HARVEST SPECIFICATIONS FOR 2009-2010 FISHERIES

The Council decided a schedule and process for developing an Environmental Impact Statement (EIS) to determine 2009-2010 groundfish harvest specifications (acceptable biological catches (ABCs) and optimum yields (OYs) for groundfish species and species complexes) and management measures at their June 2007 meeting (Agenda Item H.1.a, Attachment 1). That schedule and process calls for the Council to decide 2009 and 2010 groundfish harvest specifications, as well as a range of 2009-2010 management measures at this meeting. Last November, the Council adopted the 2009-2010 ABCs recommended by the Scientific and Statistical Committee (SSC) and a range of OYs for further analysis (Agenda Item H.1.a, Attachment 2). They also decided to consider revisions to adopted rebuilding plans for at least three of the seven west coast overfished groundfish species (canary rockfish, cowcod, and darkblotched rockfish) as recommended by the SSC (Agenda Item H.1.a, November 2007 SSC Report on Rebuilding Analyses).

The Council is tasked with deciding three actions related to EIS considerations this week: 1) preliminary adoption of revised rebuilding plans, including OYs and target rebuilding years, for canary rockfish, cowcod, and darkblotched rockfish; 2) adoption of final preferred 2009-2010 ABCs and OYs for the rest of the groundfish species and species complexes; and 3) adoption of a range of 2009-2010 groundfish management measure alternatives for analysis that are designed to stay within final preferred OYs. The first two actions are contemplated under this agenda item and the third action has been separated into two steps as Agenda Items H.5 and H.7 on Thursday and Saturday, respectively.

Tables 2-1a and 2-1b in Agenda Item H.1.a, Attachment 2, depict 2009-2010 ABCs and a range of OYs for all groundfish species and species complexes. The preliminary preferred OYs for most of the overfished rockfish and revised target rebuilding years for canary rockfish, cowcod, and darkblotched rockfish decided by the Council last November are provided in the far right columns in Tables 2-1a and 2-1b. Table 2-2 in Attachment 2 provides the scientific basis for each OY alternative. Table 2-3 and Figure 2-2 in Attachment 2 depict the trade-off between OY alternatives for overfished species versus the predicted duration of rebuilding from 2007 rebuilding analyses.

Rebuilding plans must meet the Magnuson-Stevens Fishery Conservation and Management Act mandate to rebuild overfished stocks in as short a time as possible, while taking into account the status and biology of the overfished species, the socioeconomic needs of west coast fishing communities, and the interaction of the overfished stocks within the marine ecosystem. Analyses of EIS alternatives are designed to demonstrate the short and long-term costs, benefits, and tradeoffs associated with alternative rebuilding plans.

The Council should consider the advice of the SSC, other Council advisors, and the public before deciding final preferred 2009-2010 OYs.

Council Action:

1. **Adopt Preliminary Revised Rebuilding Plans for At Least Three Overfished Species, including OYs for 2009-2010, a Harvest Strategy, and Target Rebuilding Time (T_{TARGET}).**
2. **Adopt Final Preferred 2009-2010 ABCs and OYs for All Other Appropriate Groundfish Species and Species Complexes.**

Reference Materials:

1. Agenda Item H.1.a, Attachment 1: Pacific Fishery Management Council and National Marine Fisheries Service Schedule and Process for Developing 2009-2010 Groundfish Harvest Specifications and Management Measures.
2. Agenda Item H.1.a, Attachment 2: Tables and Graphics Relevant to Deciding 2009-2010 Groundfish Harvest Specifications.
3. Agenda Item H.1.a, November 2007 SSC Report on Rebuilding Analyses: Scientific and Statistical Committee Report on Rebuilding Analyses for 2009-2010 Groundfish Fisheries.

Agenda Order:

a. Agenda Item Overview — John DeVore
b. State, Tribal, and Federal Agency Recommendations
c. Reports and Comments of Advisory Bodies
d. Public Comments
e. **Council Action**: Adopt Final Preferred Acceptable Biological Catches (ABCs) and Optimum Yields (OYs), and Preliminary Revised Rebuilding Plans for Overfished Species

PFMC
03/21/08

PACIFIC FISHERY MANAGEMENT COUNCIL AND NATIONAL MARINE FISHERIES SERVICE SCHEDULE AND PROCESS FOR DEVELOPING 2009-2010 GROUNDFISH HARVEST SPECIFICATIONS AND MANAGEMENT MEASURES

June 9-15, 2007	The Council and advisory bodies meet to adopt: 1. New stock assessments. 2. A schedule, process, and work plan for developing 2009-2010 groundfish harvest specifications and management measures.
September 10-14, 2007	The Council and advisory bodies meet to adopt new stock assessments.
September 21, 2007	Council staff files Notice of Intent (NOI) in the Federal Register to prepare either an Environmental Assessment (EA) or Environmental Impact Statement (EIS).
October 1-5, 2007	The Scientific and Statistical Committee (SSC) Groundfish Subcommittee and members of the Groundfish Management Team (GMT) and Groundfish Advisory Subpanel (GAP) meet to review any stock assessments recommended for further review by a 2007 Stock Assessment Review (STAR) Panel and/or the SSC as well as rebuilding analyses prepared for overfished species.
October 9-12, 2007	The GMT, Council staff, and Northwest Region (NWR) staff meet in Seattle, Washington to review new stock assessments and rebuilding analyses and draft a recommended range of 2009-2010 groundfish harvest specifications (acceptable biological catches [ABCs] and optimum yields [OYs]) and preliminary management measures.
November 5-9, 2007	The Council and advisory bodies meet in San Diego, California to adopt: 1. Remaining stock assessments and rebuilding analyses. 2. Updated observer data and proposed methodologies to model bycatch in trawl and fixed gear fisheries. 3. A range of preliminary 2009-2010 harvest specifications (ABCs and OYs) and, if possible, preferred OYs for some stocks and complexes. 4. Adopt, or give guidance on, a preliminary range of management measures, including initial allocations.

November 13, 2007-March 19, 2008	The GMT, Council staff, NWR staff, and agency staff develop: 1. Impact analyses of proposed management measure alternatives. 2. An outline of the preliminary draft National Environmental Policy Act (NEPA) document. 3. Assignments and a schedule for preparing the NEPA document.
November 13, 2007-April 5, 2008	Opportunity for state and tribal agencies to hold constituent meetings to obtain input on final ABCs and OYs and refinement of the range of management measures.
March 19, 2008	Council staff or NWR staff provides alternatives analysis (and other key components of a preliminary NEPA document) for the April briefing book.
April 6-11, 2008	Council and advisory bodies meet to: 1. Adopt final 2009-2010 harvest specifications (ABCs and OYs). 2. Adopt a range of refined management measures and, if possible, a tentative preferred alternative of management measures.
April 12, 2008-June 7, 2008	Opportunity for state and tribal agencies to hold constituent meetings to obtain input on a final preferred alternative of management measures.
May 21, 2008	Council staff or NWR staff delivers the preliminary NEPA document with a final range of alternatives (not necessarily including the preferred alternative) for the June briefing book and distributes a pre-submission review copy to NMFS Headquarters (HQ).
June 8-13, 2008	Council and advisory bodies meet to take final action on the 2009-2010 groundfish management measures.

The regulatory process after the final Council decision depends on the category of NEPA regulatory document (EA, EIS, or EIA [Environmental Impact Assessment]) and the degree of completeness of the draft NEPA document in the June briefing book. The regulatory process also depends on whether the Council adopts a Fishery Management Plan (FMP) amendment as part of its 2009-2010 recommendations. The following schedule presumes an EIS document, a highly refined analysis at the June briefing book stage that also contains a preferred alternative, and no substantial deviation from that preferred alternative at the June Council meeting. Absent these conditions, an EIS schedule would be delayed one to two months and result in the regulations not being in place until about March 1. The following schedule also presumes an FMP amendment would be needed to update at overfished species rebuilding parameters for at least one overfished species.

June 27, 2008	Draft Environmental Impact Statement (DEIS) proof and edit begins.
July 18, 2008	DEIS sent by Council staff or NWR staff to NMFS HQ.

July 21, 2008	DEIS received by NMFS HQ.
July 25, 2008	DEIS submitted to Environmental Protection Agency (EPA).
July 28, 2008	EPA publishes Notice of Availability (NOA), 45-day public comment period on DEIS begins.
August 10, 2008	PFMC transmits Amendment 16-5. NWR transmits proposed rule to HQ.
August 17, 2008	Notice of Availability (NOA) for Amendment 16-5 publishes – 60 day comment period.
September 14, 2008	Proposed rule is published; public comment period to end on same day as NOA comment period end date – 10/16/08.
September 12, 2008	45-day public comment period on DEIS ends.
September 30, 2008	Final Environmental Impact Statement (FEIS) sent to HQ.
October 2, 2008	FEIS received by NMFS HQ. NWR meets with regional General Counsel to plan response to comments on proposed rule.
October 6, 2008	FEIS submitted to EPA.
October 13, 2008	EPA publishes NOA; 30-day cooling off period begins.
October 16, 2008	Proposed rule and NOA commend period ends.
November 12, 2008	NWR transmits final rule package to HQ.
November 12, 2008	30-day cooling off period on FEIS ends.
November 13, 2008	Record of Decision signed and Amendment 16-5 approved no earlier than this date.
November 29, 2008	Final rule published; 30-day Administrative Procedures Act (APA) cooling off period begins.
December 29, 2008	APA cooling off period ends.
January 1, 2009	Groundfish fishery begins under adopted specifications and management measures.

PFMC
03/21/08

Tables and Graphics Relevant to Deciding 2009-2010 Groundfish Harvest Specifications

Table 2-1a. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009, including preliminary preferred alternatives.

Table 2-1b. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010, including preliminary preferred alternatives.

Table 2-2. Basis for the preliminary 2009-2010 optimum yield alternatives recommended by the PFMC for analysis.

Table 2-3. Estimated time to rebuild relative to alternative 2009-2010 OYs for overfished West Coast groundfish species.

Figure 2-2. 2009 optimum yields (mt) vs. predicted rebuilding times for overfished species.

TABLE 2-1a. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2009 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Lingcod - coastwide b/	6,706	5,853		5,278	4,829							
N of 42º (OR & WA)			5,558			4,593	4,593					
S of 42º (CA)			612			612	685					
Pacific Cod	3,200	3,200	1,600	3,200	3,200	1,600						
Pacific Whiting (U.S.)	612,068 (2007 U.S. & Can.)	To be determined in March 2008	242,591 (2007)	To be determined in March 2009	To be determined in March 2010	121,296	242,591	363,887				
Sablefish (Coastwide)	6,210	6,058	5,934	9,914	9,217	9,795	8,423	6,250				
N of 36º (Monterey north)			5,723			9,452	7,052	5,233				
S of 36º (Conception area)			210			343	1,371	1,018				
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	130	164	189			189
Shortbelly Rockfish	13,900	13,900	13,900	6,950	6,950	3,475	6,950	13,900				
WIDOW ROCKFISH	5,334	5,144	368	7,728	6,937	0	371	522				371
CANARY ROCKFISH	172	179	44	937	940	0	35	44	85	105	155	Ttarget=2021
Chilipepper Rockfish	2,700	2,700	2,000	3,037	2,576	2,000	2,099	3,037				
BOCACCIO	602	618	218	793	793	0	218	288				218
Splitnose Rockfish	615	615	461	615	615	461						
Yellowtail Rockfish	4,585	4,510	4,548	4,562	4,562	4,562						
Shortspine Thornyhead - coastwide	2,488	2,463		2,437	2,411							
Shortspine Thornyhead - N of 34º27'			1,634			1,608						
Shortspine Thornyhead - S of 34º27'			421			414						
Longspine Thornyhead - coastwide	3,953	3,860		3,766	3,671							
Longspine Thornyhead - N of 34º27'			2,220			2,231						
Longspine Thornyhead - S of 34º27'			476			395						
COWCOD	36	36	4	13	14	0	2	4				2 Ttarget=2065
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	159	229	300			Ttarget=2030
YELLOWEYE	47	47	Ramp-down c/	31	32	0	13	17	15			17
Black Rockfish (WA)	540	540	540	490	464	490						
Black Rockfish (OR-CA)	725	719	722	1,469	1,317	920	1000	1,469				

TABLE 2-1a (continued). Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2009 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Blue Rockfish (CA)	Managed under the Minor Nearshore Rockfish complexes			241	**239**	Managed under minor nearshore rockfish complexes		207	230			
Minor Rockfish North	3,680	3,680	2,270	3,678	3,678	2,280	2,283					
Nearshore Species			142			152	155					
Blue rockfish contribution				28	28	25	28					
Shelf Species			968			968						
Slope Species			1,160			1,160						
Minor Rockfish South	3,403		1,904	3,384	3,382	1,970	1,990					
Nearshore Species			564			630	650					
Blue rockfish contribution				213	211	182	202					
Shelf Species			714			714						
Slope Species			626			626						
California scorpionfish	236	202	175	175	155	111	175					
Cabezon (off CA only)	94	94	69	106	111	69	74	69				
Dover Sole	28,522	28,442	16,500	29,453	28,582	16,500						
English Sole	6,773	5,701	6,237	14,326	9,745	14,326						
Petrale Sole (coastwide) b/	2,917	2,919	2,499	2,811	2,751	2,433						
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	11,267					
Starry Flounder	1,221	1,221	890	1,509	1,578	1,004						
Other Flatfish	6,731	6,731	4,884	6,731	6,731	4,884						
Other Fish	14,600	14,600	7,300	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	901	1,349	3,428				
Kelp Greenling HG (OR)			OR HG			OR HG						

a/ The Council elected to average OY projections for 2007 and 2008. ABCs are year-specific.

b/ Area OYs/HGs are stratified according to the assessment areas and alternatively adjusted by management areas for lingcod and petrale sole.

c/ The yelloweye ramp-down strategy ramps the harvest rate down from the status quo harvest rate and resumes a constant harvest rate strategy in 2011. The 2007-2010 OYs are 23 mt, 20 mt, 17 mt, and 14 mt, respectively under the ramp-down strategy.

TABLE 2-1b. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2010 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Lingcod - coastwide b/	6,706	5,853		5,278	4,829							
N of 42º (OR & WA)			5,558			4,173	4,173					
S of 42º (CA)			612			612	656					
Pacific Cod	3,200	3,200	1,600	3,200	3,200	1,600						
Pacific Whiting (U.S.)	612,068 (2007 U.S. & Can.)	To be determined in March 2008	242,591 (2007)	To be determined in March 2009	To be determined in March 2010	121,296	242,591	363,887				
Sablefish (Coastwide)	6,210	6,058	5,934	9,914	9,217	8,988	7,729	5,777				
N of 36º (Monterey north)			5,723			8,673	6,471	4,837				
S of 36º (Conception area)			210			315	1,258	941				
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	137	173	200			200
Shortbelly Rockfish	13,900	13,900	13,900	6,950	6,950	3,475	6,950	13,900				
WIDOW ROCKFISH	5,334	5,144	368	7,728	6,937	0	362	509				371
CANARY ROCKFISH	172	179	44	937	940	0	35	44	85	105	155	Ttarget=2021
Chilipepper Rockfish	2,700	2,700	2,000	3,037	2,576	2,000	2,099	2,576				
BOCACCIO	602	618	218	793	793	0	227	302				227
Splitnose Rockfish	615	615	461	615	615	461						
Yellowtail Rockfish	4,585	4,510	4,548	4,562	4,562	4,562						
Shortspine Thornyhead - coastwide	2,488	2,463		2,437	2,411							
Shortspine Thornyhead - N of 34º27'			1,634			1,591						
Shortspine Thornyhead - S of 34º27'			421			410						
Longspine Thornyhead - coastwide	3,953	3,860		3,766	3,671							
Longspine Thornyhead - N of 34º27'			2,220			2,175						
Longspine Thornyhead - S of 34º27'			476			385						
COWCOD	36	36	4	13	14	0	2	4				2 Ttarget=2065
S of 36º (Conception area)	17	17										
N of 36º (Monterey area)	19	19										
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	165	235	306			Ttarget=2030
YELLOWEYE	47	47	Ramp-down c/	31	32	0	14	14	15			14
Black Rockfish (WA)	540	540	540	490	464	464						
Black Rockfish (OR-CA)	725	719	722	1,454	1,303	831	1000	1,317				

TABLE 2-1b (continued). Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2010 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Blue Rockfish (CA)	Managed under the Minor Nearshore Rockfish complexes			**241**	**239**	Managed under minor nearshore rockfish complexes		207	230			
Minor Rockfish North	3,680	3,680	2,270	3,678	3,678	2,280	2,283					
Nearshore Species			142			152	155					
Blue rockfish contribution				28	28	25	28					
Shelf Species			968			968						
Slope Species			1,160			1,160						
Minor Rockfish South	3,403		1,904	3,384	3,382	1,970	1,990					
Nearshore Species			564			630	650					
Blue rockfish contribution				213	211	182	202					
Shelf Species			714			714						
Slope Species			626			626						
California scorpionfish	236	202	175	175	155	99	155					
Cabezon (off CA only)	94	94	69	106	111	69	74	79				
Dover Sole	28,522	28,442	16,500	29,453	28,582	16,500						
English Sole	6,773	5,701	6,237	14,326	9,745	9,745						
Petrale Sole (coastwide) b/	2,917	2,919	2,499	2,811	2,751	2,393						
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	10,112					
Starry Flounder	1,221	1,221	890	1,509	1,578	1,077						
Other Flatfish	6,731	6,731	4,884	6,731	6,731	4,884						
Other Fish	14,600	14,600	7,300	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	902	1,349	3,269				
Kelp Greenling HG (OR)												

a/ The Council elected to average OY projections for 2007 and 2008. ABCs are year-specific.

b/ Area OYs/HGs are stratified according to the assessment areas and alternatively adjusted by management areas for lingcod and petrale sole.

c/ The yelloweye ramp-down strategy ramps the harvest rate down from the status quo harvest rate and resumes a constant harvest rate strategy in 2011. The 2007-2010 OYs are 23 mt, 20 mt, 17 mt, and 14 mt, respectively under the ramp-down strategy.

