
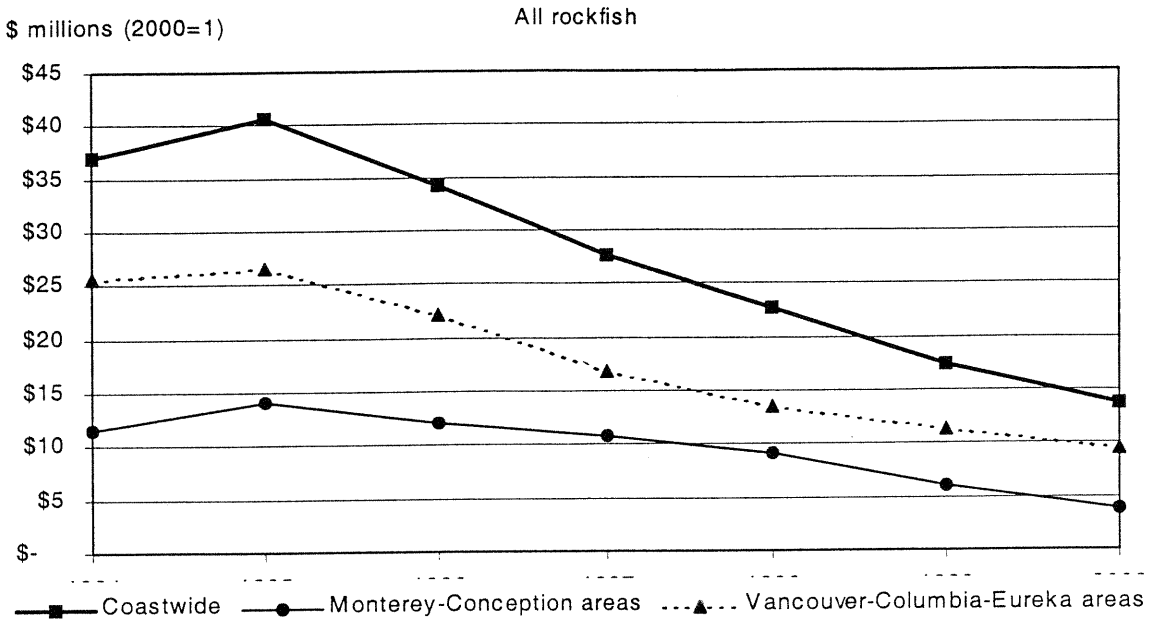
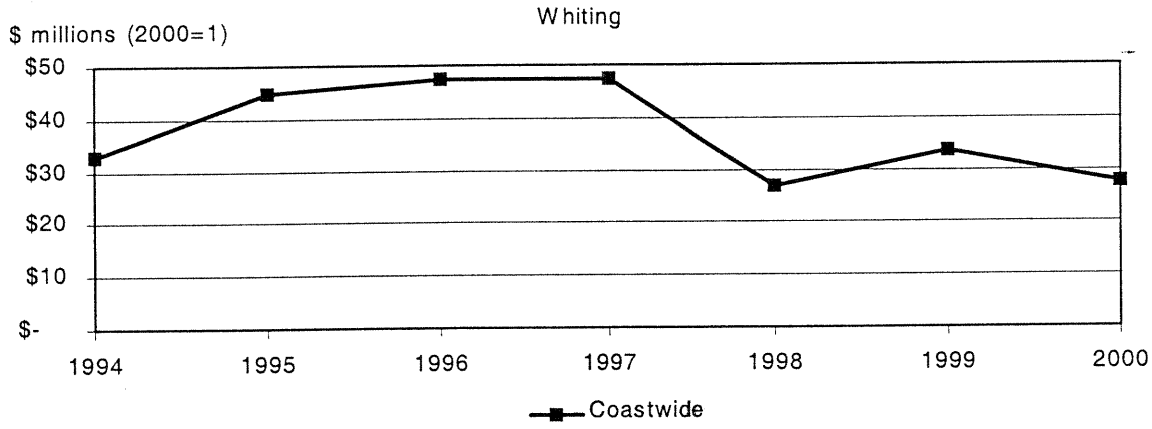


Figure 3-2. Real ex-vessel revenue trends in west coast groundfish, 1994-2000





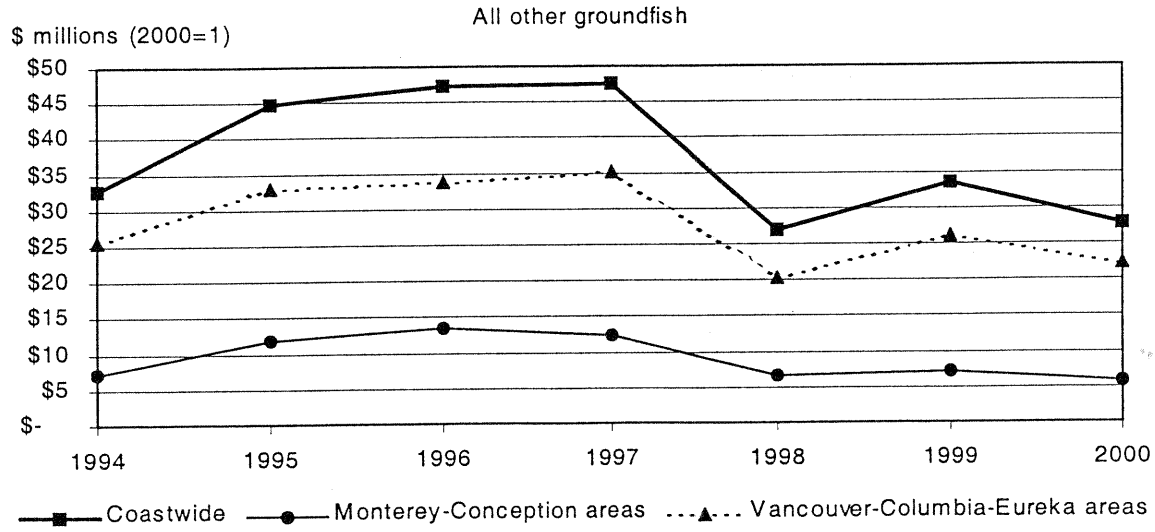


Figure 3-3a. Number of groundfish **open access** vessels by level of dependence on groundfish.

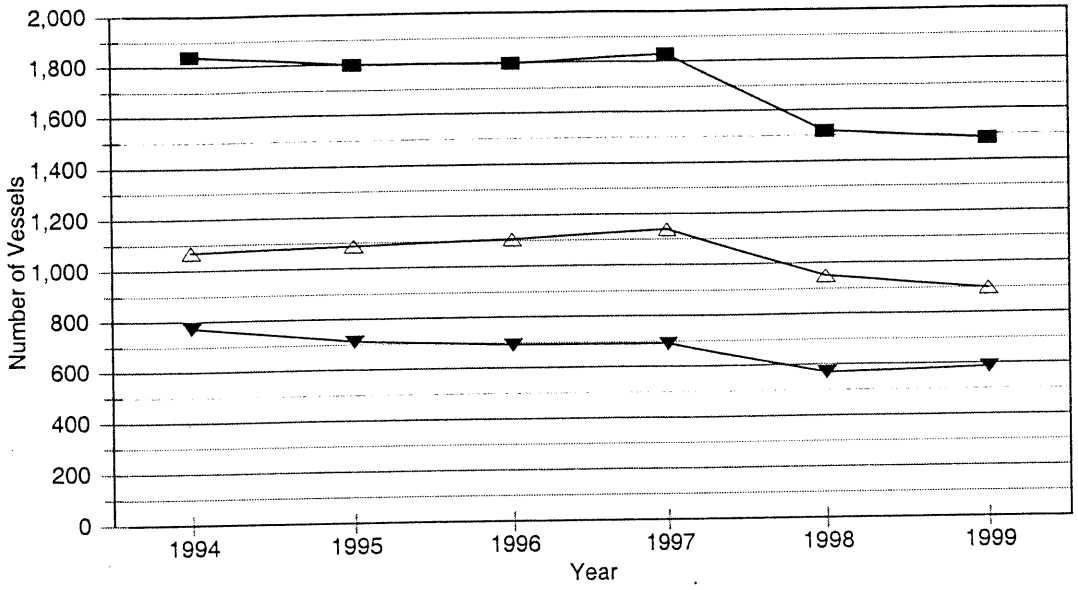


Figure 3-3b. Number of groundfish **limited entry** vessels by level of dependence on groundfish.

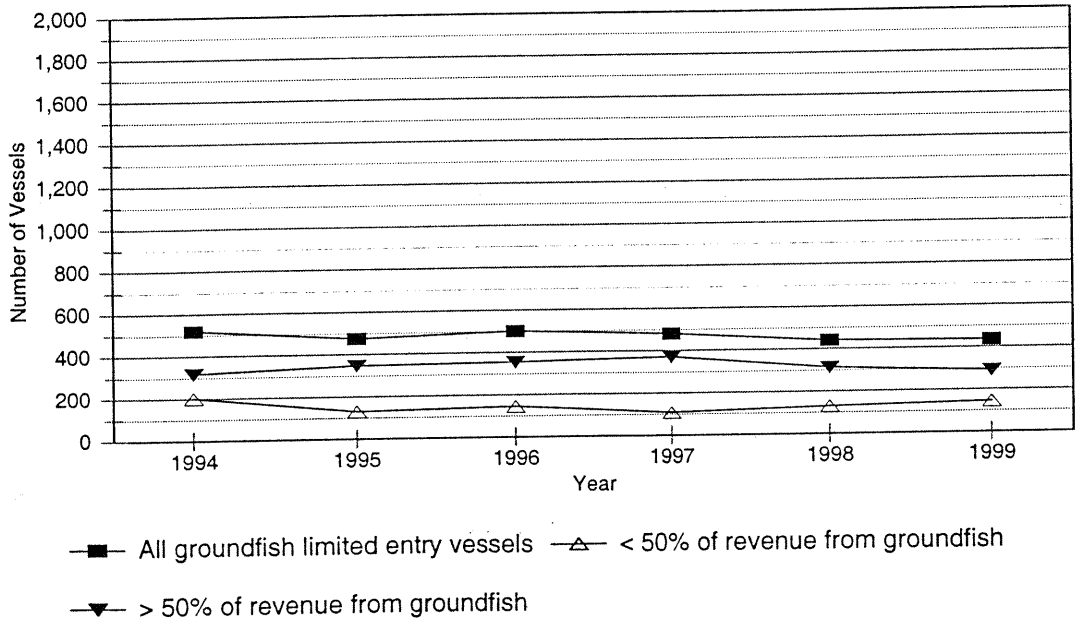


Figure 3-4a . Number of **open access** vessels by level of groundfish revenue.