TABLE 2-2. Basis for the DRAFT 2009-2010 optimum yield alternatives recommended by the PFMC for analysis.

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Lingcod - coastwide						
N of 42º (OR & WA)	Adjusted the projected OY from the 2005 assessment for N of 43 deg (Col. and U.S.-Van areas) as follows: derived the percentage of the 2005-06 OY estimated for the area between 42 and 43 deg. (107 mt/719 mt) and applied this proportion to the estimated OY S of 43 deg. to determine an estimated OY for the area between 42 and 43 deg. This was added to the projected OY for N of 43 deg. to determine an appropriate OY for N of 42 deg	Adjusted the projected OY from the 2005 assessment for N of 43 deg (Col. and U.S.-Van areas) as follows: derived the percentage of the 2005-06 OY estimated for the area between 42 and 43 deg. (107 mt/719 mt) and applied this proportion to the estimated OY S of 43 deg. to determine an estimated OY for the area between 42 and 43 deg. This was added to the projected OY for N of 43 deg. to determine an appropriate OY for N of 42 deg				
S of 42º (CA)	Status quo	Adjusted the projected OY for S of 43 deg (Col. and U.S.-Van areas) as follows: derived the percentage of the 2005-06 OY estimated for the area between 42 and 43 deg. (107 mt/719 mt) and applied this proportion to the estimated OY S of 43 deg. to determine an estimated OY for the area between 42 and 43 deg. This was subtracted from the projected ave. 2009-10 OY for S of 43 deg. to determine an appropriate OY for S of 42 deg				
Pacific Cod	Status quo					
Pacific Whiting (U.S.)	50% of 2007 U.S. OY	2007 U.S. OY	150% of 2007 U.S. OY			
Sablefish (Coastwide)	From Schirripa 2007; Note: 2009-10 ave. OY > 2010 ABC	From Schirripa 2007 base model, based on the sum of South of Conception OY with 50% precautionary adjustment and North of Conception OY	From Schirripa 2007 low abundance model, based on the sum of South of Conception OY with 50% precautionary adjustment and North of Conception OY			
N of 36° (Monterey north)	96.5% of coastwide OY, which is the status quo apportionment.	72% of coastwide OY, which is the 2003-06 ave. proportion of the estimated swept-area biomass from the NWFSC shelf-slope survey	72% of coastwide OY, which is the 2003-06 ave. proportion of the estimated swept-area biomass from the NWFSC shelf-slope survey			
S of 36° (Conception area)	3.5% of coastwide OY, which is the status quo apportionment	28% of the base model coastwide OY (based on 2003-06 ave. biomass from the NWFSC shelf-slope survey) with a 50% precautionary adjustment due to assessment and survey uncertainty, and lack of access to fishing grounds in the CCA	28% of the low productivity model coastwide OY (based on 2003-06 ave. biomass from the NWFSC shelf-slope survey) with a 50% precautionary adjustment due to assessment and survey uncertainty, and lack of access to fishing grounds in the CCA			
PACIFIC OCEAN PERCH	T (@ F=0) = 2010	SPR = F90.3%; Ttarg = 2010; Pmax = 95.6%	**SPR = F88% (HR that produces the 0708 ave. OYs); Ttarg = 2011; Pmax = 95%**	Status quo SPR = F86.4%; Ttarg = 2011; Pmax = 94.4%		
Shortbelly Rockfish	25% of status quo ABC/OY; stock projected to rebuild	50% of status quo ABC/OY; stock projected to remain in equlibrium	Status quo ABC/OY; stock projected to decrease dramatically			
WIDOW ROCKFISH	T (@ F=0) = 2009	**SPR = F96.4% (HR that produces the 0708 ave. OYs); Ttarg = 2009; Pmax = 100%**	Status quo SPR = F95%; Ttarg = 2009; Pmax = 100%			
CANARY ROCKFISH	T (@ F=0) = 2019	SPR = F97.3%; Ttarg = 2020; Pmax = 75.0%	Status quo OY: SPR = F96.2%; Ttarg = 2020; Pmax = 75.0%	SPR = F93.6%; Ttarg = 2020; Pmax = 75.0%	SPR = F92.2%; Ttarg = 2020; Pmax = 75.0%	Status quo SPR = F88.7%; Ttarg = 2021; Pmax = 75%
Chilipepper Rockfish	Status quo OY specifically less than the ABC as an added precautionary mechanism for reducing bocaccio bycatch	Long-term equilibrium MSY at F50%				
BOCACCIO	T (@ F=0) = 2020	**SPR = F82.6% (HR that produces the 0708 ave. OYs); Ttarg = 2022; Pmax = x%**	Status quo SPR = F77.7%; Ttarg = 2023; Pmax = x%			

TABLE 2-2. Basis for the preliminary 2009-2010 optimum yield alternatives recommended by the PFMC for analysis (continued).

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Splitnose Rockfish	Status quo					
Yellowtail Rockfish	OY = ABC projected from 2005 assessment					
Shortspine Thornyhead - coastwide	No coastwide OY (status quo)					
Shortspine Thornyhead - N of 34º27'	OY = 66% of the projected coastwide ABC/OY since the 2005 assessment indicated 66% of the biomass occurs N. of Pt. Conception (status quo methodology)					
Shortspine Thornyhead - S of 34º27'	OY = 34% of the projected coastwide ABC/OY since the 2005 assessment indicated 34% of the biomass occurs S of Pt. Conception with an additional 50% precautionary reduction to account for the paucity of survey data S of Pt. Conception (status quo methodology)					
Longspine Thornyhead - coastwide	No coastwide OY (status quo)					
Longspine Thornyhead - N of 34º27'	Coastwide ABC/OY projected from the 2005 assessment was apportioned N & S of Pt. Conception as follows: Assumed constant density throughout the Conception area and estimated 79% of the assessed coastwide biomass occurs N of Pt. Conception, with a 25% precautionary reduction to account for relatively higher assessment uncertainty (status quo methodology).					
Longspine Thornyhead - S of 34º27'	Coastwide ABC/OY projected from the 2005 assessment was apportioned N & S of Pt. Conception as follows: Assumed constant density throughout the Conception area and estimated 21% of the assessed coastwide biomass occurs S of Pt. Conception, with a 50% precautionary reduction to account for relatively higher assessment uncertainty and a paucity of survey data for the Conception area (status quo methodology).					
COWCOD	T (@ F=0) = 2061; Pmax = 78.4%	**Status quo SPR = F90%; Ttarg = 2065; Pmax = 72.4%**	SPR = F82.1% (produces the 2007-08 OY); Ttarg = 2072; Pmax = 66.2%			
DARKBLOTCHED	T (@ F=0) = 2018	SPR = F75.6%; Ttarg = 2022; Pmax = 97.7%	SPR = F67.7%; Ttarg = 2025; Pmax = 91.0%	Status quo SPR = F67.7%; Ttarg = 2030; Pmax = 76.7%		
YELLOWEYE	T (@F=0) = 2049	Constant HR strategy; SPR = F71.9%; Ttarg = 2082; Pmax = 69.5%	**HR ramp-down strategy (2009 OY = 17 mt, SPR HR = F66.3%; 2010 OY = 14 mt, SPR HR = F71.3%); Ttarg = 2082; Pmax = 68.9%**	Constant HR strategy; SPR = F69.3%; Ttarg = 2090 (= Tmax); Pmax = 50%		
Black Rockfish (WA)	OY under the base model (M=0.16 males, M=0.24 females) with a 3% reduction to account for the portion of the stock estimated between Cape Falcon and the Columbia River.					
Black Rockfish (OR-CA)	OY under the STAR Panel endorsed model with the addition of the northern OY 3% reduction to account for the portion of the stock estimated between Cape Falcon and the Columbia River.	Constant catch scenario requested by the GMT;	OY under the medium productivity scenario (base case) with the addition of the northern OY 3% reduction to account for the portion of the stock estimated between Cape Falcon and the Columbia River.			

TABLE 2-2. Basis for the preliminary 2009-2010 optimum yield alternatives recommended by the PFMC for analysis (continued).

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Blue Rockfish (CA)	Managed under minor NS complexes		Represents 40:10 base case scenario plus 9 mt from 50% of the original 94-99 Pt Conception south contribution of blue rockfish to minor nearshore south ABC	Based on setting the OY equal to the ABC (high productivity model as constrained by the base model ABC) plus 9 mt from 50% of the original 94-99 Pt Conception south contribution of blue rockfish to minor nearshore south ABC		
Minor Rockfish North	Based on the increased blue rockfish contribution	Based on the increased blue rockfish contribution				
Nearshore Species	Based on revising the contribution of blue rockfish using the 40:10 base case scenario from the blue rockfish assessment	Based on revising the contribution of blue rockfish using the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Blue rockfish contribution	Based on the historical northern (42° to 40°10') proportion of blue rockfish applied to the 40:10 base case OY	Based on the historical northern (42° to 40°10') proportion of blue rockfish applied to the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Shelf Species	Status quo					
Slope Species	Status quo					
Minor Rockfish South	Based on increased blue rockfish contribution	Based on increased blue rockfish contribution				
Nearshore Species	Based on revising the original contribution of blue rockfish using the 40:10 base case scenario from the blue rockfish assessment	Based on revising the contribution of blue rockfish using the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Blue rockfish contribution	Based on the historical central (40°10' to 34°27') proportion of blue rockfish applied to the 40:10 base case OY	Based on the historical central (40°10' to 34°27') proportion of blue rockfish applied to the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Shelf Species	Status quo					
Slope Species	Status quo					
California scorpionfish	Based on the results of the 2005 assessment modified to incorporate CRFS monitoring data for the CPFV component	Status quo:Based on a value between 137 (2007-8 OY as modified by CRFS) and 219 (base model without CPFV modification)				
Cabezon (off CA only)	Status quo OY(average 2007-2008 projection) based on F50% harvest rate with a 60:20 adjustment from the 2005 assessment	Average OY from the 2005 Assessment for 2009-2010 based on F50% harvest rate with a 60:20 adjustment	Year-specific OY from the 2005 Assessment for 2009-2010 based on F50% harvest rate with a 60:20 adjustment			
Dover Sole	Equilibrium MSY under the proxy HR (SPR = F40%) from 2005 assessment					
English Sole	OY from base model					
Petrale Sole (coastwide)	Projected from 2005 assessment: sum of ave. 40:10 adjusted northern OYs and 75% of 40:10 adjusted southern OYs (75% precautionary adjustment for assessment uncertainty)					

TABLE 2-2. Basis for the preliminary 2009-2010 optimum yield alternatives recommended by the PFMC for analysis (continued).

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Arrowtooth Flounder	Equilibrium MSY under the proxy HR (SPR = F40%)	OY = ABC from base model; Note OY > 2010 ABC				
Other Fish	TBD	TBD	TBD			
Longnose Skate	Projected OY under the current estimated exploitation rate	OY based on a 50% increase in average landings and discard mortality relative to the base model	OY = ABC under the proxy SPR HR (F45%)			
Kelp Greenling HG (OR)	Status quo					

TABLE 2-3. Estimated time to rebuild relative to alternative 2009-2010 OYs for overfished West Coast groundfish species.

Species	Ttarget in the FMP	OY Alternative	Median Time to Rebuild	OYs (mt) 2009	OYs (mt) 2010	T @ F=0	Current Tmax	Re-estimated Tmax
Bocaccio	2026	1	2020	0	0	2020	2032	2033
(S of 40º10')		2	2022	218	227			
		3	2023	288	302			
			2026	468	482			
Canary	2063	1	2019	0	0	2019	2071	2035
		2	2020	35	35			
		3	2020	44	44			
			2020	55	55			
		4	2020	85	85			
			2020	95	95			
		5	2020	105	105			
		6	2021	155	155			
			2023	328	325			
			2035	637	623			
Cowcod	2039	1	2061	0	0	2061	2074	2098
		2	2065	2	2			
		3	2072	4	4			
			2080	6	7			
			2089	8	8			
Darkblotched	2011	1	2018	0	0	2018	2033	2040
		2	2022	159	165			
		3	2025	229	235			
		4	2030	300	306			
			2031	318	323			
			2040	385	390			
POP	2017	1	2010	0	0	2010	2043	2042
		2	2010	130	137			
		3	2011	164	173			
		4	2011	189	200			
			2012	565	589			
			2014	744	769			
			2017	971	992			
Widow	2015	1	2009	0	0	2009	2027	2023
		2	2009	371	362			
		3	2009	522	509			
			2009	4,338	4,051			
Yelloweye	2084	1	2049	0	0	2049	2096	2090
		2	2082	13	14			
		3	2082	Ramp-down a/				
		4	2090	15	15			

a/ 2009 and 2010 OYs under the harvest rate ramp-down strategy are 17 mt and 14 mt, respectively.

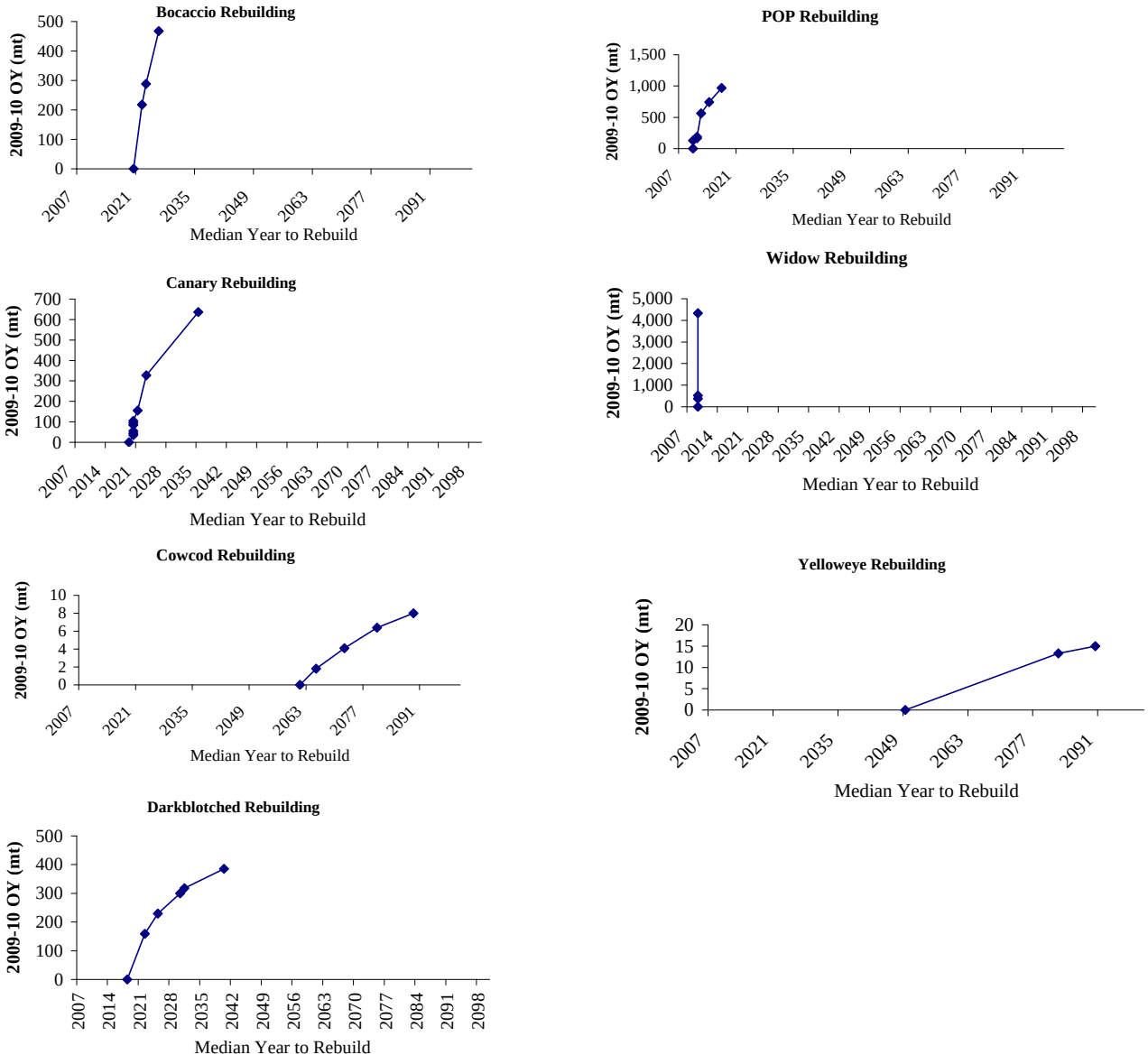

Figure 2-2. 2009 optimum yields (mt) vs. predicted rebuilding times for overfished species.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON REBUILDING ANALYSES FOR 2009-2010 GROUNDFISH FISHERIES (EXCERPTED FROM THE SSC'S NOVEMBER 2007 REPORT ON AGENDA ITEM D.3)

REBUILDING ANALYSES

The Groundfish Subcommittee of the SSC met October 3-4, 2007 at the Alaska Fisheries Science Center in Seattle to review seven rebuilding analyses that were recently completed for overfished rockfish stocks managed by the Council, *viz.* bocaccio, Pacific ocean perch (POP), cowcod, canary rockfish, yelloweye rockfish, widow rockfish, and darkblotched rockfish

Current rebuilding harvest rates (expressed as spawning potential per recruit [SPR]) and median times to rebuild (T_{target}) for the overfished stocks are directly linked to one another and individually they reflect specific decisions the Council has previously made concerning rebuilding in as short a time as possible, taking into account the appropriate factors from the Magnuson Act. Amendment 16-4 to the FMP adopted specific SPRs and T_{target} values for each stock. From a regulatory basis, maintaining stability in current harvest rates (SPRs) would be desirable, presuming there have been no fundamental changes in our perceptions about stock productivity.