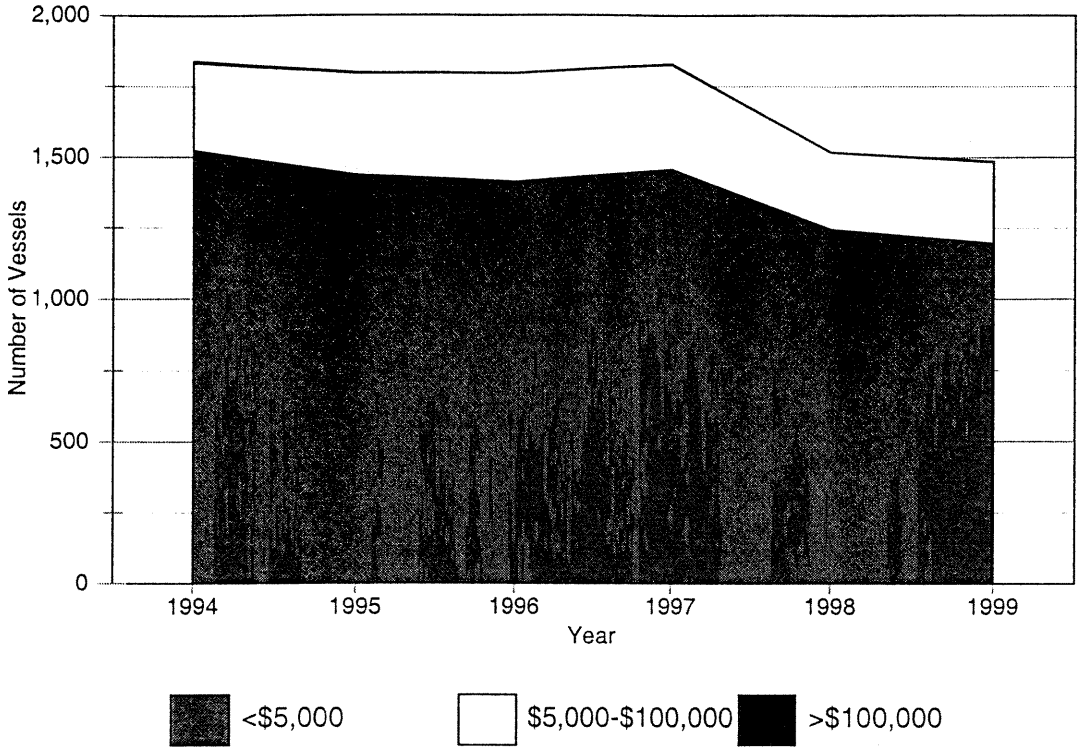


Figure 3-4b. Number of **limited entry** vessels by level of groundfish revenue.

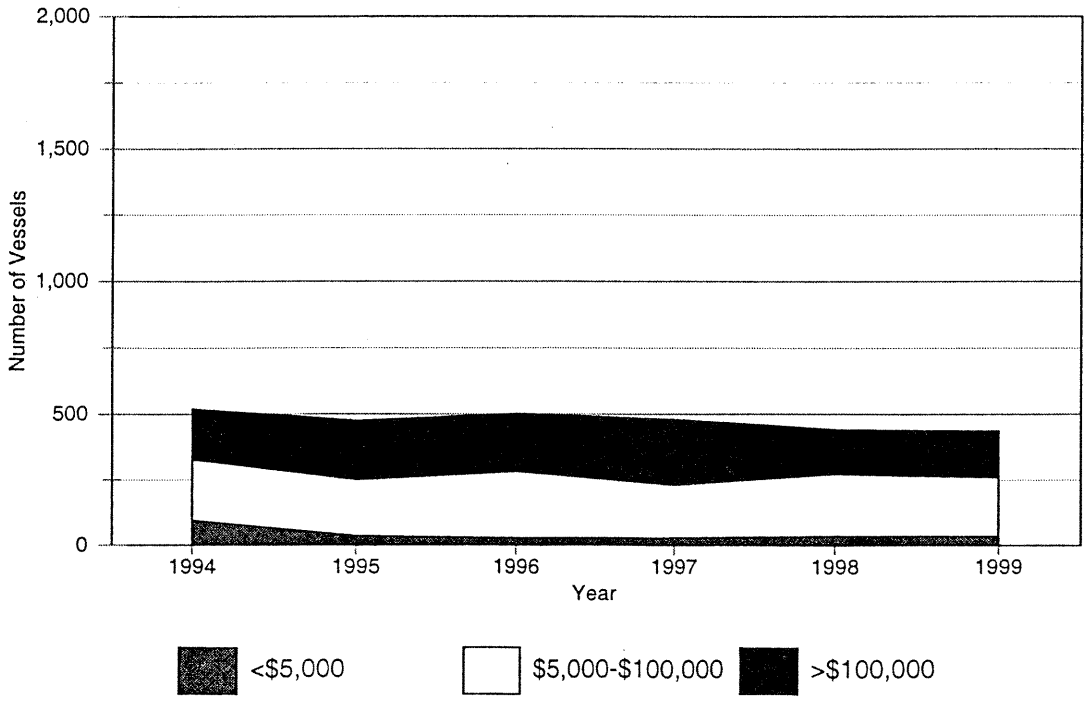
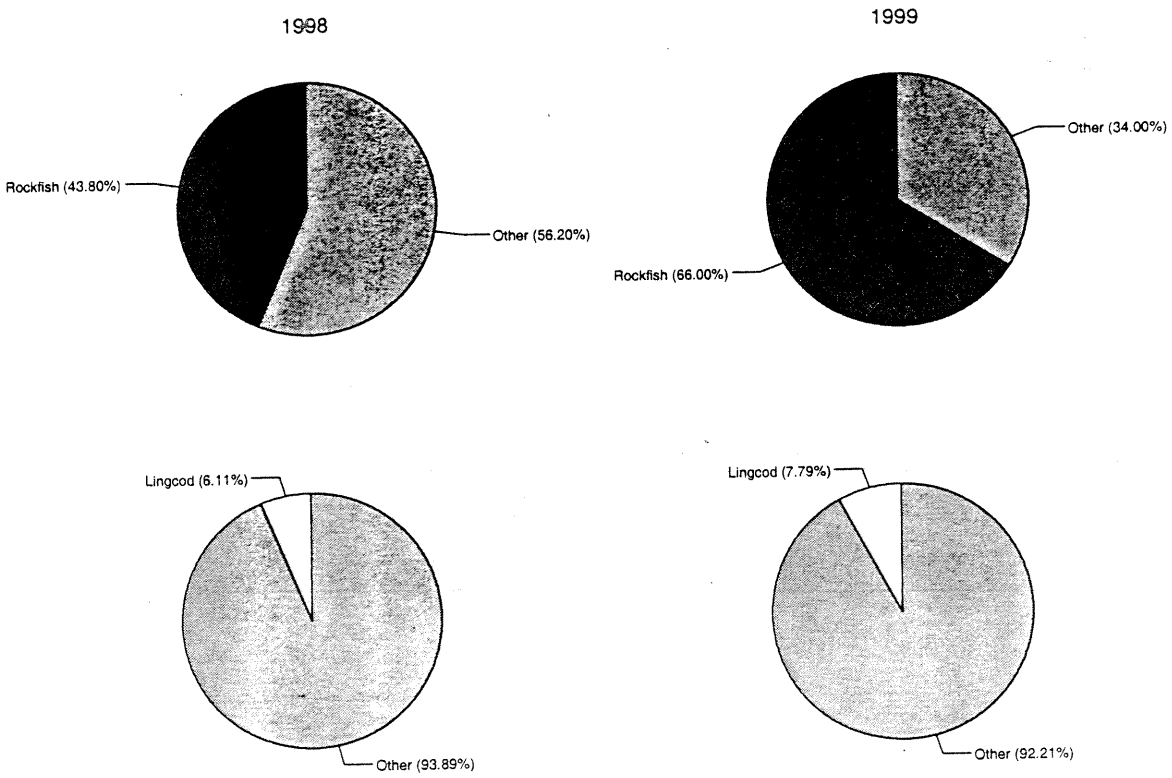


Figure 3-5. Proportion of total trips that were targeted on rockfish or included rockfish in the catch and proportion of total recreational angler trips that were targeted on lingcod or included lingcod in the catch.



f/ MRFSS data. Totals in shaded areas are incomplete because of gaps in the MRFSS for Oregon and northern California.