The SSC, therefore, determined (a) whether cumulative catches during the period of rebuilding exceeded the cumulative OY that was available, (b) whether the biological parameters in the stock assessment had been revised to such an extent as to warrant a change in T_{target}, (c) whether the proper data and software were used in order to satisfy all technical requirements for accuracy, (d) whether progress towards rebuilding is deemed to be adequate, (e) whether there is discrepancy between the current T_{target} and the median time to rebuild under the currently adopted rebuilding harvest rate ($T_{rebuild}$), and if so, what a new maximum time to rebuild ($T_{max(new)}$) should be, given the National Standard 1 guidelines and, secondarily, if the currently adopted SPR harvest rate will likely rebuild the stock before this $T_{max(new)}$. The SSC assessed whether the biological parameters in the stock assessment had been revised to such an extent as to warrant a change in T_{target} and examined, for example, whether $T_{rebuild}$ is beyond the value of T_{max} in Amendment 16-4.

Table 1 summarizes the deliberations of the SSC in regard to issues (a) – (e). Based on this table, the SSC notes the following:

1) Catches of six of the seven overfished rockfish stocks have been lower than what was available as a cumulative OY during the period of rebuilding. The only exception is canary rockfish, which exceeded its cumulative OY by 14% over the period 2000-2007. This overage was due primarily to an excess harvest of 40 mt in 2001, when constraints on the groundfish fishery were first being imposed. In some instances, catches have been far below the available OY (e.g., POP, cowcod, and widow rockfish). In general, management has been quite effective at curtailing fishing mortality on the overfished stocks in order to rebuild them as quickly as possible.

2) All assessments that were completed in the SS2 met the appropriate technical requirements by utilizing the latest version of the rebuilding program (2.11) and by using the appropriate outputs from the rebuilding program. Likewise, the two analyses completed in ADMB (i.e., POP and widow rockfish) also were implemented and executed properly.

3) There are four instances where calculated times to rebuild are very similar to the T_{target} in Amendment 16-4 (POP, bocaccio, widow rockfish, and yelloweye rockfish), with the greatest discrepancy being six years. For these stocks, progress towards rebuilding is considered adequate and the SSC recommends that no redefinition of T_{target} or adjustment to the rebuilding harvest rate is warranted.

4) There are three stocks that depart strongly from the T_{target} values adopted in Amendment 16-4: cowcod, darkblotched rockfish, and canary rockfish; canary rockfish is very much ahead of schedule (42 years), while darkblotched rockfish and cowcod are substantially behind schedule (19 years and 23 years, respectively). For canary rockfish and darkblotched rockfish, these deviations from T_{target} are due primarily to changes in our understanding of stock productivity and depletion. In the case of cowcod, the departure from the expected rebuilding trajectory is due to correction of a technical flaw that existed in the 2005 assessment. The effect of this correction was to lower the estimated depletion level substantially, implying a longer time to rebuild the cowcod stock than was originally estimated. These changes represent fundamental revisions to our understanding of the biology of these species, which in turns warrants a revision in T_{target}.

5) Given the results of this year's assessments, new maximum times to rebuild ($T_{max(new)}$) were calculated for each stock based on the most recent assessment models and National Standard 1 Guidelines. These are needed for the three stocks that are either markedly ahead or markedly behind schedule (canary rockfish, darkblotched rockfish, and cowcod). Rebuilding will occur for these stocks well before ($T_{max(new)}$) if the current target SPR harvest rates are maintained. For this reason the SSC suggests that considering *status quo* harvest rates for all overfished stocks is a reasonable starting point for the Council's deliberative process when developing OYs for the 2009-2010 biennial cycle.

Following the June Council meeting, an error was discovered in the visual survey estimate of abundance used in the cowcod assessment. This error was corrected and the results in Table 1 are based on the corrected assessment. The SSC recommends that the assessment document for cowcod be updated appropriately for inclusion in the SAFE.

The SSC notes that the Terms of Reference for Rebuilding Analyses was last revised in 2005. Given the changes in how rebuilding analyses are now used for Council decision making, the SSC intends to revise these Terms of Reference and will develop a standardized format to summarize results. Specifications for the associated rebuilding software will also be revised.

TABLE 1.

Species	Total Catch / Total OY	Adopted SPR Harvest Rate	Current T_{target} [1]	New Time To Rebuild At Current SPR [2]	Difference	$T_{max(new)}$ [3]
Darkblotched	97% (2001-2007	60.7%	2011	2030	**-19**	2040
POP	42% (2000-2006)	86.4%	2017	2011	6	2037
Canary	114% (2000-2007)	88.7%	2063	2021	**42**	2041
Bocaccio	69% (2000-2006)	77.7%	2026	2023	3	2033
Cowcod	55% (2000-2007)	90.0%	2039	2065	**-26**	2098
Widow	48% (2002-2007)	95.0%	2015	2009	6	NA
Yelloweye	73% (2002-2007)	71.9%	2084	2084	0	2090

1. Current T_{target} is the value adopted in Amendment 16-4.

2. $T_{rebuild}$ is the new time to rebuild at the adopted SPR harvest rate.

3. $T_{max(new)}$ is the new maximum time to rebuild base on the updated stock assessment and rebuilding analysis.

Darkblotched Rockfish

The darkblotched rockfish rebuilding analysis presented to the SSC incorporated a number of changes to both the stock assessment on which the rebuilding analysis is based and the rebuilding analysis itself. The major changes to the 2007 assessment included use of more extensive age data, lower steepness in the stock-recruitment relationship. As such, the productivity of the darkblotched rockfish stock is perceived to be lower than implied from the 2005 assessment. Changes to the rebuilding analysis, which was last conducted in 2005, include parametric simulation of recruitments from the stock-recruitment relationship based on current estimates of productivity (i.e., B_0, steepness, natural mortality), instead of re-sampling a range of historically estimated recruitments. Optimum yields for 2007 and 2008 were specified at 190 mt and 330 mt, respectively. Based on the new rebuilding analysis, the darkblotched rockfish stock is projected to recover 19 years later (2030) than anticipated from the 2005 rebuilding analysis. The new rebuilding time is 2030 at the currently specified SPR of 60.7% compares with the current target of 2011. However, the new rebuilding analysis suggests that the current SPR is within legal requirements of rebuilding by a newly defined $T_{max(new)}$ of 2040. Due to the large difference in the rebuilding targets the SSC recommends a redefinition of T_{target}.

Pacific Ocean Perch (POP)

The 2007 stock assessment update of POP was reviewed at the June groundfish subcommittee, SSC, and Council meetings. Estimated steepness has increased from 0.55 to 0.65 and current depletion, estimated from the median of the MCMC posterior distribution, is now estimated to 31.0%, due, in large part, to an increase in the strength of the 1999 year class. POP is unusual in that the full MCMC results are used in the rebuilding analysis, which is desirable as it more adequately captures the uncertainty inherent in the assessment. Catches have been very low relative to the available OY, averaging 42% over the period 2000-2006. Moreover, the estimated time to rebuild the stock, if the current harvest rate is maintained at an SPR of 86.4%, is 2011, which is six years ahead of schedule (T_{target} = 2017). Given these conditions, the SSC concludes that no change is necessary to POP harvest policies and that progress towards rebuilding is adequate.

Canary Rockfish

A full assessment of canary rockfish was completed this year in SS2, which included a number of major changes to the data and modeling approach, i.e., a complete re-evaluation of the age data, simplification of time blocks for fishery selectivity, and splitting the triennial survey into two segments with separate catchability coefficients (q). Given the changes to the model structure, spawner-recruit steepness (h) could no longer be reliably estimated within the model, and a steepness prior from a hierarchical meta-analysis of west coast Sebastes was used instead (h = 0.511). Based on these revisions, the current depletion of canary rockfish is estimated to be 32.4%, compared with 9.4% from the 2005 assessment. For the rebuilding analysis, the full 2007-08 OY catches (44 mt) were pre-specified and account was taken of both uncertainty about the parameters of the spawner recruit curve and variability about that curve (σ_r = 0.50). Also, the 12 fleets represented in the stock assessment were simplified to 5 fleets in the rebuilding analysis. Rebuilding projections also incorporated uncertainty in h by weighting according to the three states of nature identified in the assessment. Results showed that if the current harvest rate is maintained (SPR = 88.7%) the stock will rebuild by 2021, which is 42 years before the T_{target} (2063) specified in Amendment 16-4. Given this marked change in our perception of when recovery will most likely occur, a redefinition of T_{target} is appropriate. If so, a newly defined $T_{max(new)}$ is 2041. If the current harvest rate is maintained, stock recovery would be expected to occur some time around 2021.

Bocaccio

Bocaccio was declared overfished in 1999 and the first rebuilding analysis for this stock was conducted in 2000. The most recent full assessment was completed in 2003 using the SS1 modeling platform, which was then updated in 2005 and again this year. This year's update indicates that current depletion is 13% of unfished, compared to 6.5% at the beginning of rebuilding. The bocaccio rebuilding analysis does not use a spawner-recruit relationship, but instead defines B_0 based on average recruitments from 1950-85 (multiplied by $SPR_{F=0}$) and, in addition, resamples recruits-per-spawner from 1970-2005 to generate future recruitment. Resampling recruits-per-spawners in this instance is justified because the estimated steepness is close to 0.20 (no density-dependence). The analysis indicates that the median time to rebuild if the current SPR harvest rate (77.7%) is maintained is 2023, which is three years ahead of schedule (current T_{target} = 2026). Recovery is being driven by strong 1999 and 2003 year-classes.

Given these results, the SSC concludes that progress towards rebuilding is adequate and that existing management practices are effective and not in need of change. The next full stock assessment will be implemented in SS2.

Cowcod

Although the cowcod assessment was originally scheduled to be an update during 2007, the Council recommended that a full assessment be completed, based on a number of issues that were raised in the June update review. The estimated depletion of cowcod was strongly affected as a result of including the recommended changes into a full assessment, dropping from 17.8% to 3.8%. The principal cause of the change was the correction of a technical error that was discovered in the 2005 assessment. The rebuilding projections indicate that it will not be possible to rebuild the cowcod stock by 2039 (the current T_{target}), even if all catches are eliminated. Although three states of nature were developed in the full assessment, the rebuilding analysis was conducted in a manner similar to the 2005 rebuilding analysis. Uncertainty in the outcomes of the stock assessment was propagated solely through a discretized distribution of steepness, developed from the Sebastes meta-analysis "prior" for cowcod; no variability in recruitment *per se* was modeled ($\sigma_r = 0$). Cumulative catches since 2000, which are very uncertain, are nevertheless substantially below the available rebuilding OY. Still, due to the substantial decline in relative abundance, the time to rebuild is now 26 years greater than the T_{target} adopted in Amendment 16-4. The SSC therefore advises a revision to T_{target} is warranted, but adherence to the current harvest rate (SPR = 90.0%) provides continuity with past management practices and should rebuild the stock within $T_{max(new)}$.

Widow Rockfish

The widow rockfish rebuilding analysis presented to the SSC was based on a 2007 update of the 2005 stock assessment and of the rebuilding analysis conducted in 2005. The new assessment update indicates that widow rockfish spawning stock biomass has increased since being declared overfished in 2001 due to low catches and recruitment of the strong 1999 year class into the spawning population, and that the current level of depletion is estimated to be 35.5%. The new projections are based on the same underlying model structure and rebuilding assumptions as before, except that recruitment is simulated from the stock-recruitment curve for 2007 and beyond, and 2007-2008 OYs are specified as 368 mt. The new median rebuilding time is 6 years earlier than previously calculated at the currently specified SPR of 95.0% (2009 compared to the current target of 2015). The widow rockfish stock is on track for recovery by the next assessment cycle.

Yelloweye Rockfish

The yelloweye rockfish rebuilding analysis presented to the SSC was based on a 2007 update of the 2006 stock assessment and of the rebuilding analysis conducted in 2006. The updated assessment corrected several technical issues associated with the previous assessment, but a change in the natural mortality rate revised the spawning stock biomass and associated depletion level down to 16.4% of B_0. Equilibrium unfished spawning biomass was calculated from the stock-recruitment relationship, with future recruitments generated using this relationship. Despite changes to the assessment, the yelloweye rockfish stock is on track to rebuild by 2084 if the current SPR of 71.9% is maintained. The calculated new $T_{max(new)}$ is 2090. The SSC notes that the summary table is missing from the assessment document.

Other

The groundfish subcommittee considered how to treat recruitments from when a stock is declared overfished (T_0) to the start of the current update. The SSC recommended that the recruitments that occurred between T_0 and the present should be set to those estimated in the assessment because this incorporates the best available scientific information.

PFMC
03/20/08

GROUNDFISH ADVISORY SUBPANEL REPORT ON HARVEST SPECIFICATIONS FOR 2009-2010 FISHERIES

The Groundfish Advisory Subpanel (GAP) considered options for 2009-2010 acceptable biological catches (ABCs) and associated optimum yields (OYs) for groundfish species. There are three parts to this statement: the first contains general comments; the second covers OY recommendations for species under rebuilding plans; and the third section includes recommendations for all other species. In addition for the record, the GAP includes as reference the 21-page Supplemental GAP Report from June, 2006 Agenda item F.2.c which detailed economic impacts to communities and fishing sectors based on low OY alternatives.

GENERAL COMMENTS

Needs of Fishing Communities

Clearly status quo harvest levels are NOT meeting the needs of fishing communities. Species of concern OYs are set extremely low which greatly affects fisheries for healthier stocks which interact with the less abundant species. Nowhere is this more evident than in Neah Bay, Washington where the entire trawl fleet has literally gone out of business due to management measures implemented to stay within extremely low harvest guidelines for some species of concern. Taking into consideration the needs of fishing communities to avoid short-term disastrous consequences has different meanings to different stakeholders. However, one fact is undisputable: short and long-term consequences to fishing communities are intrinsically linked. In order for there to be commercial and recreational fishing industries over the long term, short term management measures must help preserve fishing businesses. More plainly said, if no fishing industry exists into the future because of overly extreme cuts in harvest then the Council clearly has not taken into account the economic needs of fishing communities.

Rebuilding Paradox

Much has been made about the need to justify even the smallest increase in impacts to depleted species as if recent and current levels of exploitation are somehow adequate – that people have been able to "make-it" on these low levels so an increase that results in a slightly longer rebuilding period is not justified. While we know that in fact people have not been able to "make it," as in Neah Bay, we also know that all of our species currently under rebuilding plans are in fact rebuilding – some at a much greater rate than anticipated. The GAP believes our recommended increases to OYs for overfished species are justified based on the rebuilding paradox alone. Logically, as the stocks are rebuilding at accelerated rates the incidence of interaction with these stocks increases exponentially.

Closed Areas

When most if not all of a depleted species' habitat is off limits to fishing through rockfish conservation areas (RCAs) it is unclear why further restrictions on catch outside of these sensitive habitat areas is warranted. For example, the cowcod conservation area is over 1.3 million hectares (over 5,000 square miles) and protects the majority of cowcod habitat - however we still need to beg and plead for even the status quo harvest OUTSIDE of this massive protected area.