SSC Terms of Reference for Groundfish Rebuilding Analyses

4th DRAFT

Introduction

Amendment 11 to the Groundfish Fishery Management Plan (FMP) established a harvest control rule for determining optimum yields (OY). The 40:10 policy was designed to prevent stocks from falling into an overfished condition. Part of the amendment established a default overfished threshold equal to 25% of the unexploited population size[1] (B_0). By definition, groundfish stocks falling below that level are overfished ($B_{25\%} = 0.25 \times B_0$). To prevent stocks from deteriorating to that point, the policy also specifies a precautionary threshold equivalent to 40% of B_0. At stock sizes less than $B_{40\%}$ the policy requires that OY, when expressed as a fraction of the allowable biological catch (ABC), be progressively reduced. Because of this linkage, $B_{40\%}$ has sometimes been interpreted to be a proxy measure of B_{MSY}, i.e., the stock biomass that results when a stock is fished at F_{MSY}. In fact, theoretical results support the view that a robust biomass-based harvesting strategy would be to simply maintain stock size at about 40% of the unfished level (Clark 1991, In review). In the absence of a credible estimate of B_{MSY}, which can be very difficult to estimate (MacCall and Ralston, In review), $B_{40\%}$ is a suitable proxy to use as a rebuilding target.

There are a number of ways that one could proceed in modeling stock rebuilding, but they fundamentally reduce to two basic kinds of approaches. These are: (1) an empirical evaluation of spawner-recruit estimates and (2) fitting spawner-recruit estimates to a theoretical model of stock productivity (e.g., the Beverton-Holt or Ricker curves). To date, however, rebuilding plans have largely been based on analyses of the former type (e.g., bocaccio, lingcod, POP#1, canary rockfish). Similarly, the cowcod rebuilding analysis involved an empirical evaluation of annual estimates of surplus production. Thus far, the only rebuilding analysis that has been based on the fit of spawner-recruit data to a theoretical model is the analysis presented in the last stock assessment of Pacific ocean perch (POP#2; Ianelli *et al*. 2000).

Presented here are guidelines for conducting a basic groundfish rebuilding analysis that meets the minimum requirements that have been established by the Council's Scientific and Statistical Committee (SSC). These basic calculations are required of all rebuilding analyses in order to provide a standard set of base case computations, which can then be used to compare and standardize rebuilding analyses among stocks. However, the SSC also encourages rebuilding analysts to explore alternative calculations and projections that may more accurately capture uncertainties in stock rebuilding, and which may better represent stock-specific concerns. In the event of a discrepancy between the generic calculations presented here and a stock-specific result developed by an individual analyst, the SSC groundfish subcommittee will review the issue and recommend which projections to use.

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[1] The absolute abundance of the mature portion of a stock is loosely referred to here in a variety of ways, including: population size, stock biomass, stock size, spawning stock size, spawning biomass, spawning output; i.e., the language used in this document is sometimes inconsistent and/or imprecise. However, the best fundamental measure of population abundance to use in establishing a relationship with recruitment is spawning output, defined as the total annual output of eggs (or larvae in the case of live-bearing species). Although spawning biomass is often used as a surrogate measure of spawning output, for a variety of reasons a non-linear relationship often exists between these two quantities (Rothschild and Fogarty 1989; Marshall *et al*. 1998). Spawning output should, therefore, be used to measure the size of the mature stock when possible.

Estimation of B_0

For the purpose of estimating B_0 empirically, analysts have selected a sequence of years, wherein recruitment is believed to be reasonably representative of the natality from an unfished stock. These recruitments, in association with growth, maturity, fecundity, and natural mortality estimates, can then be used to calculate equilibrium unfished spawning output. In selecting the appropriate temporal sequence of recruitments to use, investigators have generally utilized years in which stock size was relatively large, in recognition of the paradigm that groundfish recruitment is positively related to spawning stock size (Myers and Barrowman 1996). Moreover, due to the temporal history of exploitation in the west coast groundfish fishery (see Williams, In review), this has typically led to a consideration of the early years from an assessment model time series[2]. Thus, for example, in the case of bocaccio the time period within which recruitments were selected was 1970-79 and for canary rockfish it was 1967-77.

An alternative view of the recruitment process is that it depends to a much greater degree on the environment than on adult stock size. For example, the decadal-scale regime shift that occurred in 1977 (Trenberth and Hurrell 1994) is known to have strongly affected ecosystem productivity and function in both the California Current and the northeast Pacific Ocean (Roemmich and McGowan 1995; MacCall 1996; Francis *et al*. 1998; Hare *et al*. 1999). With the warming that ensued, west coast rockfish recruitment was probably affected adversely (Ainley *et al*. 1993; Ralston and Howard 1995). Thus, if recruitment was environmentally forced, it would be more sensible to use the full time series of recruitments from the stock assessment model to estimate B_0. Given that these two explanatory factors are highly confounded, i.e., generally high biomass/favorable conditions prior to 1980 and low biomass/unfavorable conditions thereafter, using all recruitments to estimate B_0 will usually result in a lower reference point than the situation where an abbreviated series taken from early in the time series is utilized.

[2] Individual recruitments estimated from age-structured stock assessment models do not all exhibit the same precision or accuracy. Recruitments estimated at the very beginning of the modeled time period may suffer from mis-specification of the initial condition of the population (e.g., an assumed equilibrium age structure). Likewise, recruitments estimated at the end of the sequence may be imprecise due to partial recruitment of recent year-classes. Thus it may be advisable to trim the beginning and/or ending years classes to address this problem.

At this time there is no incontrovertible information with which to distinguish between these two alternatives. If oceanic conditions along the west coast have shifted to a productive cold regime following the La Niña event of 1999, we may soon have observations of recruitment produced during a favorable environmental period from groundfish stocks at low spawning biomass. If the environmental and density-dependent effects are additive, it would then be possible to determine the relative importance of each of the two factors (e.g., Jacobson and MacCall 1995). In the interim, however, it would be prudent to favor calculations of B_0 that are based on an abbreviated time series of recruitments taken from a period when the stock was at a relatively high biomass and to favor the density-dependent hypothesis. Both theoretical and observational considerations support the belief that groundfish recruitment will decline as stock size dwindles (e.g., Myers and Barrowman 1996; Brodziak *et al*. 2001). Still, it would be informative to contrast the density-dependent/stock size based reference point with an estimate of B_0 based on the entire time series of recruitments (i.e., the environmental hypothesis). This was, in fact, discussed as a possible alternative in the Panel Report produced by the West Coast Groundfish Harvest Rate Policy Workshop sponsored by the SSC in March, 2000. With both numbers available it would be possible to evaluate the implication of each hypothesis on the calculation of stock reference points. As a refinement, for each of these two methods the actual distribution of B_0 can be approximated by re-sampling recruitments, from which the probability of observing any particular stock biomass can be examined under each hypothesis. This approach was taken in the original bocaccio rebuilding analysis, where it was concluded that the first year biomass was unlikely to have occurred if the entire sequence of recruitments were used to determine B_0.

It is also possible to estimate B_0 by fitting spawner-recruit models to the full time series of spawner-recruit data (see Ianelli *et al*. 2000; Ianelli, In review). However, this approach is subject to the criticism that stock productivity is constrained to behave in a pre-specified manner according to the particular model chosen and there are different models to choose from, including the Beverton-Holt and Ricker. These two models can produce strongly contrasting management reference points (e.g., B_{msy} and SPR_{msy}) but are seldom distinguishable statistically. Moreover, there are statistical reasons to be suspect of resulting parameter estimates, including time series bias (Walters 1985), the "errors in variables" problem (Walters and Ludwig 1981), and non-homogeneous variance and small sample bias (MacCall and Ralston, In review). Consequently, analyses that derive stock management reference points by estimating a spawner-recruitment relationship shoulder a greater burden of proof. Thus, any such an analysis should attempt a balanced comparison of alternative spawner-recruit models, with explicit consideration of the estimation problems highlighted above. Moreover, in situations where a spawner-recruit meta-analysis is available (e.g., Dorn, In review), those results should be evaluated and considered. Ideally, reference points obtained by fitting a spawner-recruitment model (e.g., B_0, B_{MSY}, and F_{MSY}) should also be compared with values obtained by empirical analysis of the data, similar to that suggested above. Such a comparison would help delineate the overall degree of uncertainty in these quantities.

Population Projections During Rebuilding

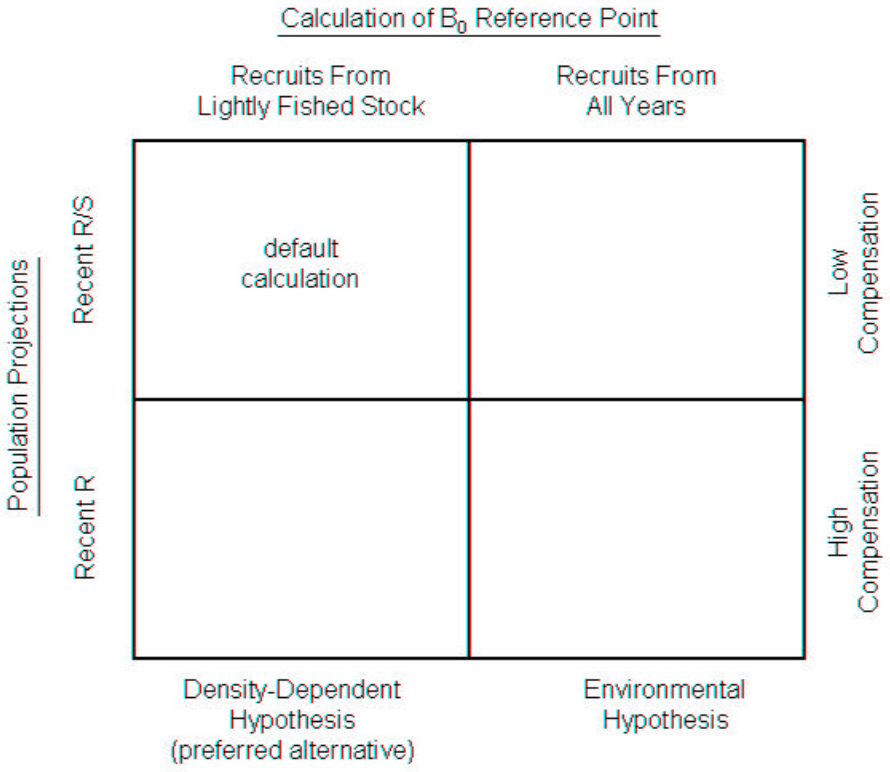
Given the population initial conditions from the last stock assessment (terminal year estimates of numbers at age and their variances) and the rebuilding target ($B_{40\%}$), one can project

the population forward once renewal has been specified. For most rebuilding calculations that have been conducted thus far, two different approaches have been taken, both of which utilize contemporary recruitment estimates at the tail end of the time series (i.e., the most recent figures). For bocaccio, canary rockfish, and POP#1, recent recruitment was standardized to the size of the adult population (recruits per spawner = R/S_i), which was then randomly resampled to determine annual reproductive success. Annual R/S_i is then multiplied by S_i to obtain year-specific stochastic estimates of R_i. The population is then projected forward in time, with no fishing mortality, until S_i hits the rebuilding target. The process is repeated many times, until a distribution of the times to rebuild in the absence of fishing is obtained. Note that use of R/S_i as the basis for projecting the population forward ties recruitment values in a directly proportional manner to stock size; if stock size doubles, resulting recruitment will double, all other things being equal. As the stock rebuilds this becomes an increasingly untenable assumption because there is no reduction in reproductive success at very high stock sizes, which is to say there is no compensation (i.e., steepness = 0.20)[3].