Catch Projections

The catch projections currently utilized in the scorecard have become defacto allocations. As the OYs for overfished species have shrunk, so too have the catch projections resulting in a process where management measures are crafted to meet a defacto allocation presented as a catch projection in the scorecard. It is clearly difficult to accurately project impacts and managing to these extremely low levels is difficult based on uncertainty and extrapolated bycatch data from the observer program that always results in changed projections.

General Economic Conditions

Commercial fishery

Generally from 1981 through 1997 the ex-vessel value of the commercial non-whiting groundfish fishery ranged from $80 to $100 million. In 1998, the first year of the groundfish disaster, the value of the entire non-whiting groundfish fishery was $61 million. The disaster was officially declared in 2000, and from 2002 through 2005 exvessel value of the fishery ranged from approximately $40 to $45 million. This is a difference of $40 to $55 million from the earlier period.

Recreational fishery

It is difficult to estimate the social and economic value of recreational fishing.

In California the groundfish draft environmental impact statement (EIS) from June 2006 notes that the values calculated were drawn from the dollars anglers spent pursuing the fishery. In 2005 for example, California Recreational Survey data in northern California records almost 57,000 angler trips for the months of September and October. A closure in October in north-central California could lead to a loss of almost $3 million in recreational fishing expenditures. Another indicator of lost revenue to the state of California is the steady decline of sport fishing license sales. California Department of Fish and Game (CDFG) reports that annual resident licenses sales are down from 2.2 million in 1976 to 1.2 million in 2005. During that time the population of California grew 166% from 21 to 35 million people, but there was still a loss of 1 million anglers with a drop in sales of licenses of 54%. It is estimated that this decline in license sales cost CDFG over $32 million at a time when the department is already facing severe budget cuts.

The recreational charter fleet in Oregon has been reduced from 232 boats in 2001 to 76 in 2008. About 25% of the boats are not full-time operators – many are small 6-pack boats that are on trailers and may only operate on weekends. Management measures implemented since 2001 have greatly reduced and changed the make-up of the fleet. Many of the full-time operators have already gone out of business. The few full-time operators that are left are barely holding on. As management continues to tighten it takes fewer restrictions to break the remaining participants. Under low OY conditions, the Oregon recreational fleet stands to lose at least $7.5 million. This equates to over 35,000 private trips and over 71,000 charter trips lost.

For the Washington recreational fleet, both private and charter operations are operating under restrictions that are difficult to live with currently and further reductions and restrictions will be devastating. Businesses in all sectors (hotel/motel, bait and tackle shops, charter offices, etc.) are showing a downturn in revenues from the same time the previous year. This is a cumulative effect of short halibut seasons, fathom restrictions, fuel prices, and a poor economy.

GAP RECOMMENDATIONS FOR OYS FOR SPECIES UNDER REBUILDING PLANS

In general the GAP would like to remind the Council that any liberalizing in OYs on overfished species does not present NEW fishing opportunities. We are looking to reinstate significant lost opportunities and provide flexibility for some exisiting fisheries. In the last two years some of the commercial and recreational participants have been permenantly lost. In the last two years shoreside infrastructure and facilities have been permenantly lost. In the last two years ice machines have had to be subsidized in some ports and buyers have stopped buying product because the amounts available are too low.

Increases in overfished species OYs also allow increased exempted fishing permit (EFP) opportunities. In recent years the GAP has consistently denied creative and forward thinking EFP applications because fish was not available to cover projected impacts. Increases in overfish species OYs allow the possiblity that EFP proposals utilzing new and innovative gear could be pursued.

Increases in overfished species OYs presents opportunities for new and innovative cooperative research and also takes some pressure off traditional research opportunities. In recent years the possibility of a large research tow of canary rockfish could have shut down many fisheries. Research is a critical part of the process and a robust research program must be continued. Higher OYs on overfished species allow existing and new cooperative research programs to take place which ultimately inform the stock assessments necessary to make management decisions.

Summary of GAP Recommendations:

Species	**2009 OY**	**2010 OY**
Bocaccio	288 mt	302 mt
Canary rockfish	155 mt	155 mt
Cowcod	4 mt	4 mt
Darkblotched rockfrish	300 mt	306 mt
Pacific Ocean Perch	189 mt	189 mt
Widow rockfish	522 mt	509 mt
Yelloweye rockfish	17 mt	15 mt

Bocaccio
The GAP recommends an OY of 288 mt in 2009 and 302 mt in 2010.

Justification for Recommendation

- The bocaccio biomass is increasing at an accelerated rate.
- The Scientific and Statistical Committee (SSC) comments "There are four instances where calculated times to rebuild are very similar to the Ttarget in Amendment 16-4 (Pacific Ocean perch, bocaccio, widow rockfish, and yelloweye rockfish), with the greatest discrepancy being six years. For these stocks, progress towards rebuilding is considered adequate and the SSC recommends that no redefinition of Ttarget or adjustment to the rebuilding harvest rate is warranted" (from Agenda Item H.1.a. SSC Report).
- The 288 mt OY equates to the status quo harvest rate and results in rebuilding by 2023.
- The rebuilding analysis conducted in 2007 showed that given current spawning biomass per recruit (SPR) (77.7%) the median time to rebuild would be three years earlier (2023) then the originally estimated rebuilding schedule.
- As a precautionary measure the 288 mt OY is only 36% of the Council's preferred ABC.

Regained Opportunities:

- There is a significant benefit to charter boat operations when retention of three bocaccios is made available (current retention is one fish). It is well documented that passenger counts have decreased due to the severe restrictions currently in place.
- A 288 mt OY combined with increased OY for canary could allow open access fishermen to capture their deeper nearshore and shelf trip limits as well as their lingcod trip limits.

Canary Rockfish
The GAP recommends an OY of 155 mt in 2009 and 155 mt in 2010.

Justification for Recommendation

- The latest review of the canary stock status shows that the stock is rebuilding at a greater rate then anticipated – the SSC reports "canary rockfish is very much ahead of schedule (42 years)"
- The 155 my OY equates to the status quo harvest rate and results in rebuilding by 2021.
- The rebuilding analysis conducted in 2007 showed that given current SPR (88.7%) the median time to rebuild would be 42 years earlier (2021) then the originally estimate rebuilding schedule.
- As a precautionary measure the 155 mt OY is only 17% of the Council's preferred ABC.

Regained opportunites:

- A higher OY for canary rockfish could increase flexibility for the whiting fishery which has been constrianed by canary bycatch in the past.
- A higher OY could possibly open up some yellowtail opportunity for the mid-water trawl fishery whose yellowtail fishery has been completely eliminated in recent years due to imposed restrictions.
- A higher OY would result in fewer regulatory discards and more fish available for biological data collection in both the recreational and commercial sectors.

- A higher OY could move the shoreward RCA boundary from 20 fathoms out to 30 fathoms. This presents reinstated opportunities for shelf rockfish as well as potentially longer seasons for the recreational, open access near shore and fixed gear sectors and the possibility to fish outside of marine reserves that currently limit nearshore water access.
- A higher OY would provide more opportunities seaward of the RCA boundaries.
- For the non-whiting trawl fleet canary reductions have resulted in forgone opportunities for lingcod, a fishery for sanddabbs, a shallow fishery for English sole, and the arrowtooth fishery. Large areas have been closed inshore of the RCA as from Port Orford to Coos Bay. While a higher canary OY does not bring all of these fisheries back it is a step in the direction towards reinstating some of this lost opportunity.

Cowcod
The GAP recommends a 4 mt OY in 2009 and a 4 mt OY in 2010

Justification for Recommendation
- The SSC reports "the SSC therefore advises a revision to Ttarget is warranted but adherence to the current harvest rate (SPR=90.0%) provides continuity with past management practices and should rebuild the stock within Tmax(new)."
- The status quo harvest rate results in a harvest higher then 2 mt.
- As a precautionary measure the 4 mt OY is only 31% of the Council's preferred ABC.
- The cowcod conservation area covers 1,372,447 hectares of essential cowcod habitat – the majority of habitat is protected by this area and harvesting up to 4 mt outside of this area should not be an issue.

A 4 mt is not opening up any new opportunity or regaining any old opportunity, but maintaining current limited opportunity.

Darkblotched
The GAP recommends 300 mt for 2009 and 306 mt for 2010.

Justification for Recommendation
- As a precautionary measure the 300 mt OY is 68% of the Council's preferred OY.
- A 300 mt darkblotch OY reflects the current projected take in 2008.
- A 300 mt OY is equal to the current SPR harvest rate (60.7%) and results in rebuilding by 2030.
- The SSC reports "rebuilding analysis suggests that the current SPR is within legal requirements of rebuilding by a newly defined Tmax(new) of 2040."
- Anything less then 300 mt (which is a 10% reduction from 2008) could result in an RCA boundary change from 150 to 200 which would limit limited entry trawl opportunity and encourage more pressure shoreward of the RCA.
- A reduction less then 300 mt could result in more restrictive bycatch caps for the whiting fishery.

Regained Opportunities
- Currently darkblotch constrains slope rock, sablefish, whiting, short and longspines, dover and all of the other fisheries seaward of the RCA.

POP
The GAP recommends a 189 mt OY for 2009 and 189 mt for 2010.

Justification for Recommendation

- The SSC reports "the estimated time to rebuild the stock, if the current harvest rate is maintained at an SPR of 86.4% is 2011, which is six years ahead of schedule. Given these conditions, the SSC concludes that no change is necessary to POP harvest policies and that progress towards rebuilding is adequate."
- A 189 mt OY equates to the current harvest rate in the rebuilding plan
- As a precautionary measure the 189 mt OY is 16% of the Council's preferred ABC.

Widow rockfish
The GAP recommends a 522 mt OY for 2009 and a 509 mt OY for 2010.

Justification for recommendation

- The SSC comments "There are four instances where calculated times to rebuild are very similar to the Ttarget in Amendment 16-4 (POP, bocaccio, widow rockfish, and yelloweye rockfish), with the greatest discrepancy being six years. For these stocks, progress towards rebuilding is considered adequate and the SSC recommends that no redefinition of Ttarget or adjustment to the rebuilding harvest rate is warranted" (from Agenda Item H.1.a. SSC Report).
- A 522 mt OY equates to the current SPR of 95.0%.
- Using the status quo SPR the new median rebuilding time is 6 years (2015) earlier then previously calculated.
- The SSC reports "widow rockfish stock is on track for recovery by the next assessment cycle."
- The GAP believes that the 522 mt OY presents no biological concerns for widow rockfish.

Regained opportunties

- Higher OYs for widow would eventually allow a mid-water yellowtail fishery to be pursued which has been constrained by canary and widow
- A higher OY for widow allows the whiting fishery additoinal flexibility as widow rockfish has impacted fishing behavior and contrained the fishery in the past

Yelloweye
The GAP recommends an OY of 17 mt in 2009 and 15 mt in 2010.

Justification for Recommendation:

- The 17 mt OY is the result of the "ramp down" approach previously accepted by the Council
- A 17 mt OY for yelloweye is the only way to maintain current opportunities for recreational and commercial fisheries north of 40° 10'.
- If we reduce any lower then 17 mt in 2009 we will have to reduce even further our current fisheries which are already significantly restricted.

GAP RECOMMENDATIONS FOR OYS FOR OTHER SPECIES

The GAP discussed ABCs/OYs for all other species.
Summary of GAP Recommendations for non-overfished species:

Species	2009 OY	2010 OY
Lingcod N of 42	4,593 mt	4,173 mt
Lingcod S of 42	685 mt	656 mt
Pacific cod	1,600 mt	1,600 mt
Pacific whiting	GMT recommended range	
Sablefish coastwide	8,423 mt	7,729 mt
Sablefish N of 36	7,723 mt	7,100 mt
Sablefish S of 36	700 mt	629 mt
Shortbelly	6,950 mt	6,950 mt
Chillipepper rockfish	3,037 mt	2,576 mt
Splitnose	461 mt	461 mt
Yellowtail	4,562 mt	4,562 mt
Shortspine thornyhead N	1,608 mt	1,591 mt
Shortspine thornyhead S	414 mt	410 mt
Longspine thornyhead n	2,231 mt	2,175 mt
Longspine thornyhead S	395 mt	385 mt
Black rockfish (WA)	490 mt	464 mt
Black rockfish (OR & CA)	1,000 mt	1,000 mt
Blue rockfish (CA)	Leave under minor nearshore	Leave under minor nearshore
Minor rockfish north	2,283 mt	2,283 mt
Nearshore species	155 mt	155 mt
Blue rock	28 mt	28 mt
Shelf species	968 mt	968 mt
Slope species	1,160 mt	1,160 mt
Minor rockfish south	1,990 mt	1,990 mt
Nearshore species	650 mt	650 mt
Blue rock	202 mt	202 mt
Shelf species	714 mt	714 mt
Slope species	626 mt	626 mt
California scorpionfish	175 mt	155 mt
Cabezon (CA only)	74 mt	79 mt
Dover sole	16,500 mt	16,500 mt
English sole	14,326 mt	9,745 mt
Petrale sole	2,433 mt	2,393 mt
Arrowtooth flounder	11,267 mt	10,112 mt
Starry flounder	1,004 mt	1,077 mt
Other flatfish	4,884 mt	4,884 mt
Longnose skate	1,349 mt within skate category	1,349 mt within skate category

Sablefish

The GAP recommends adopting a coastwide OY for 2009 of 8,423 mt distributed 7,723 mt to the north and 700 mt south of 36˚. This split more closely reflects the current fishery and status quo apportionment until there is more information to suggest otherwise. Further, as a precautionary measure an OY of 8,423 mt is only 85% of the ABC whereas if 2008 the OY was 98% of the ABC. Regardless of the split the GAP recommends a coastwide OY of 8,423 mt.

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GROUNDFISH MANAGEMENT TEAM REPORT ON HARVEST SPECIFICATIONS FOR 2009-2010 FISHERIES

The Groundfish Management Team (GMT) reviewed the materials found in Agenda Item H.1 as well as the 2007-2008 Harvest Specifications and Management Measures Environmental Impact Statement (EIS). The Team broke its discussion into overfished species and non-overfished species.

OVERFISHED SPECIES

"Rebuild as Quickly as Possible, Taking Into Account the Needs of Fishing Communities"

Section 304(e)(4)(A) of the Magnuson Stevens Act (MSA) requires the Council to "specify a time period for rebuilding that shall 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, and
- the interaction of the overfished stock of fish within the marine ecosystem.

This provision requires that overfished species be "rebuilt as quickly as possible, but wanted to leave some leeway to avoid disastrous short-term consequences for fishing communities."[1] This leeway allows the Council to set "limited quotas that would account for the short-term needs of fishing communities (for example, to allow for some fishing of plentiful species despite the inevitability of bycatch), even though this would mean that the rebuilding period would take longer than it would under a total fishing ban."

To make its final recommendations for rebuilding optimal yields (OYs) in 2007-2008, the Council took into account the status and biology of the stocks by looking for the shortest possible rebuilding periods within a suite of management measures that provided the greatest protection for the most sensitive and lowest productivity species. The Council took the needs of fishing communities into account by providing fishing opportunities where such opportunities would have a minimal effect on rebuilding periods for stocks with higher productivity, and by recommending restrictive management measures focused on stocks with the lowest productivity levels.[2]

Interaction of the Overfished Stocks within the Marine Ecosystem

The Council's rebuilding recommendations for 2007-2008 also took into account the interaction of the overfished stocks in the marine ecosystem. The highly interrelated nature of the West Coast groundfish fisheries makes this consideration absolutely necessary. In fact, the degree of interaction between overfished stocks and fishing opportunities is such that the calculus of

[1] *NRDC* v. *NMFS*, 421 F.3d 872 (9th Cir. 2005)
[2] *See* Proposed Rule for 2007-2008 Biennial Specifications and Management Measures; Amendment16–4; Pacific Coast Salmon Fishery, 71 Fed. Reg. 57764 (September 29, 2006).

"rebuilding as quickly as possible while taking into the needs of fishing communities" is not possible based solely on a species-by-species approach. Rather, the needs of fishing communities and the status and biology of the stocks must be looked at in an integrated fashion across all rebuilding species.

The Effect of the Revised Rebuilding Plans and GMT Recommendation

In November 2007, the Scientific and Statistical Committee (SSC) recommended that the Council revise the rebuilding plans (target rebuilding years and harvest rates) for canary, darkblotched, and cowcod because the best scientific information available resulted in "fundamental revisions to our understanding of the biology" of these stocks (Agenda Item H.1.a, November 2007 SSC Report). These revisions to the best estimates of "as quick as possible" rebuilding times are substantially different than those use to set 2007-2008 harvest specifications and the Amendment 16-4 rebuilding plans. The GMT is therefore recommending an analysis of management measures scenarios before preferred OY alternatives for these species are decided. As described in more detail below, given the integrated nature of the Council's overall rebuilding strategy, the Team also recommends that the Council wait to set preferred OY alternatives for widow and bocaccio. Yelloweye and Pacific ocean perch (POP), on the other hand, are unchanged from 2007-2008 in terms of our understanding of their status and biology and of their effect on fishing communities. The Team thus recommends that the Council set preferred OY alternatives for these two species during this agenda item.

Discussion of Overfished Stocks with Revised Rebuilding Plans

Canary Rockfish. A new rebuilding analysis for canary rockfish was completed in 2007, which showed that canary rockfish rebuilding is ahead of schedule by 42 years. The Council's preliminary range of canary OY alternatives include 0 mt, 35 mt, 44 mt (2008 OY), 85 mt, 105 mt, and 155 mt (the OY under the status quo harvest rate) and a preliminary preferred target rebuilding year (T_{target}) of 2021. These alternatives predict a range of rebuilding periods from 2019 under a zero harvest strategy to 2021 under the 155 mt alternative (see Table 2-3 in Attachment 2). The GMT believes the analyses in the 2007-2008 Harvest Specifications and Management Measures Environmental Impact Statement (EIS) have shown the substantially adverse socioeconomic impacts associated with OYs less than or equal to 44 mt. Given the unexpected management actions taken to restrict canary impacts in 2007 and 2008[3], the GMT believes rationale exists for exploring OYs higher than 44 mt.

The GMT reviewed historic catch relative to the canary rockfish OY. Specifically, Table 1 in the SSC statement from November 2007 regarding rebuilding analyses (Attachment H.1.a, November 2007 SSC Report on Rebuilding Analyses) shows that canary catch has been 114% of the OY over the 2000-2006 period despite progressively more restrictive management measures. Canary rockfish are increasingly difficult to avoid as they rebuild, leading to the argument that a higher OY than 44 mt may be necessary to achieve the expected amount of activity in fishing

[3] In 2007 the Council received new information indicating the bycatch of canary rockfish in the trawl fishery was higher than assumed during the Amendment 16-4 process. In response to these higher than expected bycatch rates, highly restrictive area closures for trawling were implemented off northern Washington and southern Oregon. These management actions appear to have resulted in the elimination of Neah Bay as a non-tribal trawl community, adversely impacting those that rely on fishing in that community.

communities originally envisioned in Amendment 16-4. It appears that such an increase could be accommodated while maintaining or perhaps even decreasing the harvest rate from status quo.

The GMT believes the following considerations may be helpful in revising the harvest rate in the canary rebuilding plan. First, the status quo harvest rate is the one used to calculate OY Alternative 6 (155 mt in 2009). The GMT believes that 44-155 mt is the appropriate OY range to explore. A preferred OY decision needs to be made after understanding the management implications of maintaining an OY of 44 mt and those measures associated with higher OYs up to 155 mt, as well as alternative OYs for other co-occurring species. Therefore, the GMT recommends the Council review initial analyses of management measures under Agenda Item H.5 before deciding a preferred canary OY.

Table 1. Canary Rockfish Alternatives under Revised Rebuilding Plans (summarized from Agenda Item H.1.a Attachment 2).

Canary	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**
2009 OY (mt)	0	35	44	85	105	155
T_{target}	2019	2020	2020	2020	2020	2021
SPR	F=0	97.3%	96.2%	93.6%	92.2%	88.7%
T_{max}	N/A	2041	2041	2041	2041	2041
P_{max}	N/A	75%	75%	75%	75%	75%

Darkblotched. The 2007 darkblotched rockfish assessment used a less optimistic prior on steepness (within the stock-recruitment relationship) than the previous assessment, which led to a more pessimistic rebuilding analysis. Alternative 4 (300 mt) is similar to the status quo OY, but results in a much longer rebuilding time (2030 vs. 2011). The SSC acknowledged that this change represents a fundamental change in our understanding of the stock's productivity and the shortest possible rebuilding time (2018 under a zero harvest strategy) is now predicted to be seven years longer than the current target rebuilding year (2011). Therefore, a revision in the rebuilding plan is clearly required.

The status quo OY of about 300 mt was analyzed with respect to socioeconomic impacts to fishing communities in the 2007-2008 Specifications EIS. However, there is now a different tradeoff in the extended rebuilding time relative to $T_{F=0}$. Status quo or lower OYs may be mitigated somewhat if the canary OY is set higher than the last 2-year management cycle resulting in increased shelf opportunity for trawl sectors that would otherwise fish on the slope and impact darkblotched. Such considerations compel the GMT to recommend deferring a decision on a preferred darkblotched OY until initial analyses of management measures are considered under Agenda Item H.5.

Table 2. Darkblotched Rockfish Alternatives under Revised Rebuilding Plans (summarized from Agenda Item H.1.a Attachment 2).

Darkblotched	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**
2009 OY (mt)	0	159	229	300
T_{target}	2018	2022	2025	2030
SPR	F=0	75.6%	67.7%	60.7%

T_{max}	N/A	2040	2040	2040
P_{max}	N/A	97.7%	91.0%	76.7%

Cowcod. The 2007 cowcod assessment corrected technical errors in the previous assessment, which resulted in a more pessimistic rebuilding analysis. The 2007 rebuilding analysis indicates the shortest possible time to rebuild under a zero harvest strategy (2061) is 22 years longer than the current target rebuilding year in the cowcod rebuilding plan (2039). Maintaining the status quo OY of 4 mt projects rebuilding until 2072, or 11 years longer than the shortest possible rebuilding time. The preliminary preferred OY of 2 mt is projected to rebuild by 2065, or 4 years longer than the shortest possible time. However, this lower OY for cowcod could adversely impact recreational and trawl fisheries off California relative to the original decision to implement Amendment 16-4. Therefore, the GMT recommends deferring a decision on a preferred cowcod OY until initial analyses of management measures are considered under Agenda Item H.5.

Table 3. Cowcod Rockfish Alternatives under Revised Rebuilding Plans (summarized from Agenda Item H.1.a Attachment 2).

Cowcod	**Alt 1**	**Alt 2**	**Alt 3**
2009 OY (mt)	0	2	4
T_{target}	2061	2065	2072
SPR	F=0	90.0%	82.1%
T_{max}	2098	2098	2098
P_{max}	0.784	72.4%	66.2%

Discussion of Overfished Species with No Revised Rebuilding Plans

Pacific Ocean Perch. The SSC recommended no revision to the Pacific ocean perch rebuilding plan and the Council's preliminary preferred OY decision maintains the target rebuilding year and the harvest rate specified in the rebuilding plan. The GMT believes the analyses in the 2007-2008 Specifications and Amendment 16-4 EIS were sufficient to support that decision.

Widow. The SSC recommended that the widow rockfish rebuilding plan is on track and there is no need to revise the plan. The Council's preliminary preferred OY (Alternative 2) is similar to the status quo OY of 368 mt. However, the Council's preferred OY alternative would require a downward revision of the harvest rate in the widow rebuilding plan. The status quo harvest rate in the rebuilding plan corresponds to Alternative 3 (522 mt in 2009; 509 mt in 2010) and the Council could consider maintaining the harvest rate in the widow rebuilding plan. Initial bycatch analysis suggests the Council preferred OY could have impacts to fisheries and communities that are more adverse than envisioned in the Amendment 16-4 decision. In other words, the original balance struck in Amendment 16-4 between the widow rebuilding year and the needs of communities may be shifted under the preliminary preferred alternative. Therefore, the GMT recommends deferring a decision on a preferred OY until integrated management measure analyses are presented under Agenda Item H.5.

Bocaccio. The SSC recommended no revisions to the bocaccio rebuilding plan. The Council's preliminary preferred OY is equal to the status quo OY amount. However, as in the case made for widow rockfish above, the Council's preliminary preferred OY decision (Alternative 2) departs from the rebuilding plan by adopting a lower harvest rate for rebuilding the stock, potentially shifting the balance between the rebuilding year and the needs of fishing communities. Therefore, the GMT recommends deferring a decision on a preliminary preferred OY until an integrated analysis is presented under Agenda Item H.5.

Yelloweye. The rebuilding OY "ramp down" strategy that was adopted in 2007-2008 under Amendment 16-4 would result in an OY of 17 mt in 2009 and 14 mt in 2010 before adopting a constant SPR harvest rate of F71.9%. The Council's preliminary preferred OY decision is consistent with maintaining the rebuilding plan, which was thoroughly analyzed in the 2007-2008 Specifications EIS. While the OYs under the rebuilding plan (and the alternative OYs adopted in November 2007 for analysis) will continue to severely restrict recreational opportunities and fixed-gear line fisheries on the shelf, the GMT does not believe there is more analysis that would help the Council decide an alternative harvest rate strategy. While more analysis of management measures will be needed to understand how management measures will stay within the OYs in the ramp down strategy, the GMT believes the Council has all the necessary analysis to set 2009-2010 yelloweye OYs. Therefore, the GMT recommends the Council adopt preferred yelloweye OYs under this agenda item and consider alternative management strategies designed to stay within the constraints, dictated by the current rebuilding plan, under Agenda Items H.5 and H.7.

Non-Overfished Stocks

Sablefish. The 2007 coastwide sablefish stock assessment indicates the stock is in the precautionary zone. The strength of the stock is reliant upon the strong 1999 and 2000 year classes, with the possibility of a strong incoming 2004 year class. However, the assessment author cautioned against the use of the apparent "high abundance of these two year classes as an index of overall stock health."

Alternatives 1-3 use the results from the 2007 assessment; differences in the alternatives are a result of model choice and differing methodologies for apportioning the OY north and south of 36° N lat. Under Alternative 1, the base case model provides the coastwide OY and the methodology used to apportion catches between north and south of 36° N lat. is based on average catches by area from 2000 and 2001. This is the same apportionment methodology that was used in 2007/2008 SPEX process. The GMT notes that maintaining the level of harvest indicated by 2000 and 2001 landings data may not be appropriate given the stock distribution indicated by the trawl survey data. Continuing with this apportionment methodology may result in an overharvest of sablefish north of 36° N lat. Under Alterative 1, the Council should consider the economic importance of sablefish to the west coast and potential stock impacts resulting from harvesting at a level higher than the available biomass can sustain.

Alternatives 2 and 3 use different models, but both incorporate a different apportionment methodology from Alternative 1. Alternative 2 uses the base case model, while Alternative 3 is the lower productivity model. The apportionment methodology used in both Alternatives 2 and 3 is based on trawl survey data, with a precautionary adjustment in the south. The GMT believes that the apportionment of biomass using the trawl survey data (Alternatives 2 and 3) incorporates the best available information on the sablefish stock distribution. The reason for the reduction in

the southern OY is that if the survey biomass estimates are utilized to distribute the coastwide OY, it would result in a large OY for the Conception Area relative to recent catches. Additionally, the Cowcod Conservation Area (CCA) closes a significant amount of the Conception Area to fishing and the area-swept biomass estimates for the Conception area are based on the assumption that catch rates outside of the CCAs are comparable to those inside (the survey does not sample within the CCAs). Therefore, a precautionary reduction of 50% in the south was incorporated to account for the uncertainty inherent in using a short time-series of relative abundance for setting the OY.

The Team also notes that recent coastwide catches have been between 5,081 mt (2007) and 6,079 mt (2005), which could be accommodated under any of the alternatives.

Southern Black Rockfish. The GMT discussed the uncertainties in the 2007 southern black rockfish assessment, implications for management, and comments from the SSC indicating "the decision table, coupled with the probabilities assigned to the various states of nature, provides a large contrast in possible outcomes – implying a highly uncertain assessment (relative to other rockfish assessments)."

The OY alternatives include harvest levels based on a low productivity/low catch model (Alternative 1), constant catch under medium productivity levels (Alternative 2), and medium productivity/medium catch model (Alternative 3). Comparison of depletion rates after 7 years (2016) under each alternative indicate that the proportion of spawning stock biomass, relative to initial biomass, is lowest in Alternative 1 (39.9%). This is because Alternative 1 uses the low productivity model, hence the assumption is that the stock can not replenish as quickly as the medium productivity models (Alternatives 2 and 3). Alternatives 2 and 3 both assume medium productivity, but the proportion of spawning stock biomass, relative to initial biomass, is higher under Alternative 2 (51.1%) than Alternative 3 (46.3%). The GMT cautions that if productivity is low, and Alternative 3 is chosen, the projected depletion by 2016 is 29%. Under the same low productivity scenario, depletion under Alternative 2 is projected at 34.7% and not as close to the overfished level as would result under Alternative 3.

The GMT notes that all alternatives provide for black rockfish harvest that is greater than status quo levels. Achieving harvest levels under Alternative 3, is unlikely due to overfished species constraints.

Chilipepper. The GMT reviewed the OY alternatives for chilipepper rockfish and note that current catches have been constrained by interactions with overfished species. Any increase to canary, bocaccio or widow rockfish OYs may allow for greater chilipepper targeting opportunities.

Arrowtooth Flounder. The GMT notes that Alternative 2 (2009- 11,267 mt; 2010 - 10,112 mt) is approximately double status quo (5,800 mt). This is due to the large 1999 year class (Kaplan and Hesler, 2007). Spawning biomass is predicted to decline in subsequent years. Any increase to the arrowtooth flounder OY may be constrained by management measures to reduce impacts on overfished species, particularly canary.

Shortbelly. The GMT recommends removing Alternative 3, in Tables 2-1a and 2-1b, because the OY (13,900 mt) would exceed the ABC (6,950 mt).

Blue Rockfish. The GMT reviewed the 2007 stock assessment and notes that there were many uncertainties, including temporal and spatial differences in growth, evidence for two species, historical catch levels, and estimates of natural mortality.

Blue rockfish is currently managed under the minor nearshore rockfish complex both north and south of 40°10' N lat. The Team discussed whether to manage blue rockfish under the minor nearshore complex or set an individual OY. In making this determination, the Council should consider stock biology, available management strategies, and current catch levels. If managing to an OY, the GMT would evaluate current data inseason to determine if a resource conservation issue exists and if so, would recommend appropriate management measures to stay within the OY (required under MSA National Standard 1). Management actions available to the Council under inseason include trip limits and RCA adjustments.

When blue rockfish occur offshore they can be targeted separately from other nearshore rockfish, but those that occur inshore mix with other nearshore rockfish stocks. Since blue rockfish mix with other nearshore species, exceeding an OY could result in shutting down the entire nearshore fishery. The GMT notes that catches of blue rockfish are extremely variable with catches in the assessment area (Table 4) ranging from 74% of the 2009 ABC in 2004 to 153% of 2009 ABC in 2006. These highly variable catch rates indicate action must be taken to prevent exceeding the OY and ABC, whether it be a separate OY or a point of concern.

Table 4. Blue rockfish catch N. of Point Conception, relative to the proposed 2009 ABC, adjusted to reflect area N. of Point Conception. The 2009 ABC includes areas S. of Point Conception (18 mt).

	2003	**2004**	**2005**	**2006**
Recreational	219.9	149.9	162.9	319.6
Commercial Hook-and-Line	9.2	14.8	21.7	21.9
Total	229.1	164.6	184.6	341.4
Total Catch as % of 2009 ABC	103%	74%	83%	153%

In lieu of setting a separate OY, the Council could choose to set a harvest guideline for blue rockfish within the nearshore OY. If managing to a harvest guideline, the GMT would evaluate current data inseason to determine if a resource conservation issue exists and if so, would recommend appropriate management measures to stay within the harvest guideline. Management actions available to the Council under inseason include trip frequency limits and RCA adjustments. The GMT notes that if a harvest guideline were used and management action was not taken to constrain the catch to the harvest guideline, then there is a possibility, based on historical catch, that the ABC could be exceeded (Table 4).

The Team notes that a harvest guideline was adopted for kelp greenling in Oregon based on a similar situation. No ABC was adopted for kelp greenling. Under this scenario, the state of Oregon, not the GMT, manages the harvest guideline and takes state action in order to prevent exceeding the harvest guideline. Additionally, an ABC for blackgill was set and it contributes to the minor rockfish south complex. In recent years, catches for blackgill rockfish have been below

the ABC. An ABC and harvest guideline was recommended for gopher rockfish and in recent years catches for gopher rockfish have been below the ABC.

Longnose Skate. Longnose skate is currently managed within the Other Fish complex. The GMT has not been able to analyze longnose skate's contribution to the Other Fish category in order to provide a range of Other Fish alternatives. The GMT recommends that the Council postpone choosing a final OY alternative until these values can be provided in June.

GMT Recommendations

Overfished Species with Revised Rebuilding Plans

1. New stock assessments for cowcod, darkblotched and canary are significantly different than those used to set 2007-2008 harvest specifications and Amendment 16-4 rebuilding plans. The GMT is therefore recommending an analysis of management measure scenarios, under Agenda Items H.5 and H.7, before preferred OY alternatives for these species are decided.

Overfished Species with No Changes to Rebuilding Plans

2. For widow and bocaccio rockfish the GMT recommends an analysis of management measure scenarios, under Agenda Items H.5 and H.7, before preferred OY alternatives for these species are decided.
3. The GMT believes the analyses in the 2007-2008 Specifications and Amendment 16-4 EIS were sufficient for Council action, under this agenda item, to adopt OYs for POP and yelloweye rockfish.

Non-Overfished Stocks

4. *Shortbelly.* The GMT recommends removing Alternative 3, in Tables 2-1a and 2-1b, because the OY (13,900 mt) would exceed the ABC (6,950 mt).
5. The GMT recommends that the Council postpone choosing a final OY alternative for longnose skate until the range of Other Fish specifications are provided (June).