Another way of projecting the population forward is to use recent recruitments, rather than recruits per spawner, as was done in the lingcod analysis. This approach, however, errs in the opposite direction. Namely, recruitment does not increase as stock size increases, as would be expected of most rebuilding stocks. This type of calculation effectively implies perfect compensation (spawner-recruit steepness = 1.00). Thus, these two ways of projecting the population forward, by using re-sampled R_i or re-sampled R/S_i, includes a range of alternatives that is likely to encompass the real world.

Because stocks that have declined into an overfished condition are more likely to be unproductive (i.e., low spawner-recruit steepness), in the absence of any other information, rebuilding projections based on re-sampling recruits-per-spawner are generally to be favored over projections based on absolute recruitment. Note that the implied lack of compensation in rebuilding projections using this method is not likely to be a serious liability over the long term because it is based on re-sampling contemporary recruits-per spawner. As progress toward rebuilding is evaluated in the future, the set of R/S_i will be revised based on a new set of recent recruitments obtained from the latest stock assessment. If the stock actually demonstrates a compensatory response during the course of rebuilding the R/S_i series will tend to a lower mean value. Although projections based on R/S_i represent a standard default way of proceeding, projections that use absolute recruitments (R_i) would be quite useful in establishing the overall uncertainty in the rebuilding analysis by providing an alternative model specification scenario. Moreover, a credible argument that a stock is relatively productive, as evidenced perhaps by observed high recruitment at low spawning biomass, may serve as a basis for favoring projections that utilize recent absolute recruitments (see figure).

[3]The "steepness" of a spawner-recruit curve is related to the slope at the origin and is a measure of a stock's productive capacity. It typically is expressed as the proportion of virgin recruitment that remains when a stock has been reduced to $B_{20\%}$.



Once the median time to rebuild in the absence of fishing is determined (τ_0), whether using the R/S_i or the R_i, the total allowable rebuilding time frame is fixed (τ_{max}). Namely, if τ_0 is less than 10 years then $\tau_{max} = 10$ years. On the other hand, if $\tau_0 \geq 10$ years then $\tau_{max} = \tau_0$ + one mean generation time. Mean generation time has been calculated as the mean age of the net maternity function.

Harvest During Rebuilding

Of course it will be the Council's prerogative to establish yields during the rebuilding period, as long as the stock recovers to the target ($B_{40\%} \approx B_{msy}$) within the specified time period (τ_{max}). Nonetheless, the simplest rebuilding harvest policy to simulate and implement is a constant harvest rate or fixed F policy. All rebuilding analyses should, therefore, calculate the maximum fixed fishing mortality rate during the rebuilding time period that will achieve the target biomass, with a 0.50 probability of success ($F_{0.50}$). In addition, calculations representing a profile of different fixed F values that are incrementally less than $F_{0.50}$ (e.g., $F_{0.60}$, $F_{0.70}$, and $F_{0.80}$) are needed for the Council to implement a precautionary reduction in the $F_{0.50}$ value to increase the probability of rebuilding success. Note that selecting a probability greater than 0.50 for successful rebuilding within τ_{max} is equivalent to electing to rebuild sooner than τ_{max} with probability equal to 0.50. In addition, based on its interpretation of Amendment 12 to the groundfish FMP, the National Marine Fisheries Service requires the expected time course of yield during recovery as a formal part of all rebuilding calculations.

Many other harvest policies could be implemented by the Council, based on whatever circumstances may mitigate against a constant harvest rate approach. For example, the canary

rockfish rebuilding plan calls for a constant fixed yield over the entire period of rebuilding. Thus, as the stock rebuilds, the exploitation rate must decline, which makes bycatch avoidance a serious concern. For this reason the SSC recommends that the Council generally favor constant harvest rate policies over constant catch policies for all groundfish rebuilding plans. This would alleviate the problem of accelerating bycatch producing accelerated discard, an undesirable attribute of constant catch policies. Similarly, the Council may wish to implement some other form of variable rate harvest policy, e.g., a 40:10 adjustment similar to the default policy currently in use. Consequently, researchers conducting rebuilding analyses should be prepared to respond to requests by the Council for stock-specific projections on an individual case-by-case basis.

Documentation

It is important for analysts to document their work so that any rebuilding analysis can be repeated by an independent investigator at some point in the future. Therefore, all stock assessments and rebuilding analyses should include tables containing specific data elements that are needed to adequately document the analysis. Namely, information is needed on: (1) the time course of population spawning output and recruitment, (2) biological data on life history characteristics, and (3) initial values for projecting the stock into the future under exploitation. Therefore, two tables should include:

Table 1. Stock Population Trajectory

1. Year
2. Summary/Exploitable Biomass
3. Spawning Output
4. Recruits
5. Catch
6. Landings
7. Total Exploitation Rate

For each year in this table, entries 2 through 7 should include the expected value, a measure of uncertainty, and the appropriate units. The latter may require development of a standard electronic format for the simulation results that characterize the uncertainty, e.g., the results of each Monte Carlo replication from the stochastic population projection.

Table 2. Age-specific Population Characteristics.

1. Age
2. Natural mortality rate (_ and _)
3. Individual weight (_ and _)
4. Maturity (_ only)
5. Fecundity (_ only)
6. Terminal year (or other) composite selectivity (_ and _)
7. Population numbers in terminal year (_ and _)

In a similar manner, for each age in the table, entries 2 through 7 should ideally include measures of uncertainty. Uncertainty in table entry 7 (population numbers in terminal year), in particular,

should be available from most age-structured assessment models.

In addition, all linkages with the most recent stock assessment document should be clearly delineated. This is important because assessments often present multiple scenarios that usually have important implications with respect to stock rebuilding. In such instances, a decision table analysis would be a useful way to express the implications of uncertainty in model specification. In addition, one scenario may be preferred by the assessment authors, while another may preferred by the STAR Panel. Clear specification of the exact assessment scenario(s) used as the basis for rebuilding analysis is essential. Further, all post-assessment analyses needed to produce the inputs for rebuilding analyses must be fully documented, e.g., the choice of selectivity estimates used for projections that are based on some composite of historical selectivities from the assessment.

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Exhibit F.8.a
Supplemental NMFS Report
April 2001

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NATIONAL MARINE FISHERIES SERVICE
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April 4, 2001

Mr. Jim Lone, Chairman
Pacific Fishery Management Council
2130 S.W. Fifth Avenue, Suite 224
Portland, Oregon 97201

Subject: Observer Sampling and Logistics Plan

Dear Mr. Lone:

The attached draft document describes the current stage of development of the sampling plan and logistics for the west coast observer program. We are working closely with the PSMFC to develop a plan that can be implemented this summer and begin to provide the Council with the information it needs for management of this fishery. We invite comments from the Council and members of the west coast groundfish community.

Sincerely,

M. Elizabeth Clarke, Ph. D.
Division Director
Fisheries Resource Analysis and Monitoring Division

Draft Sampling Plan and Logistics for West Coast Fishery Observer Program

April 4, 2001

SUMMARY

A primary goal of the observer program is to improve management of groundfish by improving the estimate of total catch, mainly through ongoing collection of information on discarded catch which will complement current shoreside information on landed catch. Also, fishery and resource management can be improved through the collection of groundfish biological information and the catch of prohibited species.

NMFS, PSFMC, and the states will cooperate to manage the observer program. NMFS will be responsible for training, debriefing, and coordinating observers; designating which vessels are to carry observers; determining observer assignments; data entry; and database development and maintenance. Through a contract with an experienced provider of observer services, PSFMC will hire, equip, insure, and transport observers. In addition, PSFMC will oversee three halftime positions in the states who will provide coordination with current shoreside fishery sampling and other support for the observers.

PSFMC will require the observer contractor to provide insurance adequate to cover injury, liability, and accidental death for observers. The observer will be covered by this insurance during the entire period an observer is employed, including training, travel to and from port, standby time in port, at sea deployment, and while debriefing.

Current funding will provide approximately 20 experienced observers who will be stationed among 13 port groups coastwide. The sampling plan is designed to provide in the first

year at least 10% coverage coastwide for the limited entry trawl fleet and pilot observer coverage in the limited entry fixed gear sablefish and rockfish fisheries. In addition, one or two observers will be allocated to a pilot program on overages.

Vessels will be selected so that coverage of the trawl fleet would cycle through all the trawl vessels in about two years and would prevent vessels from being selected in consecutive fishing periods. Observers will plan to observe a selected vessel for all of its fishing trips throughout a cumulative trip limit period. The goal is to collect tow-by-tow information from each catch (market) category.