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Agenda Item H.1.c GMT Report 2

TABLE 2-1a. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2009 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Lingcod - coastwide b/	6,706	5,853		5,278	4,829							
N of 42° (OR & WA)			5,558			4,593	4,593					
S of 42° (CA)			612			612	685					
Pacific Cod	3,200	3,200	1,600	3,200	3,200	1,600						
Pacific Whiting (U.S.)	612,068 (2007 U.S. & Can.)	400,000 (2008 U.S. & Can.)	242,591 (2007), 269,545 (2008)	To be determined in March 2009	To be determined in March 2010	134,773	269,545	404,318				
Sablefish (Coastwide)	6,210	6,058	5,934	9,914	9,217	9,795	8,423	6,250				
N of 36° (Monterey north)			5,723			9,452	7,052	5,233				
S of 36° (Conception area)			210			343	1,371	1,018				
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	130	164	189			189
Shortbelly Rockfish	13,900	13,900	13,900	6,950	6,950	3,475	6,950	~~13,900~~				
WIDOW ROCKFISH	5,334	5,144	368	7,728	8,937	0	371	522				371
CANARY ROCKFISH	172	179	44	937	940	0	35	44	85	105	155	Ttarget=2021
Chilipepper Rockfish	2,700	2,700	2,000	3,037	2,576	2,000	2,099	3,037				
BOCACCIO	602	618	218	793	793	0	218	286				218
Splitnose Rockfish	615	615	461	615	615	461						
Yellowtail Rockfish	4,585	4,510	4,548	4,562	4,562	4,562						
Shortspine Thornyhead - coastwide	2,468	2,463		2,437	2,411							
Shortspine Thornyhead - N of 34°27'			1,634			1,608						
Shortspine Thornyhead - S of 34°27'			421			414						
Longspine Thornyhead - coastwide	3,953	3,860		3,768	3,671							
Longspine Thornyhead - N of 34°27'			2,220			2,231						
Longspine Thornyhead - S of 34°27'			476			395						
COWCOD	36	36	4	13	14	0	2	4				2 Ttarget=2065
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	159	229	300			Ttarget=2030
YELLOWEYE	47	47	Ramp-down c/	31	32	0	13	17	15			17
Black Rockfish (WA)	540	540	540	490	464	490						
Black Rockfish (OR-CA)	725	719	722	1,469	1,317	920	1000	1,469				

4/6 - updated 2008 U.S. whiting OY, and updated range of alternatives so that Alt 1 is 50%, Alt 2 is equal to 2008 OY, and alt 3 is 150%.
4/6 - updated the comment for Alt 1 Southern Black rf OY to indicate it was based on the low productivity scenario (2009 OY only, 2010 was correct)
4/6 - updated Pmax for all Bocaccio Alts
4/6 - corrected Alt 4 Pmax for DB
4/7 - strikeout Alt 3 for shortbelly - it is over the ABC

TABLE 2-1a (continued). Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2009 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Blue Rockfish (CA)	Managed under the Minor Nearshore Rockfish complexes			241	239	Managed under minor nearshore rockfish complexes		207	230			
Minor Rockfish North	3,680	3,680	2,270	3,678	3,678	2,280	2,263					
Nearshore Species			142			152	155					
Blue rockfish contribution				28	28	25	28					
Shelf Species			968			968						
Slope Species			1,160			1,160						
Minor Rockfish South	3,403		1,904	3,384	3,382	1,970	1,990					
Nearshore Species			564			630	650					
Blue rockfish contribution				213	211	182	202					
Shelf Species			714			714						
Slope Species			626			626						
California scorpionfish	236	202	175	175	155	111	175					
Cabezon (off CA only)	94	94	69	108	111	69	74	69				
Dover Sole	28,522	28,442	16,500	29,453	28,582	16,500						
English Sole	6,773	5,701	6,237	14,326	9,745	14,326						
Petrale Sole (coastwide) b/	2,917	2,919	2,499	2,811	2,751	2,433						
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	11,267					
Starry Flounder	1,221	1,221	890	1,509	1,578	1,004						
Other Flatfish	6,731	6,731	4,884	6,731	6,731	4,884						
Other Fish	14,600	14,600	7,300	TBD d/	TBD d/	TBD d/	TBD d/	TBD d/				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	901	1,349	3,426				
Kelp Greenling HG (OR)			OR HG			OR HG						

a/ The Council elected to average OY projections for 2007 and 2008. ABCs are year-specific.

b/ Area OYs/HGs are stratified according to the assessment areas and alternatively adjusted by management areas for lingcod and petrale sole.

c/ The yelloweye ramp-down strategy ramps the harvest rate down from the status quo harvest rate and resumes a constant harvest rate strategy in 2011. The 2007-2010 OYs are 23 mt, 20 mt, 17 mt, and 14 mt, respectively under the ramp-down strategy.

TABLE 2-1b. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2010 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Lingcod - coastwide b/	6,706	5,853		5,278	4,829							
N of 42° (OR & WA)			5,558			4,173	4,173					
S of 42° (CA)			812			612	656					
Pacific Cod	3,200	3,200	1,600	3,200	3,200	1,600						
Pacific Whiting (U.S.)	612,068 (2007 U.S. & Can.)	400,000 (2008 U.S. & Can.)	242,591 (2007), 269,545 (2008)	To be determined in March 2009	To be determined in March 2010	134,773	269,545	404,318				
Sablefish (Coastwide)	6,210	6,058	5,934	9,914	9,217	8,988	7,729	5,777				
N of 36° (Monterey north)			5,723			8,673	6,471	4,837				
S of 36° (Conception area)			210			315	1,258	941				
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	137	173	200			200
Shortbelly Rockfish	13,900	13,900	13,900	6,950	6,950	3,475	6,950	~~13,900~~				
WIDOW ROCKFISH	5,334	5,144	388	7,728	6,937	0	362	509				362
CANARY ROCKFISH	172	179	44	937	940	0	35	44	85	105	155	Ttarget=2021
Chilipepper Rockfish	2,700	2,700	2,000	3,037	2,576	2,000	2,099	2,576				
BOCACCIO	602	618	218	793	793	0	227	302				227
Splitnose Rockfish	615	615	461	615	615	461						
Yellowtail Rockfish	4,585	4,510	4,548	4,562	4,562	4,562						
Shortspine Thornyhead - coastwide	2,488	2,463		2,437	2,411							
Shortspine Thornyhead - N of 34°27'			1,634			1,591						
Shortspine Thornyhead - S of 34°27'			421			410						
Longspine Thornyhead - coastwide	3,953	3,860		3,766	3,671							
Longspine Thornyhead - N of 34°27'			2,220			2,175						
Longspine Thornyhead - S of 34°27'			478			385						
COWCOD	36	36	4	13	14	0	2	4				2 Ttarget=2065
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	165	235	306			Ttarget=2030
YELLOWEYE	47	47	Ramp-down c/	31	32	0	14	14	15			14
Black Rockfish (WA)	540	540	540	490	464	464						
Black Rockfish (OR-CA)	725	719	722	1,469	1,317	831	1000	1,317				

4/6 - updated 2008 whiting OY, and updated range of alternatives so that Alt 1 is 50%, Alt 2 is equal to 2008 OY, and alt 3 is 150%.
4/6 - updated Pmax for Bocaccio
4/6 - corrected Pmax for Alt 3 DB OY
4/7 - corrected OR-CA Black Rockfish ABCs to match table 2-1a
4/7 - strikeout Alt 3 for shortbelly - it is over the ABC

TABLE 2-1b (continued). Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2010 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Blue Rockfish (CA)	Managed under the Minor Nearshore Rockfish complexes			241	239	Managed under minor nearshore rockfish complexes		207	230			
Minor Rockfish North	3,680	3,680	2,270	3,678	3,678	2,280	2,283					
Nearshore Species			142			152	155					
Blue rockfish contribution				28	28	25	28					
Shelf Species			968			968						
Slope Species			1,160			1,160						
Minor Rockfish South	3,403		1,904	3,384	3,382	1,970	1,990					
Nearshore Species			564			630	650					
Blue rockfish contribution				213	211	162	202					
Shelf Species			714			714						
Slope Species			626			626						
California scorpionfish	236	202	175	175	155	99	155					
Cabezon (off CA only)	94	94	69	106	111	69	74	79				
Dover Sole	28,522	28,442	16,500	29,453	28,582	16,500						
English Sole	6,773	5,701	6,237	14,326	9,745	9,745						
Petrale Sole (coastwide) b/	2,917	2,919	2,499	2,811	2,751	2,393						
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	10,112					
Starry Flounder	1,221	1,221	890	1,509	1,578	1,077						
Other Flatfish	6,731	6,731	4,884	6,731	6,731	4,884						
Other Fish	14,600	14,600	7,300	TBD d/	TBD d/	TBD d/	TBD d/	TBD d/				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	902	1,349	3,269				
Kelp Greenling HG (OR)												

a/ The Council elected to average OY projections for 2007 and 2008. ABCs are year-specific.

b/ Area OYs/HGs are stratified according to the assessment areas and alternatively adjusted by management areas for lingcod and petrale sole.

c/ The yelloweye ramp-down strategy ramps the harvest rate down from the status quo harvest rate and resumes a constant harvest rate strategy in 2011. The 2007-2010 OYs are 23 mt, 20 mt, 17 mt, and 14 mt, respectively under the ramp-down strategy.

TABLE 2-2. Basis for the DRAFT 2009-2010 optimum yield alternatives recommended by the PFMC for analysis.

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Lingcod - coastwide						
Columbia and US-Vanc areas						
Eureka, Monterey, and Conception areas						
N of 42° (OR & WA)	Adjusted the projected OY from the 2005 assessment for N of 43 deg (Col and U.S.-Van areas) as follows: derived the percentage of the 2005-06 OY estimated for the area between 42 and 43 deg. (107 mt/719 mt) and applied this proportion to the estimated OY S of 43 deg. to determine an estimated OY for the area between 42 and 43 deg. This was added to the projected OY for N of 43 deg. to determine an appropriate OY for N of 42 deg.	Adjusted the projected OY from the 2005 assessment for N of 43 deg (Col. and U.S.-Van areas) as follows: derived the percentage of the 2005-06 OY estimated for the area between 42 and 43 deg. (107 mt/719 mt) and applied this proportion to the estimated OY S of 43 deg. to determine an estimated OY for the area between 42 and 43 deg. This was added to the projected OY for N of 43 deg. to determine an appropriate OY for N of 42 deg.				
S of 42° (CA)	Status quo	Adjusted the projected OY for S of 43 deg (Col. and U.S.-Van areas) as follows: derived the percentage of the 2005-06 OY estimated for the area between 42 and 43 deg. (107 mt/719 mt) and applied this proportion to the estimated OY S of 43 deg. to determine an estimated OY for the area between 42 and 43 deg. This was subtracted from the projected ave. 2009-10 OY for S of 43 deg. to determine an appropriate OY for S of 42 deg.				
Pacific Cod	Status quo					
Pacific Whiting (U.S.)	50% of 2008 U.S. OY	2008 U.S. OY	150% of 2008 U.S. OY			
Sablefish (Coastwide)	From Schirripa 2007 base model; Note: 2009-10 ave. OY > 2010 ABC	From Schirripa 2007 base model, based on the sum of South of Conception OY with 50% precautionary adjustment and North of Conception OY	From Schirripa 2007 low abundance model, based on the sum of South of Conception OY with 50% precautionary adjustment and North of Conception OY			
N of 36° (Monterey n	96.5% of coastwide OY, which is the status quo apportionment	72% of coastwide OY, which is the 2003-06 ave. proportion of the estimated swept-area biomass from the NWFSC shelf-slope survey	72% of coastwide OY, which is the 2003-06 ave. proportion of the estimated swept-area biomass from the NWFSC shelf-slope survey			
S of 36° (Conception	3.5% of coastwide OY, which is the status quo apportionment	28% of the base model coastwide OY (based on 2003-06 ave. biomass from the NWFSC shelf-slope survey) with a 50% precautionary adjustment due to assessment and survey uncertainty, and lack of access to fishing grounds in the CCA	28% of the low productivity model coastwide OY (based on 2003-06 ave. biomass from the NWFSC shelf-slope survey) with a 50% precautionary adjustment due to assessment and survey uncertainty, and lack of access to fishing grounds in the CCA			
PACIFIC OCEAN PER	T (@ F=0) = 2010	SPR = F90.3%, Ttarg = 2010, Pmax = 95.6%	SPR = F85% (HR that produces the 0708 ave. OYs); Ttarg = 2011; Pmax = 95%	Status quo SPR = F86.4%, Ttarg = 2011, Pmax = 94.4%		
Shortbelly Rockfish	25% of status quo ABC/OY, stock projected to rebuild	50% of status quo ABC/OY, stock projected to remain in equilibrium	Status quo ABC/OY, stock projected to decrease dramatically			
WIDOW ROCKFISH	T (@ F=0) = 2009	SPR = F96.4% (HR that produces the 0708 ave. OYs); Ttarg = 2009; Pmax = 100%	Status quo SPR = F95%, Ttarg = 2009, Pmax = 100%			
CANARY ROCKFISH	T (@ F=0) = 2019	SPR = F97.3%, Ttarg = 2020; Pmax = 75.0%	Status quo OY SPR = F96.2%, Ttarg = 2020, Pmax = 75.0%	SPR = F93.6%, Ttarg = 2020, Pmax = 75.0%	SPR = F92.2%, Ttarg = 2020, Pmax = 75.0%	Status quo SPR = F88.7%, Ttarg = 2021; Pmax = 75%
Chilipepper Rockfish	Status quo OY specifically less than the ABC as an added precautionary mechanism for reducing bocaccio bycatch	Long-term equilibrium MSY at F50%				
BOCACCIO	T (@ F=0) = 2020	SPR = F82.6% (HR that produces the 0708 ave. OYs); Ttarg = 2022; Pmax = 91.5%	Status quo SPR = F77.7%, Ttarg = 2023, Pmax = 88.8%			

TABLE 2-1. Basis for the preliminary 2009-2010 optimum yield alternatives recommended by the PFMC for analysis (continued).

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Blue Rockfish (CA)	Managed under minor NS complexes		Represents 40:10 base case scenario plus 9 mt from 50% of the original 94-99 Pt Conception south contribution of blue rockfish to minor nearshore south ABC	Based on setting the OY equal to the ABC (high productivity model as constrained by the base model ABC) plus 9 mt from 50% of the original 94-99 Pt Conception south contribution of blue rockfish to minor nearshore south ABC		
Minor Rockfish North	Based on the increased blue rockfish contribution	Based on the increased blue rockfish contribution				
Nearshore Species	Based on revising the contribution of blue rockfish using the 40:10 base case scenario from the blue rockfish assessment	Based on revising the contribution of blue rockfish using the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Blue rockfish contr	Based on the historical northern (42° to 40°10') proportion of blue rockfish applied to the 40:10 base case OY	Based on the historical northern (42° to 40°10') proportion of blue rockfish applied to the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Shelf Species	Status quo					
Slope Species	Status quo					
Minor Rockfish South	Based on increased blue rockfish contribution	Based on increased blue rockfish contribution				
Nearshore Species	Based on revising the original contribution of blue rockfish using the 40:10 base case scenario from the blue rockfish assessment	Based on revising the contribution of blue rockfish using the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Blue rockfish contr	Based on the historical central (40°10' to 34°27') proportion of blue rockfish applied to the 40:10 base case OY	Based on the historical central (40°10' to 34°27') proportion of blue rockfish applied to the 40:10 high productivity scenario (as constrained by the ABC) from the blue rockfish assessment				
Shelf Species	Status quo					
Slope Species	Status quo					
Remaining Rockfish South						
Bank						
Blackgill						
Gopher						
Sharpchin						
Yellowtail						
Other Rockfish South						
California scorpionfish	Based on the results of the 2005 assessment modified to incorporate CRFS monitoring data for the CPFV component	Status quo Based on a value between 137 (2007-8 OY as modified by CRFS) and 219 (base model without CPFV modification)				
Cabezon (off CA only)	Status quo OY (average 2007-2008 projection) based on F50% harvest rate with a 60:20 adjustment from the 2005 assessment	Average OY from the 2005 Assessment for 2009-2010 based on F50% harvest rate with a 60:20 adjustment	Year-specific OY from the 2005 Assessment for 2009-2010 based on F50% harvest rate with a 60:20 adjustment			
Dover Sole	Equilibrium MSY under the proxy HR (SPR= F40%) from 2005 assessment					
English Sole	OY from base model					
Petrale Sole (coastwide)	Projected from 2005 assessment sum of ave 40:10 adjusted northern OYs and 75% of 40:10 adjusted southern OYs (75% precautionary adjustment for assessment uncertainty)					
Columbia and US-Vanc areas						
Eureka, Monterey, and Conception areas						
N of 40°10'						
S of 40°10'						

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TABLE 2-2. Basis for the preliminary 2009-2010 optimum yield alternatives recommended by the PFMC for analysis (continued).