More details are given in the attached draft sampling plan for the west coast fishery observer program.

Introduction

Accurate information on landed catch and catch that is discarded at sea must be determined to assure accuracy in quota management, stock assessments, and allocations among user groups. Landed catches have been closely monitored for decades through a system of state landing receipts (fish tickets). These fish tickets are designed to provide a complete accounting of all landed catch. The level of information on discarded catch is meager in comparison.

Discarded catch occurs because of limits on the kinds, sizes and amounts of fish that can be retained and sold. For west coast groundfish, discarding occurs because of processor/market limits on the acceptable species and sizes of fish, prohibition on landing some species, and regulatory limits on the amount of target species that can be retained. The west coast groundfish fishery uses regulatory catch limits to slow the cumulative pace of landed catch and obtain year-round fishing, processing and marketing opportunities. These limits began as per trip limits for widow rockfish in the early 1980s, evolved to a complex set of per trip and trip frequency limits

for several species by the late 1980s, and evolved further to cumulative monthly limits by the mid-1990s. Today, cumulative limit periods range out to 2 months.

A voluntary observer program (Pikitch et al., 1991) conducted primarily off Oregon in 1985-1987 estimated that the total discard was 16-20% of the total catch for each of several species that were subject to catch limits. Since then, discards were assumed to stay at the same level and were applied to more species. However, the actual level of discard varied: likely increasing during the early 1990s as the trip limits became more restrictive, decreasing as cumulative limits were introduced to give vessels more operational flexibility, then increasing as these cumulative limits needed to be reduced further and applied to more sectors of the fleet. A similar voluntary observer program was conducted during 1996-1998 and resulted in updated discard rates for some species. However, neither study provided the level of coverage necessary to apply coastwide nor to today's stock abundances and managment practices.

An update of discard information is needed not only because the data supporting the current estimates are 15 years old, but also because relying on discard as a percentage of the total catch of a target species is no longer applicable to today's fishery. With several species now under severe restrictions to achieve rebuilding, discarding is more closely related to fishing strategies than to the percentage of the catch of a particular species. We need to account for this change and we need a new approach that will allow adjustment of estimated discard as catch limits are tightened and relaxed.

This year, federal funding allows for a limited observer program to provide data applicable to today's fishery for west coast groundfish. A description of this new program, including the sampling requirements and the responsibilities of NMFS, PSFMC, states and participating vessels, follows.

Program Goals

The overall goals of the observer program are:

a. Improve management of groundfish by improving estimates of the total catch, primarily through ongoing collection of information on discarded catch which will complement current shoreside information on landed catch

b. Improve estimate of the total catch of prohibited species in the groundfish fishery

c. Improve management by collecting better biological information from the groundfish fishery

d. Provide a timely and efficient system for collection, storage, analysis and communication of information

For this first year of the observer program, the sampling plan is designed to provide at least 10% coverage coastwide for the limited entry trawl fleet and pilot observer coverage in the limited entry fixed gear sablefish and rockfish fisheries. In addition, 1 or 2 observers will be allocated to a pilot program on overages.

Program Overview

NMFS, PSMFC, and the states will cooperate to manage the program. NMFS will be responsible for observer training and debriefing, designating which vessels are to carry observers, determining observer assignments, data entry, and database development and maintenance. NMFS staff will include a team leader, database manager, and two individuals that train, debrief, and coordinate observer activities. PSMFC will use federal funds to hire, equip (including sampling, rain, safety, and computer equipment), insure, and transport approximately 20 experienced observers.

In addition, PSFMC will have a project manager to carry out its role in the observer program and to oversee three halftime positions in the states who will provide coordination with current shoreside fishery sampling and other support for the observers. Specifically, these state coordinators will assist NMFS with the deployment of observers and

their primary responsibilities include coordinating biological sampling by the observer program with existing PacFIN shoreside biological sampling; providing current information on expected vessel activities to facilitate observer logistics; and assisting NMFS, as needed to ensure that designated vessels have obtained the necessary United States Coast Guard safety inspections and been issued a 2-year safety decal prior to the time an observer must board the vessel.

Observers will collect data through on-board interviews of vessel captains and crew, observations of fishing operations, measurements of selected portions of the catch and fishing gear, and collection of samples. Observers will enter data directly into a computer and transfer them on-line to a NWFSC database for editing and summarization. The data to be collected by the observers will include:

a. begin and end time and location of tow/set

b. description of fishing gear and method

c. Estimated total codend weight (including tows for which there is 100% discard due to unmarketable species).

d. Weight of discard in each market category (categories should be the same as those on the fish tickets and on the fisher's logbook).

e. Reason for discard for each market category.

f. For vessels participating in overage retention programs, designate portions of catch retained under this program

g. Species composition of discard in each market category

h. Weight of retained catch in each market category

i. Species composition of retained catch in each market category.

j. Bycatch in numbers of prohibited species (salmon, halibut, marine mammals, birds, turtles).

k. Size composition, tags, survival viability code of prohibited species.

l. Size composition of discarded fish (from randomly selected categories in order to reduce workload).

m. Size composition of retained fish (from randomly selected categories in order to reduce workload).

n. Basic taxonomic composition of non-fish bycatch

o. Special biological collections (otoliths, maturity, food habits, genetic samples, etc.)

Observer Selection and Support

Selection - Observer providers will be selected among providers that have supplied observer services for other fisheries within the past two years. The PSMFC, in consultation with NMFS, will evaluate potential contractors based on their past performance as service providers including: demonstrated ability to retain observers, benefit packages provided to observers, ability to quickly supply qualified experienced observers, ability to obtain the necessary insurance coverages, and cost. Qualified observers need to have a Bachelors degree in biological science, have at least 30 sea days experience as a fishery observer with adequate performance over the last two years, and have undergone and passed a full physical examination within the 12 months prior to hiring.

Training - Observers will attend an 5-8 day training course to prepare them for participation in this fishery observer program. The course will include safety, species identification, data collection methods, and other specific topics.

Debriefing - After an observer transmits the trip's data to the central database, the data will be available for review and editing by NMFS staff. The normal schedule of debriefing will include: (1) an in person debriefing after an observer's first trip with the program; (2) a phone check-in after each trip to schedule a debriefing, if necessary; and (3) a debriefing via phone or in person after an observer completes a two month tour of observation with a vessel.

Insurance - PSMFC will require the observer contractor to provide insurance adequate to cover injury, liability, and accidental death for observers. The contractor will provide insurance during the entire period an observer is employed, including training or briefing, travel to and from port,

standby time in port, at sea deployment, and while debriefing. This insurance is expected to include:

Workers compensation & employer's liability
Maritime Employer's Liability adequate to cover observer, vessel owner and contractor.
Commercial General Liability
Cure, Maintenance, Wages, and Transportation
Longshore and Harbor Worker's Compensation Act
Automobile Liability

Observer Duty Stations - For a reasonably uniform coverage of trips along the coast, 20 observers will need to cover approximately 13 major port groups (see AppendixTable 1), averaging 1 to 3 observers per group. To enable observers to best familiarize themselves with the fleet, vessel delivery schedules, and port biologists, they will likely be assigned to a port group. As an example, an observer could be housed in Bellingham and cover vessels operating primarily from Blaine, Bellingham or any other port in that general area. Observers will need to be able to travel from their current location to the vessel within the requested 24 hour trip notification period and we will adjust duty stations as needed to do so.

Vessel Selection

Vessels will be selected from the pool of vessels so that coverage would cycle through all the trawl vessels approximately every two years and would prevent vessels from being drawn in consecutive periods. The initial draw of vessel names would be larger than the number of vessels that would actually be covered so that the list could be winnowed down to a list of vessels planning to fish groundfish that period and representing a reasonably proportional distribution along the coast. For example, the program would select approximately 40 limited entry trawl vessels and 40 limited entry sablefish endorsed vessels at random, contact these vessels to determine their intention to fish groundfish and their primary port, select a subset of at least 20 vessels that would roughly represent proportional coastwide coverage, notify these

vessels of their selection, then assign observers to them. When vessel operators are contacted by program coordinators to determine their expected level of activity, the coordinator will also verify the vessel's status of safety inspections, and obtain proof of insurance. Depending upon the vessel's expected level of activity, observers may be assigned to cover more than one vessel, as possible, during a period.

If selected, vessels that indicated that they did not plan to fish groundfish then would be placed in a holding category. They will be asked to notify NMFS when they next plan to fish groundfish so that they can be assigned an observer during that period. Vessels that are selected but do not get an observer in the first period would carryover to the next period. Once selected for observer coverage, we propose that a vessel call in 24 hours before initiating a trip so that the selected observer can arrange to accompany the vessel. A toll-free phone number will be provided for such notification.

An observer will plan to observe a selected vessel for all of its fishing trips throughout a cumulative limit period. This will spread the observations out so that data will be collected from trips for which the vessel is far from its cumulative limits and trips for which it is close to or at its limit for some species. Sampling all trips from a selected vessel will simplify logistics and provide the broad coverage necessary.

Pre-Trip Meeting

Before the first trip on a vessel, the observer will conduct a pre-trip visit to arrange provisions for a sampling area and advise the vessel of any safety or equipment concerns. Optimally, the state coordinators will include the port biologists in these initial meetings because of their high familiarity with the vessel and crew.

Data Collection

Observers will follow the procedures detailed in the West Coast Observer Manual to obtain data and collect samples. The specific types of data to be collected are listed in an earlier section (see Program Overview). The goal is to obtain tow-by-tow information from each catch (market) category so that observer information will dovetail with the market category information currently provided in the fisher's logbook and on the fish tickets. The best information can be obtained by sampling the sorted rather than unsorted catch.