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Arrowtooth Flounder	Equilibrium MSY under the proxy HR (SPR = F40%)	OY = ABC from base model, Note OY > 2010 ABC				
Other Fish	TBD	TBD	TBD			
Longnose Skate	Projected OY under the current estimated exploitation rate	OY based on a 50% increase in average landings and discard mortality relative to the base model	OY = ABC under the proxy SPR HR (F45%)			
Kelp Greenling HG (O	Status quo					

4/6 - updated 2008 whiting OY, and updated range of alternatives so that Alt 1 is 50%, Alt 2 is equal to 2008 OY, and alt 3 is 150%.
4/6 - made SPR, Time to rebuild, etc. for DB consistent btw tables notes
4/6 - clarify Alt 1 sablefish OY is from the schirripa BASE MODEL, and is directly comparable to the same stock assessment model as Alt 2, but Alt 2 uses a different apportionment approach

TABLE 2-2. Basis for the preliminary 2009-2010 optimum yield alternatives recommended by the PFMC for analysis (continued).

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY
Splitnose Rockfish	Status quo					
Yellowtail Rockfish	OY = ABC projected from 2005 assessment					
Shortspine Thornyhead -	No coastwide OY (status quo)					
Shortspine Thornyhead	OY = 66% of the projected coastwide ABC/OY since the 2005 assessment indicated 66% of the biomass occurs N of Pt. Conception (status quo methodology)					
Shortspine Thornyhead	OY = 34% of the projected coastwide ABC/OY since the 2005 assessment indicated 34% of the biomass occurs S of Pt. Conception with an additional 50% precautionary reduction to account for the paucity of survey data S of Pt. Conception (status quo methodology)					
Longspine Thornyhead -	No coastwide OY (status quo)					
Longspine Thornyhead	Coastwide ABC/OY projected from the 2005 assessment was apportioned N & S of Pt. Conception as follows: Assumed constant density throughout the Conception area and estimated 79% of the assessed coastwide biomass occurs N of Pt. Conception, with a 25% precautionary reduction to account for relatively higher assessment uncertainty (status quo methodology)					
Longspine Thornyhead	Coastwide ABC/OY projected from the 2005 assessment was apportioned N & S of Pt. Conception as follows: Assumed constant density throughout the Conception area and estimated 21% of the assessed coastwide biomass occurs S of Pt. Conception, with a 50% precautionary reduction to account for relatively higher assessment uncertainty and a paucity of survey data for the Conception area (status quo methodology)					
COWCOD	T (@ F=0) = 2061; Pmax = 78.4%	Status quo SPR = F90%; Ttarg = 2065; Pmax = 72.4%	SPR = F82.1% (produces the 2007-08 OY), Ttarg = 2072, Pmax = 66.2%			
S of 36° (Conception area)						
N of 36° (Monterey area)						
DARKBLOTCHED	T (@ F=0) = 2018	SPR = F75.6%, Ttarg = 2022, Pmax = 97.7%	SPR = F67.7%, Ttarg = 2025, Pmax = 91.0%	Status quo SPR = F60.7%; Ttarg = 2030; Pmax = 76.7%		
YELLOWEYE	T (@F=0) = 2049	Constant HR strategy; SPR = F71.9%, Ttarg = 2082, Pmax = 69.5%	HR ramp-down strategy (2009 OY = 17 mt, SPR HR = F66.3%; 2010 OY = 14 mt, SPR HR = F71.3%); Ttarg = 2082; Pmax = 68.9%	Constant HR strategy; SPR = F69.3%, Ttarg = 2090 (= Tmax); Pmax = 50%		
Black Rockfish (WA)	OY under the base model (M=0.16 males, M=0.24 females) with a 3% reduction to account for the portion of the stock estimated between Cape Falcon and the Columbia River.					
Black Rockfish (OR-C	OY under the low productivity scenario with the addition of the northern OY 3% reduction to account for the portion of the stock estimated between Cape Falcon and the Columbia River	Constant catch scenario requested by the GMT;	OY under the medium productivity scenario (base case) with the addition of the northern OY 3% reduction to account for the portion of the stock estimated between Cape Falcon and the Columbia River.			

H.1.c

Agenda Item H.1.c
Supplemental GMT Rpt 3
April 2008

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON HARVEST SPECIFICATIONS FOR 2009-2010 FISHERIES

Mr. John Devore provided an overview of the background materials associated with this agenda item, including correction of a number of editing errors in the tables (H.1a, Attachment 2). In November 2007, the Scientific and Statistical Committee (SSC) reviewed the acceptable biological catches (ABCs) and optimum yields (OYs) for the 2009-2010 management cycle, and endorsed their use by the Council in developing management measures. Further review at this meeting did not uncover issues that would cause the SSC to amend this endorsement.

The SSC recommends that in the future, a more thorough process be developed for confirmation of the final numbers in the harvest specification tables (H.1a, Attachment 2). The large number of species/stocks in these tables, coupled with a multiplicity of management actions/alternatives, makes it difficult for the SSC to confirm all table entries during the course of a typical, two-day SSC meeting. A brief meeting of the SSC Groundfish Subcommittee and key members of the Groundfish Management Team (GMT) and Council staff in conjunction with the November 2009 Council meeting may be a preferable process for final confirmation of the harvest specifications. Further, the process would also be greatly facilitated by providing links between the ABCs shown in the harvest specification tables and the assessment document tables on which they are based.

The SSC notes that generally the Council's ABCs are taken as the point estimates from the base case assessment results. Although decision tables capture the uncertainty in the ensuing OYs, uncertainty in the ABCs is not explicitly conveyed in the Council's current process. The upcoming Magnuson-Stevens Reauthorization Act (MSRA) implementation – particularly revision to the NS1 (National Standard) and NS2 guidelines – may require a full consideration of uncertainty when establishing ABCs. A decision rule that adjusts the ABC from the base case approach as a function of uncertainty and risk may need to be developed. Many of the Council's groundfish assessments provide estimates of uncertainty that are suitable for such an ABC decision rule. However, the risk aspects are critical and will require guidance from the Council as well as the revised NS guidelines. More specifically, the Council's current ABCs are risk-neutral in that best estimates of ABC are neither decreased nor increased in the face of uncertainty – even when uncertainty is large. The MSRA implementation may require a risk-averse approach – where ABCs are reduced as a function of the uncertainty and risk – for the Council's 2011-2012 harvest specifications.

Finally, the SSC notes three specific issues related to the 2009-2010 harvest specifications.

1. For shortbelly rockfish, the "Alt 3 OY" is greater than the ABC (Table 2-1a). This alternative should be modified or deleted since OY cannot exceed ABC.

2. For sablefish, a coastwide model was used for the assessment and consequently, the ABC and OY values (tabulated by the GMT) are with respect to entire U.S. west coast (i.e. from the U.S.-Canada border south to the U.S.-Mexico border). However, the executive summary of the assessment document (second sentence therein) suggests to some that the assessed biomass corresponds to that north of Point Conception only. The sablefish

executive summary should be modified to clarify the geographic extent of the assessed stock before the final assessment document is published.

3. As a general matter, the SSC recommends that the Council manage fisheries based on stock targets and thresholds that are defined at a level concordant with stock assessments, not based on an assemblage aggregate. However, if the Council elects to continue managing blue rockfish as part of the southern nearshore assemblage, in-season landings should be closely tracked to ensure that the blue rockfish catch does not exceed its ABC. This issue primarily applies to blue rockfish but other species may have similar concerns, e.g. longnose skate.

PFMC
04/08/08

Point Conception Groundfishermen's Association
Santa Barbara, CA

March 26, 2008

Don Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Pl. Suite 101
Portland, OR 97220-1384

RE: 2009/2010 Cow Cod OY

Mr. Chairman and members of the Council,

The Point Conception Groundfishermen's Association (PCGA) represents commercial fixed gear fishermen in Southern California, many of whom rely solely on fishing for rockfish for a living. We wish to comment on a very important decision the Council will be making in Seattle that could severely impact our members.

The Council will be selecting final OY's for the upcoming 2009/2010 fishing seasons with Cow Cod being one of the most important to Southern California . PCGA requests that the Council adopt status quo alternative 3, that being a 4 MT OY. Anything less than this will in fact create economic hardship on a fleet that has been struggling to survive since the first Cow Cod assessment back in 1999. The Council took drastic measures in 2001 to create protection for this species in the form of the Cow Cod Conservation Area (CCA), a massive 4600 square mile closed section of ocean containing the most prime Cow Cod habitat. The Council has also implemented RCA's in the other still open areas with more stock protection in the waters between 60 and 150 fathoms.

PCGA reminds the Council that the latest Cow Cod assessment is one of the most data poor reviews this management body has ever undertaken. We strongly feel that a 4 MT OY offers plenty of stock protection and allows for absolutely no directed fishing! With the CCA and other RCA's currently in place in the So Cal Bight, Cow Cod may very well be the most protected species in the United States! We hope that the Council considers this in its deliberations, and chooses not to cause any further economic harm to the fishermen of Southern California. Please maintain the Cow Cod status quo OY of 4 MT for the 09/10 fishing season!

We thank you for your consideration of this matter.

Gerry Richter,
VP PCGA

MIRAGE SPORTFISHING

March 25, 2008

Donald Hansen, Chairman

Pacific Fishery Management Council
7700 NE Ambassador PL Suite 101
Portland, OR 97220-1384

Subject OY for Cow Cod

Dear Donald Hansen, Chairman:

Mirage Sportfishing is a charter service (CPFV) that operates exclusively in the Southern California Bight. We rely heavily on ground fish. To loose any opportunity that we had in the 2007/2008 management cycle would be economically devastating. To loose any opportunity due to the recent cow cod stock assessment would be ludicrous, a stock assessment that has very little substance behind it.

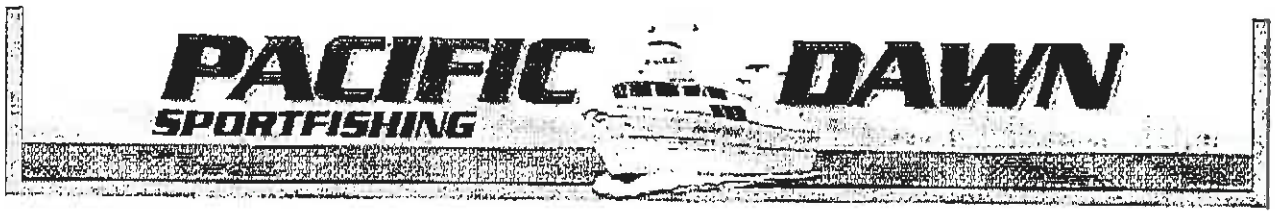
In the Southern California Bight, we have huge areas set aside just for the conservation of the cow cod. And 100 percent of the cow cod spawning habitat is protected by conservation areas such as the, RCA and the CCA which have never been factored into any rebuilding program.

With this being said, I would strongly urge the council to consider the fact that anything less than status quo (4 metric ton O Y for cow cod) would create an economic disaster for myself and the rest of the fleet.

Sincerely,

Joe Villareal
Owner/Operator

223 ERBES RD #217 • THOUSAND OAKS, CA • 91362
PHONE: 805-497-8704 OR 805-377-9316



2638 Garrison St.

San Diego. Ca 92115

Phone (619) 269-2186

fax (619) 269-2672

Donald Hansen, Chairman

Pacific Fishery Management Council
770 NE Ambassador PL. Suite 101
Portland, OR 97220-1384

Subject OY for Cow Cod

Dear Donald Hansen, Chairman:

Pacific Dawn Sportfishing is a charter service (CPFV) that operates seasonally in the Southern California Bight. We spent our spring season (March 1 - June 15) and our Fall season (November 1 - December 31) Operating out of Ventura county. In that time we rely heavily on ground fish. To loose any opportunity that we had in the 2007/2008 management cycle would be like eliminating one of our seasons all together. It would have a huge negative economic impact on my business, as well as many others. To loose any opportunity due to the recent cow cod stock assessment would be ridiculous, a stock assessment that has very little substance behind it.

In the Southern California Bight, we have huge areas set aside just for the conservation of the cow cod. And 100 percent of the cow cod spawning habitat is protected by conservation areas such as the , RCA and the CCA which have never been factored into any rebuilding program.

With this in mind, I would strongly urge the council to consider the fact that anything less that status Quo (4 metric ton OY for cow cod) would create an economic disaster for business, my family and the rest of the fleet.

Sincerely,

Patrick Cavanaugh

Captain/Owner

SPORTFISHING ASSOCIATION OF CALIFORNIA

1084 BANGOR STREET
SAN DIEGO, CALIFORNIA 92106
(619) 226-6455 FAX (619) 226-0175
Email: dart@sacemup.org

ROBERT C. FLETCHER
PRESIDENT

RECEIVED
MAR 25 2008
PFMC

March 21, 2008

Donald Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Pl., Suite 101
Portland, OR 97220-1384

Subject: OY for Cow Cod.

Dear Chairman Hansen:

The Sportfishing Association of California (SAC) represents over 130 commercial passenger Fishing Vessels (CPFVs) in southern California, and many of these small businesses rely on fishing for rock fish in the waters of the southern California bight. It is for this reason that we are writing and are frankly at a loss to understand the recent cow cod stock assessment that recommended an OY of only 2 tons!

The cow cod conservation area covers nearly 4500 square miles of ocean with much of it centered in prime cow cod habitat. The rock fish conservation area covers all waters deeper than 60 fathoms south of Point Conception. Between the two, they protect nearly 100 % of the cow cod spawning and rearing habitat south of Point Conception, and multi beam sonar and remotely operated vehicle surveys over the last several years have shown large numbers of cow cod throughout the CCA and the RCA.

As the status quo of 4 MT is within the range of options to be considered, SAC would like to strongly support adoption of this alternative, as anything less without clear scientific justification would be punishing an industry with scant cause. Kind of like an 'El Nino' adjustment without an El Nino! Please consider the negative economic impact of choosing a lower OY and adopt the 4 MT OY for cow cod.

Thank you for your consideration of our comments.

Sincerely,

Bob Fletcher, President

ALOHA SPIRIT SPORTFISHING

March 27, 2008

Donald Hansen, Chairman

Pacific Fishery Management Council
7700 NE Ambassador PL Suite 101
Portland, OR 97220-1384

Subject OY for Cow Cod

Dear Donald Hansen, Chairman:

Aloha Spirit Sportfishing is a charter service (CPFV) that operates exclusively in the Southern California Bight. We rely heavily on ground fish. To loose any opportunity that we had in the 2007/2008 management cycle would be economically devastating.It would not only be devastating on the fishing side of things, but most of us have mortgage's to pay, kids to put through school and are a sole income for a family. To loose any opportunity due to the recent cow cod stock assessment would be ludicrous, a stock assessment that has very little substance behind it.

In the Southern California Bight, we have huge areas set aside just for the conservation of the cow cod. And 100 percent of the cow cod spawning habitat is protected by conservation areas such as the, RCA and the CCA which have never been factored into any rebuilding program.

With this being said, I would strongly urge the council to consider the fact that anything less than status quo (4 metric ton O Y for cow cod) would create an economic disaster for myself, my family, and the rest of the fleet.

Sincerely, Shawn Steward

Owner/Operator
ALOHA SPIRIT

REEL GRAPHICS

March 27, 2008

Donald Hansen Chairman
Pacific Fishery management Council
7700 NE Ambassador Pl. Suite #101
Portland, Or 97220

Subject OY for Cowcod

Dear Donald Hansen, Chairman:

Reel Graphics Inc. is a graphics company that operates it's business in Southern California. We do graphics on sportfishing and commercial yachts and small craft. To lose any more of our fishing grounds will be devastating to our business and other business that rely on the sport and commercial community.

To loose any opportunity due to the recent cow cod stock assessment would be ludicrous, with a stock assessment that has very little research behind it.

In southern California Bight, we have set aside just for conservation of the cow cod, and 100 percent of the cow spawning habitat is protected by conservation areas such as the RCA and CCA have never been factored into any rebuilding program.

I would strongly urge you to consider the fact anything less then 4 metric tons O Y for cow cod would create an economic disaster for myself, my family, and the rest of the fishing community.

Sincerely,

Keith Denette
Owner

1921 W. 5TH ST. • OXNARD, CA 93030
805-815-0484

March 30, 2008

RE; Cow Cod Stock Assessment

Dear Pacific Fishery Management Council Members,

I would like you to consider the following information regarding the utility of the stock assessment information regarding the current abundance of Cow Cod on the west coast and some suggestions to improve this situation and your decision making process.

The most current assessment is a data poor stock assessment that is technically flawed in several key aspects, primarily because the National Marine Fishery Service (NMFS) has engaged in a neglectful and shortsighted Cow Cod management strategy.

Adopting an Optimum Yield (OY) below the current small OY will only exacerbate this problem.

The Technical problem with this assessment and many other rockfish assessments can be traced back to crisis management without any commitment or funding for management. All stock assessments require an assessment model and input data. The input data historically used for Cow cod is primarily fishery dependant. This means that it was generated by collecting CPUE, size structure, and regional catch statistics information from fishing activity.