Data collected by the observer will be separate from the data routinely collected by the fishermen and processors. For example, fishermen will continue to record tow-by-tow catch and effort information in logbooks even when there is an observer on board collecting similar information. Comparison of observer data to fishermen logbook data will allow better standardization of the logbook data and improved ability to utilize logbook data from unobserved trips. On a voluntary basis for vessels, NMFS will consider requesting that fishermen record discarded catch, as well as retained catch, and may test alternative methods such as sealed video systems.

The observer database will be designed so that it can be linked to the PacFIN database so that federal, Pacific Fishery Management Council, and state fishery managers and biologists with appropriate clearance for access to confidential fishery data can access the appropriate data and reports. In the near future, NMFS intends to adapt the basic Observer Module of the Electronic Fish Catch Logbook to meet the data collection, editing, and transmittal needs of the west coast groundfish observers.

TIMELINE

Annual Program Preparation

a. Determine annual coverage plan and sampling priorities, with input from PFMC
b. Hold coordination meeting with NMFS, PSMFC, state coordinators
c. Hold meeting in each state involving port biologists (linked to annual port biologist meeting)
d. NMFS gets collection permits for special specimen collection, as necessary
e. State coordinators assist with safety inspections
f. NMFS sends annual notice to all vessels, identifying sectors that will be observed that year, including: reminder of safety requirements

Annual Program Sequence

Vessels (For each 2 month period)

a. NMFS conducts random vessel selection within selected gear type and representative of coast
b. NMFS notifies vessels of their preliminary selection (via registered mail)
c. NMFS coordinators interview vessels via phone regarding fishing plans
d. NMFS notifies vessels of final selection for this period
e. Observer is assigned to vessel
f. State coordinator arranges meeting at vessel (with operator, observer, port biologist) to answer outstanding questions, orient observer to vessel's space and equipment, verify safety inspection. NMFS and/or state coordinators attend as possible.
g. vessel calls in with 24 hour notification to observer and/or assignment coordinator
h. Vessel crew provides access to catch for observer's sampling

Observers

a. NMFS notifies observer provider of dates for training
b. NMFS receives verification of observer's insurance, health examination, qualifications
c. Observer provider issues gear to observers
d. NMFS conducts training 5-8 days (including safety, gear, species ID, laptop computer, data standards, etc.)
e. NMFS certifies observers
f. Observer provider updates observer assignment to duty stations
g. NMFS assigns field coordinator for each observer
h. Observer is assigned to selected vessels expected to operate in vicinity of the observer's duty station
i. Observer receives notification of trip and travels to vessel, arriving one hour before scheduled departure
j. Trip occurs, observer collects information and enters into laptop computer

Observers cont.

k. Vessel returns to port, offloads
l. Observer completes data edit and entry, t transmits data to database
m. Observer notifies coordinator of return; schedules debriefing, if necessary
n. Debriefing occurs in person or via phone
o. Final data editing occurs and data is released for use
p. Observer continues assignment on same vessel if another trip is scheduled soon, or fill in with sampling on another vessel.

APPENDIX A - STATISTICAL SAMPLING DESIGN

The proposed approach is to estimate discarded catch separately from retained catch, rather than to estimate total catch directly. Such an approach takes advantage of the comprehensive shoreside monitoring of retained catch and allows focusing the limited observer coverage on situations that will provide the most information about discarded catch. As in all sampling programs, it will be advantageous to subdivide the data into categories that are expected to have different levels of the quantity being measured. For example, the shoreside monitoring of the species composition of the rockfish catch breaks the data into time (quarter), area (port), and gear type. A comparable approach in the observer program is necessary to fully understand discarding patterns. Unfortunately, the limited sampling effort available to implement such an approach leaves gaps in the coverage. An alternative approach is to use broader categories of time and area and to use estimated discard relationships, rather than simple average discard, within each category.

The cumulative vessel limits used to control the rate of catch in the groundfish fishery lead us to expect a discard relationship in which discarding increases as the remaining limit for the species decreases, and increases as the total effort directed at the assemblage containing that species increases (Figure 1). If there was nearly 100% observer coverage, it would be possible to simply calculate a new estimate of discard each time the trip limits used to control the fishery were changed. However, the expected level of observer coverage is much lower (approximately 10-20%), so calculation of average discard within each stratum would be highly variable due to the highly variable discard levels on a tow-by-tow, trip-by-trip, and vessel-by-vessel basis. Therefore, direct estimates of average fleetwide discard levels may not be the best approach, especially when the level of coverage is low.

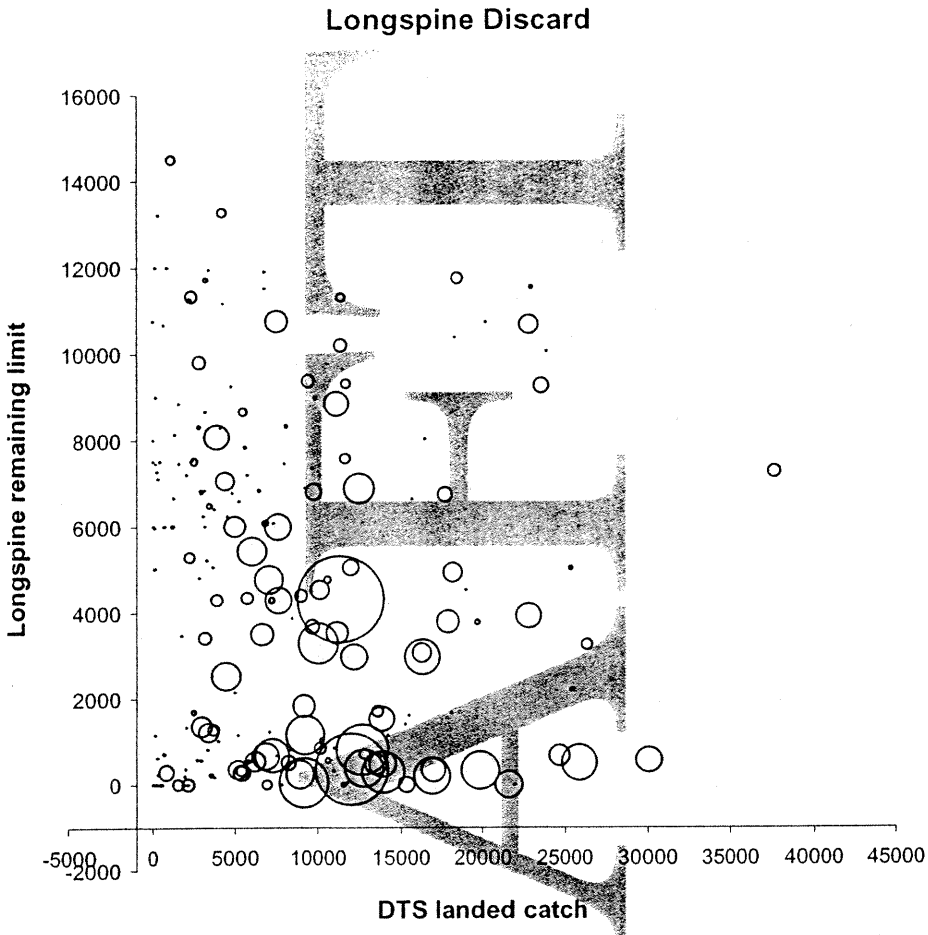


Figure 1 Longspine thornyhead discard(size of bubble) presented in relation to the vessel's remaining limit for longspine at the completion of that trip and in relation to the total landed catch of all DTS species for that trip.

A feasible alternative is to use the atsea and shoreside fishery data to calibrate a statistical relationship that can then be used to calculate expected discard levels over a range of conditions. Such an approach was piloted in the first analysis of observer data from the EDCP. The relationship (model) allows interpolation and some extrapolation of discard information even when limits change, so will provide more timely estimates of discard rates. The discard model can also reduce potential bias in the estimates by adjusting for any non-proportional sampling of trips that are close to cumulative limits. Since landings and remaining limit can be calculated for

each trip in the fish ticket database, the predictive model could be used to predict discards for the unobserved trips, thus adjusting for any tendency for the unobserved trips to have a higher or lower occurrence of trips near the cumulative limits.

The key is to collect discard over a wide range of conditions, use these data to calibrate a statistical relationship, then apply this relationship to all fishing effort within the sampled segment of the fishery. Such an approach is tailored to the estimation of discard for trip-limited species. It has also proven useful in the analysis of halibut discard. There it was found that the catch of arrowtooth flounder helped predict the average level of halibut bycatch. Early in the program the statistical relationships will necessarily be simple and it will be necessary to pool information across very broad strata. As data accumulate, it will be possible to improve the estimates by including geographic, seasonal, target species, and other factors in the discard model. Such an approach will also provide flexibility to use alternative sources of bycatch and discard information. Enhanced logbooks for self-reporting of discard and sealed video systems are among the possible methods that could augment the data collected by observers.

Coverage Plan

The level of precision obtained from a given level of coverage depends upon two factors: (1) the number of time, area, and gear categories that have different discard levels; and (2) the level of tow-to-tow and vessel-to-vessel variability in discard within each category. The first factor causes us to need to spread the observer coverage out among all ports and fishing strategies to cover the breadth of potential discard situations. The second factor causes us to need a reasonably high level of coverage within each time, area, gear category. These are conflicting factors and we cannot know how they will balance out until we have accumulated substantial amounts of observer data.

The initial observer deployment will be targeted to achieve a broad level of coverage in the coastwide limited entry trawl fleet and will begin to collect preliminary data from non-trawl

sectors, particularly the limited entry fixed gear sablefish fishery and the limited-entry hook&line fishery for rockfish. This plan will build upon earlier observer projects which provide some information on discard by trawlers off Oregon and Washington and will lay the groundwork for coverage of non-trawl sectors. Approximately 75% of the observer effort in the first year will be targeted on the coastwide trawl coverage, and 25% will be used for pilot coverages of the non-trawl sablefish fishery and the hook&line rockfish fishery.

The coverage plan is based upon having approximately 20 observers. It is assumed that these

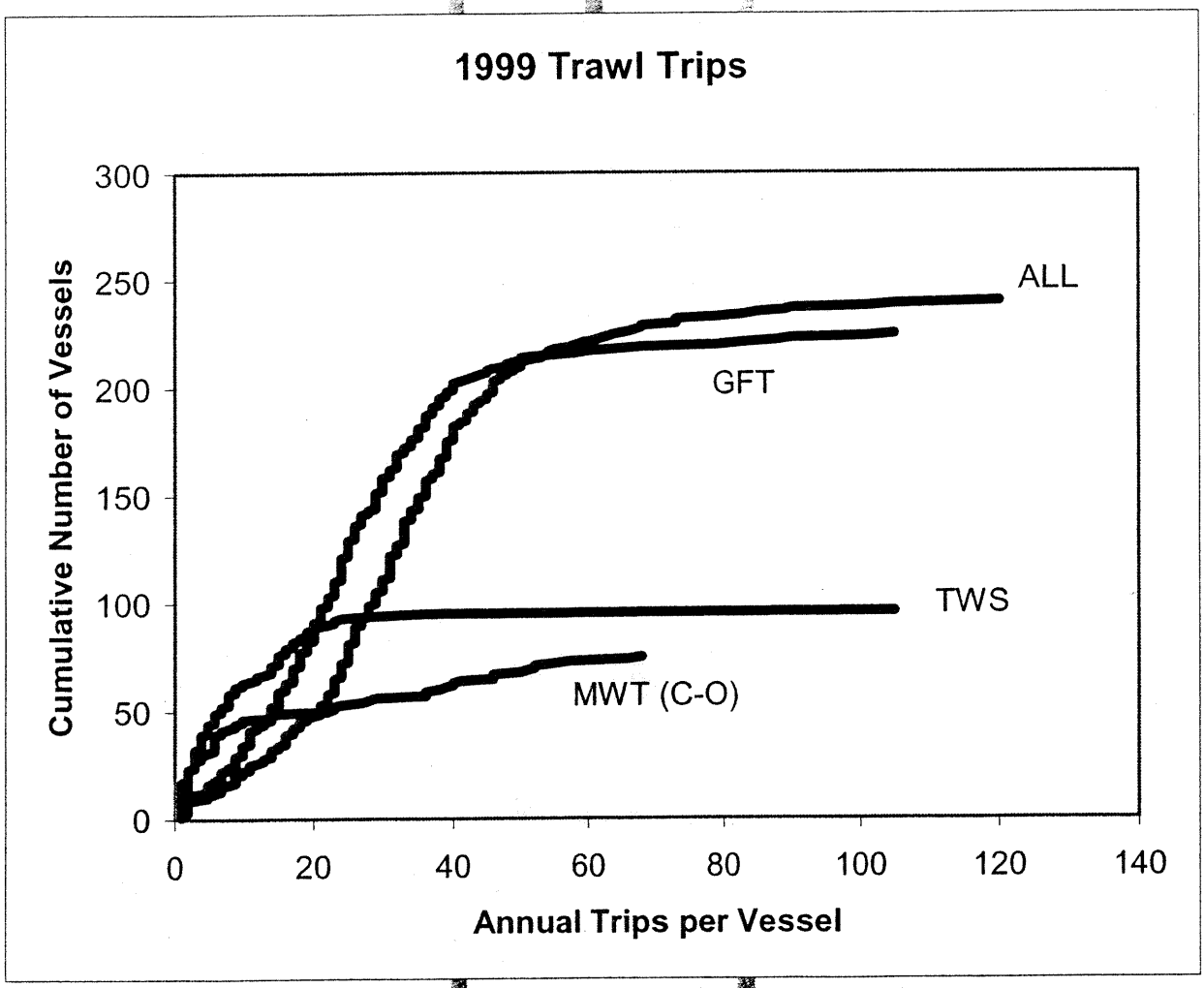


Figure 2 Cumulative distribution of number of trawl trips per vessel in 1999. Shown are the midwater trawl trips in Oregon asnC alifornia (MWT), the shrimp trawl trips by limited entry trawlers (TWS), the groundfish trawl trips (GFT) and all trips.

Table 1. Distribution by port of limited entry trawl effort in 1999, and proposed distribution of observer deployment sites.

POTENTIAL OBSERVER COVERAGE - BROADLY DISTRIBUTED OPTION
BASED ON ALL TRAWL TRIPS AND CATCH IN 1999

		ALL TRAWL TRIPS IN 1999			NON-WHITING CATCH IN 1999			OBSERVERS		% TRIPS COVERED
AGID	LAT-PORT	N	%	CUM. %	SUM	%	CUM. %	N	CUM. %	@ 36 TRIPS/YR/OBSER
C	344-SB	113	1.4%	1.4%	0.4	0.0%	0.0%		0%	
	344-VEN	32	0.4%	1.8%	1.9	0.0%	0.0%		0%	
	351-AVL	91	1.1%	3.0%	419.4	1.2%	1.2%		0%	
	353-MRO	130	1.6%	4.6%	468.4	1.3%	2.6%	1	5%	10%
	366-MNT	123	1.5%	6.1%	667.5	1.9%	4.5%	1	10%	
	367-MOS	172	2.2%	8.3%	573.1	1.6%	6.1%		10%	
	369-CRZ	155	1.9%	10.2%	154.2	0.4%	6.6%		10%	8%
	370-PRN	494	6.2%	16.4%	748.2	2.2%	8.7%	1	15%	
	376-ALM	1	0.0%	16.5%	5.0	0.0%	8.7%		15%	
	376-OSF	1	0.0%	16.5%	0.1	0.0%	8.7%		15%	
	376-SF	286	3.6%	20.1%	831.3	2.4%	11.1%	1	20%	9%
	382-BDG	109	1.4%	21.4%	603.4	1.7%	12.9%		20%	
	393-ALB	1	0.0%	21.4%	0.2	0.0%	12.9%		20%	
	394-BRG	418	5.2%	26.7%	2127.8	6.1%	19.0%	1	25%	
	394-OMD	1	0.0%	26.7%	0.0	0.0%	19.0%		25%	7%
	408-ERK	400	5.0%	31.7%	1548.4	4.5%	23.5%	2	35%	
	408-FLN	354	4.4%	36.2%	1270.3	3.7%	27.1%		35%	10%
	417-CRS	660	8.3%	44.4%	1644.2	4.7%	31.8%	2	45%	11%
				44.4%			31.8%		45%	
O	422-BRK	311	3.9%	48.3%	1095.6	3.2%	35.0%	1	50%	12%
	433-COS	957	12.0%	60.3%	4319.5	12.4%	47.4%	2	60%	
	439-FLR	11	0.1%	60.5%	21.5	0.1%	47.5%		60%	7%
	448-NEW	1061	13.3%	73.8%	3715.1	10.7%	58.2%	2	70%	7%
	455-TLL	10	0.1%	73.9%	9.6	0.0%	58.2%		70%	
	461-AST	1388	17.4%	91.3%	7884.0	22.7%	80.9%	3	85%	8%
				91.3%			80.9%		85%	
W	463-LWC	76	1.0%	92.3%	558.0	1.6%	82.5%		85%	
	464-WPT	244	3.1%	95.4%	1117.6	3.2%	85.7%	1	90%	
	465-GRH	2	0.0%	95.4%	12.0	0.0%	85.8%		90%	11%
	480-NEA	231	2.9%	98.3%	1183.2	3.4%	89.2%	1	95%	
	480-PAG	5	0.1%	98.3%	11.9	0.0%	89.2%		95%	15%
	481-BLL	113	1.4%	99.8%	2974.9	8.6%	97.8%	1	100%	
	481-BLN	19	0.2%	100.0%	780.0	2.2%	100.0%		100%	27%
	TOTAL	7969			34747			20		9%

observers will be able to make approximately three trips per month on limited entry trawlers, and that they will be able to make approximately one additional trip per month in a pilot effort on non-trawl and open access gears. In 1999, approximately 200 trawlers made less than 40 trips in the year (Figure 2). Given the level and coastwide distribution of trawl effort in 1999, it appears feasible to achieve at least a 9% coverage of trawl effort (see Table 1). With 20 trawl vessels covered at a time and each vessel covered throughout a two month period, it will take approximately two years to cover, on average, all the trawl vessels once.

Tossed at sea

Fish stocks can't be managed effectively without knowing how much of the catch is thrown back.

Once a fishing quota is reached, and when fish are undersized or lacking commercial value, they are tossed overboard - often injured or dead.

Without data on these discarded fish and other marine species, known as bycatch, it is impossible to manage the resource responsibly. An observer program would help managers determine how often the following happens:

PMCC recently received a call from a fisherman who witnessed the at-sea dumping of 8,000 - 10,000 lbs of prized rockfish in only a few minutes.

Read on and act now.

Why is a fisheries observer program essential?

Basic scientific information is not available for most of the 83 groundfish species fished along the West Coast.

Fisheries observers are trained professionals who go to sea and collect valuable scientific information about the vessel's catch. This objective information is analyzed and used in management recommendations for a fishery.

The 40 year old West Coast groundfish fishery has never had a mandatory fisheries observer program. Even most developing countries have observers aboard their fishing vessels.

Without total catch information, the fisheries crisis continues.

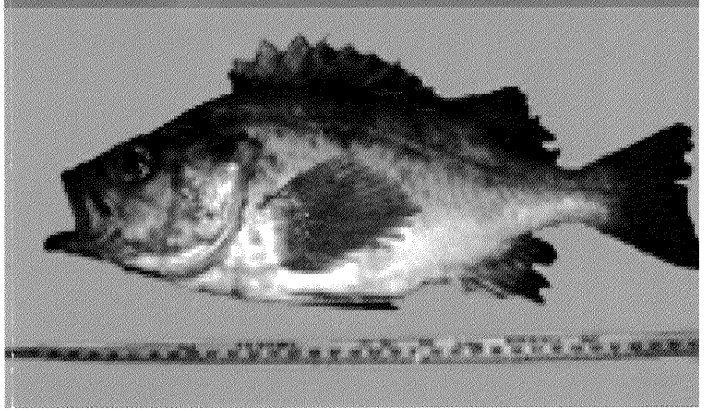
Pacific Marine Conservation Council

Pacific Marine Conservation Council is a nonprofit, public benefit corporation with offices in Astoria, OR and Arcata, CA. The Board of Directors includes commercial and sport fishermen, leading marine scientists, environmentalists, and an environmental attorney, representing coastal communities from Seattle, WA to Santa Barbara, CA.

Exhibit F8.c

Guess not!

You can help take the guesswork out of fisheries management



Darkblotched rockfish, added to the overfished list in January 2001.
Photo by Keith Bosley, NMFS

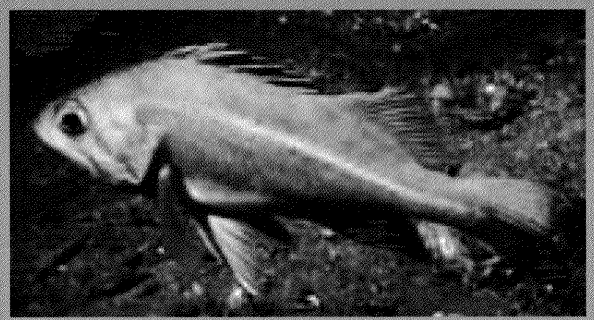
Take two minutes to find out why you should support a

West Coast fisheries observer program

Fisheries in crisis

In January 2000, the Secretary of Commerce declared the West Coast groundfish fishery a federal disaster. Fish and fishing communities are suffering. Fish populations are declining at an alarming rate - since 1997 seven commercially important groundfish species have been listed as 'overfished'. Ironically, fishery managers are forced to make crucial decisions affecting fish stocks and fishermen without knowing how many fish are caught!

A mandatory fisheries observer program is needed NOW.



A canary rockfish, one of the seven West Coast groundfish species listed as overfished by the National Marine Fisheries Service.

Photo by Mark Hixon, Oregon State University

PMCC supports mandatory observer coverage on all West Coast fleets, including charter boats.

"The fact is an observer program that was mandatory would lead to a healthier fishery, both for fixed gear and trawlers. It would benefit all user groups." *- John Crowley, Longliner, Seattle*

Fishing regulations are implemented based on information provided by processing plants and trawl vessel logbooks. A huge piece of the pie is missing! Without data on the total catch, including bycatch, and where it came from, fish and fishing communities suffer.

You can help!

Your participation makes a big difference.

Call the Capitol switchboard today:

(202) 224-3121

Ask to speak to your congressional representative, and voice your support for a West Coast groundfish observer program.

To learn more, call PMCC at (503) 325-8188 and join the swelling tide of people who care about sustainable fisheries.

Fishermen, scientists and conservationists know that many species are in decline, but don't have the data to prove it.

The most important thing we need to stop the decline is data from an observer program.

The data from a well designed fisheries observer program for the West Coast could make the difference between fishing sustainability and collapse of the groundfish fishery.

"To survive, marine ecosystems and fishing communities need a transition to sustainability".
- Bob Eaton, Executive Director, PMCC

Pacific Marine Conservation Council

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PO Box 59
Astoria OR 97103

Tel: (503) 325-8188
Fax: (503) 325-9681
Info@pmcc.org, www.pmcc.org

Contacts:
Caroline Gibson,
Communications Coordinator
Peter Huhtala,
Campaign Coordinator

Exhibit F.8
Situation Summary
April 2001

OBSERVER PROGRAM

Situation: National Marine Fisheries Service (NMFS) will provide an update on implementation of the observer program for the groundfish fishery. At the March Council meeting, NMFS staff expressed concern the program might be delayed due to the federal hiring freeze.

Council Action: Council discussion.

Reference Materials: None.

Groundfish Fishery Strategic Plan Consistency Analysis

The Groundfish Strategic Plan envisions an observer program as part of a comprehensive data collection program, including bycatch and discard.

PFMC
03/19/01

Exhibit F.9
GMT Report
April 2001

Groundfish Management Discussion Paper on "Full Retention" of Groundfish Species

The GMT is concerned there may be sufficient uncertainty in our current estimates of total fishing mortality to compromise rebuilding efforts. This is especially important, because the small harvest targets required by some of the current rockfish rebuilding plans may be creating incentives for fishers not to land even their legal catches. In order to better quantify total mortality, the GMT believes the Council should consider exploring mandatory retention of all shelf and slope rockfish caught by commercial fishers. Such a program provides more meaningful results than a program to voluntarily land trip limit overages.

The GMT discussed some of the pros and cons of such a measure. Among the benefits identified from such a management measure are:

- Mortality is nearly 100% for rockfish caught in trawl gear or with line gear from any significant depth. Therefore, if fishing practices remained consistent, overall mortality would not be increased by a mandatory full retention program. The value would be captured for dead fish which would otherwise be discarded. Since capture mortality is less than 100% for shallow-water rockfish taken with line or trap gear, nearshore species (or fisheries) could be excluded from the mandatory landing requirement.

- Rockfish mortality would be directly enumerated rather than estimated.

- Most rockfish are marketable. Focusing a full retention program on rockfish avoids the problem of requiring the landing of large amounts of unmarketable fish which could occur with other species. While some rockfish are discarded due to size (i.e., too small to be sold), rather than because the trip limit has been exceeded, the GMT has received informal information indicating this amount is likely small. Additionally, analysis conducted by Dr. Erik Williams points out the importance of identifying any difference between the size of retained and discarded rockfish.

- If our current estimate of discard mortality of 16% is reasonable, it would not appear markets would be greatly affected if landings were to be increased by an amount of this general magnitude.

- Revenues generated by the landing of overages could be channeled into the at-sea monitoring efforts necessary to ensure compliance with a mandatory landing requirement.

- Statistical comparison between the fleet as a whole and the pending observer program would provided an indirect measure of compliance with a mandatory retention program.

Among the negatives of a mandatory program are:

- Substantial at-sea monitoring may be required to ensure compliance.

- Overall rockfish harvest rates could accelerate since fishers could fish right up to trip limit allowances with no penalty.

- Fishers might be financially disadvantaged if they were required to use hold space to retain and deliver an overage without value which would otherwise have been used for marketable catch.

If the Council agrees that mandatory full retention for rockfish is a reasonable management option, the GMT will continue to explore the issue among itself and with industry and report back to the Council in June.

PFMC
03/19/01

Exhibit F. 9
Situation Summary
April 2001

BYCATCH FULL RETENTION OPTIONS

Situation: At its February 2001 meeting, the Groundfish Management Team (GMT) discussed the ongoing dilemma about unmeasured bycatch and discard rates of groundfish, in particular overfished stocks. The GMT is growing more and more concerned about the inability to know whether we are achieving the harvest levels required by the rebuilding plans. With respect to canary rockfish in particular, the GMT believes there is a great incentive for fishers not to retain canary rockfish out of fear the optimum yield will be reached early and the fishery closed. This situation will worsen as the stock rebuilds, because it is likely canary rockfish will become harder to avoid. As a step towards resolving this dilemma, the GMT would like the Council to consider requiring full retention of rockfish, or at least slope and shelf rockfish species, by commercial fishers.

The Council has discussed methods to reduce discard several times in the past, and recommended implementation of a program that would allow fishers to voluntarily retain trip limit overages and forfeit the value to a research fund. Implementation of that program has been forestalled by workload issues, reduced harvest levels, and unresolved problems with the proposal. The GMT has prepared a discussion paper and requests guidance from the Council on whether to proceed with development of a mandatory program to increase retention and reduce discard. Although there would likely be enforcement concerns that some vessel operators would continue to discard, the GMT believes it is fundamentally better to require fishers to retain accidental catch of rockfish rather than requiring them to throw it away. This move towards individual accountability may be part of a larger program to provide incentives for cleaner fishing operations. The pending observer program can provide a level of verification regarding compliance with the retention program.

Council Action: Council discussion and guidance to GMT and/or others.

Reference Materials:

1. GMT Discussion Paper on Increased Retention of Rockfish by Commercial Fishers (Exhibit F.9, GMT Report)

Groundfish Fishery Strategic Plan Consistency Analysis

The Strategic Plan addresses bycatch reduction and enumeration, individual and sector accountability for bycatch and other impacts, and establishment of incentives for fishers to operate in ways that are consistent with management goals and objectives. The Plan envisions adoption of regulations that are more easily enforced and data collection for accurate assessment of the effects of management on groundfish stocks and fishery participants. The Plan anticipates a full retention strategy may be considered when an effective observer program has been established.

PFMC
3/19/01

Exhibit F.9.c
Supplemental GAP Report
April 2001

GROUNDFISH ADVISORY SUBPANEL STATEMENT ON BYCATCH FULL RETENTION OPTIONS

The Groundfish Advisory Subpanel (GAP) met with the Groundfish Management Team (GMT) to review the GMT's proposal for full retention options for rockfish.

The GAP generally supports the concept of full retention, but notes there are many details that need to be worked out before any such proposal is made final. The GAP recommends a committee comprising appropriate members of the GAP and GMT be established to develop the proposal before the Council takes any final action.

Further, the GAP notes the Council has already approved establishment of a voluntary full retention program for all groundfish, which has not been acted upon by NMFS. The GAP recommends this program be unearthed from the Northwest Region office and reviewed before embarking on a new effort at full retention.

PFMC
04/04/01