When you were forced to create the Cow cod Conservation Area (CCA) as well as the CRCA by your federal partner the NMFS, you technically corrupted the utility of fishery dependant input data that the stock assessment models require, because you ended the fishery and its ability to produce the required input data.

It is impossible to understand the current relative abundance of Cow cod in the CCA compared to the relative abundance of Cow cod the year you created the closure using the model you are using due to two key factors.

Factor 1: No fishing has been allowed in the Cow cod's preferred depth range for 8 years, thus recovery or further decline of the stock can not be measured by running models that are dependent on data streams produced by a fishery that no longer take place. No fishing, no new data! No new data, no ability to manage effectively.

Factor 2: No viable and/or accepted monitoring system was or has been developed to measure how Cow cod respond when fishing is stopped. If the NMFS cannot respond appropriately to this problem, it is your responsibility to take action.

Failing to recognize the significance of this action and continuing to run dateless models (stock assessment) is irresponsible, irrational, and a dereliction of our management duties.

The solution to this problem is not to eliminate your data stream it is to enhance it.

1) You should support sonar surveys pared to ROV verification.

2) You should immediately develop an annual CPUE, and size structure, fishing for data transect survey in the CCA. This will enable you to develop an abundance index over time, as well as real time fishery dependant data to support your current assessment model.

Had you developed this index 8 years ago you would be making this decision based on information, not the lack of it.

If you are concerned that the index would cause too much mortality then you are just looking for excuses to do nothing. Lead, follow or get out of the way.

Chris Hoeflinger
"A" permit holder

March 30, 2008

RE; Cow Cod Stock Assessment

Dear Pacific Fishery Management Council Members,

I would like you to consider the following information regarding the utility of the stock assessment information regarding the current abundance of Cow Cod on the west coast and some suggestions to improve this situation and your decision making process.

The most current assessment is a data poor stock assessment that is technically flawed in several key aspects, primarily because the National Marine Fishery Service (NMFS) has engaged in a neglectful and shortsighted Cow Cod management strategy.

Adopting an Optimum Yield (OY) below the current small OY will only exacerbate this problem.

The Technical problem with this assessment and many other rockfish assessments can be traced back to crisis management without any commitment or funding for management. All stock assessments require an assessment model and input data. The input data historically used for Cow cod is primarily fishery dependant. This means that it was generated by collecting CPUE, size structure, and regional catch statistics information from fishing activity.

When you were forced to create the Cow cod Conservation Area (CCA) as well as the CRCA by your federal partner the NMFS, you technically corrupted the utility of fishery dependant input data that the stock assessment models require, because you ended the fishery and its ability to produce the required input data.

It is impossible to understand the current relative abundance of Cow cod in the CCA compared to the relative abundance of Cow cod the year you created the closure using the model you are using due to two key factors.

Factor 1: No fishing has been allowed in the Cow cod's preferred depth range for 8 years, thus recovery or further decline of the stock can not be measured by running models that are dependent on data streams produced by a fishery that no longer take place. No fishing, no new data! No new data, no ability to manage effectively.

Factor 2: No viable and/or accepted monitoring system was or has been developed to measure how Cow cod respond when fishing is stopped. If the NMFS cannot respond appropriately to this problem, it is your responsibility to take action.

Failing to recognize the significance of this action and continuing to run dateless models (stock assessment) is irresponsible, irrational, and a dereliction of our management duties.

The solution to this problem is not to eliminate your data stream it is to enhance it.

1) You should support sonar surveys pared to ROV verification.

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Had you developed this index 8 years ago you would be making this decision based on information, not the lack of it.

If you are concerned that the index would cause too much mortality then you are just looking for excuses to do nothing. Lead, follow or get out of the way.

Chris Hoeflinger
"A" permit holder

John Law
2795 Massachusetts Ave.
Lemon Grove, CA. 91945
(858) 414-9731

Agenda Item H.1.a.

Council Members, It has been brought to my attention that the stock assessment for Cow Cod is up for review and that there is consideration for lowering the OY below the current OY of 4 MT's.

Currently the entire habitat for Cow Cod is closed to all types of directed fishing. All waters of the state beyond 60 fathoms are off limits to sport and commercial fishermen. In addition, thousands of square miles are dedicated as " Cow Cod Closure Areas ". Commercial fishermen fishing in both the limited entry and open access catagories are now required to have operating VMS systems aboard as insurance that none of the CCA's and RCA's are being fished. Sport fishermen are limited to the same 60 fathom water and because of the two hook limit, and severe restrictions on the take of Boccacio, they are now forced to fish shallower, with more emphasis on a combination of shelf and deeper nearshore rockfish and ocean whitefish.
There is nothing more that can be done to protect Cow Cod from the sport or commercial sectors. The simple fact is, the waters where Cow Cod live are completely off limits and protected. Any lowering of the 4MT OY is not neccessary and will only lead to further reductions and stress on both fleets.

Thank You. John Law

Agenda Item H.2
Situation Summary
April 2008

NATIONAL MARINE FISHERIES SERVICE REPORT

National Marine Fisheries Service (NMFS) Northwest Region will briefly report on recent regulatory developments relevant to groundfish fisheries and issues of interest to the Pacific Fishery Management Council (Council).

NMFS Northwest Fisheries Science Center (NWFSC) will also briefly report on groundfish-related science and research activities.

Council Task:

Discussion.

Reference Materials:

None.

Agenda Order:

a. Regulatory Activities — Frank Lockhart
b. Science Center Activities — Elizabeth Clarke
c. Reports and Comments of Advisory Bodies
d. Public Comment
e. Council Discussion

PFMC
03/20/08

Exploitable biomass estimate (mt)	Adjusted trips (full-time, part-time, occasional)	Adjusted trips (general category)	Adjusted 2009 research set-aside TAC	Adjusted 2009 observer set-aside TAC
Less than 10,000	0, 0, 0	491	0.08	0.04

* Part-time vessels may take one trip in the Elephant Trunk Access Area at a reduced possession limit of 3,600 lb (1,633 kg) and one trip in the NLCA with a possession limit of 18,000 lb (8,165 kg).
* * Occasional vessels may take 1 trip in the Nantucket Lightship Access Area or one trip in the Elephant Trunk Access Area.

(*3*) *Table of Delmarva Access Area TAC and trip allocation adjustments based on exploitable biomass estimates and revised target TAC levels.* The following table specifies the adjustments that shall be made through the procedure specified in paragraph (a)(3)(i)(F)(*1*) of this section under various biomass estimates and adjusted 2009 target TAC estimates:

Exploitable biomass estimate (mt)	Adjusted trips (full-time, part-time, occasional)	Adjusted trips (general category)	Adjusted 2009 research set-aside TAC	Adjusted 2009 observer set-aside TAC
10,000 or greater	No adjustment	No adjustment	No adjustment	No adjustment
Less than 10,000	0,0,0	0	0	0

* * * * *

(5) *Possession and landing limits*—(i) *Scallop possession limits.* Unless authorized by the Regional Administrator, as specified in paragraphs (c) and (d) of this section, after declaring a trip into a Sea Scallop Access Area, a vessel owner or operator of a limited access scallop vessel may fish for, possess, and land, per trip, scallops, up to the maximum amounts specified in the table in this paragraph (a)(5). No vessel fishing in the Sea Scallop Access Area may possess shoreward of the VMS demarcation line, or land, more than 50 bu (17.6 hl) of in-shell scallops.

Fishing Year	Permit Category Possession Limit		
	Full-time	Part-time	Occasional
2008	18,000 lb (8,165 kg)	18,000 lb (8,165 kg)	7,500 lb (3,402 kg)
2009	18,000 lb (8,165 kg)	18,000 lb[1] (8,165 kg)	7,500 lb (3,402 kg)

[1] Unless reduced per § 648.60(a)(3)(i)(E)(*2*)

* * * * *

(d) *Possession limit to defray costs of observers*—(1) *Observer set-aside limits by area*—(i) *Nantucket Lightship Access Area.* For the 2008 fishing year, the observer set-asides for the Nantucket Lightship Access Area is 55,000 lb (25 mt).

(ii) *Closed Area II Access Area.* For the 2009 fishing year, the observer set-aside for the Closed Area II Access Area is 58,000 lb (26 mt).

(iii) *Elephant Trunk Access Area.* For the 2008 and 2009 fishing years, the observer set-aside for the Elephant Trunk Access Area is 222,000 lb (101 mt), and 162,000 lb (73 mt), respectively, unless the 2009 set-aside is adjusted as specified in paragraph (a)(3)(i)(E) of this section.

(iv) *Delmarva Access Area.* For the 2009 fishing year, the observer set-aside for the Delmarva Access Area is 60,000 lb (27 mt), unless the 2009 set-aside is adjusted as specified in paragraph (a)(3)(i)(E) of this section.

* * * * *

(e) * * *

(1) *Research set-aside limits and number of trips by area*—(i) *Nantucket Lightship Access Area.* For the 2008 fishing year, the research set-aside for the Nantucket Lightship Access Area is 110,000 lb (50 mt).

(ii) *Closed Area II Access Area.* For the 2009 fishing year, the research set-aside for the Closed Area II Access Area is 116,000 lb (53 mt).

(iii) *Elephant Trunk Access Area.* For the 2008 and 2009 fishing years, the research set-aside for the Elephant Trunk Access Area is 440,000 lb (200 mt), and 324,000 lb (147 mt), respectively, unless the 2009 set-aside is adjusted as specified in paragraph (a)(3)(i)(E) of this section.

(iv) *Delmarva Access Area.* For the 2009 fishing year, the research set-aside for the Delmarva Access Area is 120,000 lb (54 mt), unless the 2009 set-aside is adjusted as specified in paragraph (a)(3)(i)(E) of this section.

* * * * *

10. The following revision to § 648.62 is based on the proposed rule for Amendment 11 (72 FR 71315, December 17, 2007). In § 648.62, paragraph (b)(1) is revised to read as follows.

§ 648.62 Northern Gulf of Maine (NGOM) scallop management area.

* * * * *

(b) * * *

(1) *NGOM TAC.* The TAC for the NGOM shall be 70,000 lb (31.8 mt) for both the 2008 and 2009 fishing years.

* * * * *

[FR Doc. 08–1055 Filed 3–14–08; 4:08 pm]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 660

RIN 0648–AW08

A Vessel License Limitation Program for the Pacific Whiting Fishery; Amendment 15 to the Pacific Coast Groundfish Fishery Management Plan

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Availability of an amendment to a fishery management plan; request for comments.

SUMMARY: NMFS announces that the Pacific Fishery Management Council (Council) has submitted Amendment 15 to the Pacific Coast Groundfish Fishery Management Plan (FMP) for review by the Secretary of Commerce (Secretary). Amendment 15 would modify the FMP to implement a limited entry program for the non-tribal Pacific whiting fishery. Amendment 15 is intended to limit participation in the Pacific whiting fishery within the U.S. West Coast

Exclusive Economic Zone until the implementing of a trawl rationalization program in the Pacific whiting fishery.

DATES: Comments on Amendment 15 must be received on or before May 19, 2008.

ADDRESSES: You may submit comments, identified by RIN 0648–AW08 by any of the following methods:

- Electronic Submissions: Submit all electronic public comments via the FederaleRulemaking Portal *http://www.regulations.gov*.
- Fax: 206–526–6736, Attn: Becky Renko.
- Mail: D. Robert Lohn, Administrator, Northwest Region, NMFS, Attn: Becky Renko, 7600 Sand Point Way NE, Seattle, WA 98115–0070.

Instructions: All comments received are a part of the public record and will generally be posted to *http://www.regulations.gov* without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

NMFS will accept anonymous comments. Attachments to electronic comments will be accepted in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only.

FOR FURTHER INFORMATION CONTACT: Becky Renko (Northwest Region, NMFS), phone: 206–526–6129; fax: 206–526–6736; and e-mail: *becky.renko@noaa.gov*.

SUPPLEMENTARY INFORMATION:

Electronic Access

Amendment 15 is available on the Pacific Fishery Management Council's (Council's or Pacific Council's) website at: *http://www.pcouncil.org/groundfish/gffmp.html*.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires that each regional fishery management council submit any FMP or plan amendment it prepares to NMFS for review and approval, disapproval, or partial approval. The Magnuson-Stevens Act also requires that NMFS, upon receiving an FMP or amendment, immediately publish a notice that the FMP or amendment is available for public review and comment. NMFS will consider the public comments received during the comment period described above in determining whether to approve Amendment 15 to the FMP.

Amendment 15 would implement a limited entry program for the Pacific whiting fishery, which occurs within the U.S. Exclusive Economic Zone off the coasts of Washington, Oregon, and California. The whiting fishery is currently managed with separate allocations for the tribal and non-tribal whiting fisheries, and with sector-specific whiting allocations for the three non-tribal sectors: mothership, catcher/processor, and shore-based. Vessels that participate in the mothership sector include both the motherships themselves and the catcher vessels that deliver to the at-sea mothership processors. Vessels that participate in the catcher/processor sector are self-contained at-sea processors that both catch and process fish. Vessels that participate in the shore-based sector are catcher vessels that deliver their catch to land-based processing plants. This action would limit participation in each of the three non-tribal sectors of the Pacific whiting fishery to those vessels, both catcher vessels and at-sea processing vessels, with historic participation in those particular sectors.

NMFS welcomes comments on the proposed FMP amendment through the end of the comment period. A proposed rule to implement Amendment 15 has been submitted for Secretarial review and approval. NMFS expects to publish and request public review and comment on proposed regulations to implement Amendment 15 in the near future. Public comments on the proposed rule must be received by the end of the comment period on the amendment to be considered in the approval/disapproval decision on the amendment. All comments received by the end of the comment period for the amendment, whether specifically directed to the amendment or the proposed rule, will be considered in the approval/disapproval decision.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: March 13, 2008.

Emily H. Menashes,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. E8–5561 Filed 3–18–08; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 680

RIN 0648–AW37

Fisheries of the Exclusive Economic Zone Off Alaska; Bering Sea and Aleutian Islands King and Tanner Crabs

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of availability of an amendment to a fishery management plan; request for comments.

SUMMARY: NMFS proposes Amendment 24 the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (FMP) to: specify a five-tier system for determining the status of the crab stocks managed under the FMP, establish a process for annually assigning each crab stock to a tier and for setting the overfishing and overfished levels, and reduce the number of crab stocks managed under the FMP. Amendment 24 is necessary to establish new overfishing definitions that contain objective and measurable criteria for determining whether each managed stock is overfished or whether overfishing is occurring and to remove several crab stocks managed by the State of Alaska from FMP management. This action is intended to promote the goals and objectives of the Magnuson-Stevens Fishery Conservation and Management Act, the FMP, and other applicable laws.

DATES: Comments on Amendment 24 must be submitted on or before May 19, 2008.

ADDRESSES: Send comments to Sue Salveson, Assistant Regional Administrator, Sustainable Fisheries Division, Alaska Region, NMFS, Attn: Ellen Sebastian. You may submit comments, identified by RIN 0648–AW37, by any one of the following methods:

- Electronic Submissions: Submit all electronic public comments via the Federal eRulemaking Portal website at *http://www.regulations.gov*.
- Mail: P. O. Box 21668, Juneau, AK 99802.
- Fax: (907) 586–7557.
- Hand delivery to the Federal Building: 709 West 9th Street, Room 420A, Juneau, AK.

All comments received are a part of the public record and will generally be

***FEDERAL REGISTER* NOTICES**

Groundfish and Halibut Notices
March 2, 2008 through March 28, 2008

Documents available at NMFS Sustainable Fisheries Groundfish Web Site
http://www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/Regulations/Index.cfm

73 FR 12280. Pacific Halibut Fisheries; Catch Sharing Plan. The Assistant Administrator for Fisheries, NOAA, on behalf of the International Pacific Halibut Commission, publishes annual management measures promulgated as regulations by the International Pacific Halibut Commission (IPHC) and approved by the Secretary of State governing the Pacific Halibut Fishery – 3/7/08

73 FR 12705. Pacific Whiting; Advisory Panel. NMFS is continuing its solicitation of nominations for the Advisory Panel on Pacific Whiting – 3/10/08

73 FR 14428. Magnuson-Stevens Act Provisions; Experimental Permitting Process, Exempted Fishing Permits, and Scientific Research Activity. Action: Proposed rule; extension of comment period - 3/18/08

73 FR 14765. A Vessel License Limitation Program for the Pacific Whiting Fishery; Amendment 15 to the Pacific Coast Groundfish Fishery Management Plan. NMFS announces that the Pacific Fishery Management Council has submitted Amendment 15 for review by the Secretary of Commerce - 3/19/08

73 FR 16642. Pacific Coast Groundfish Fishery; Application for an Exempted Fishing Permit. NMFS announces the intent to issue exempted fishing permits (EFPs) to Pacific Whiting shoreside vessels and first receivers that participate in a maximized retention and monitor program for the 2008 Pacific Whiting Fishery - 3/28/08

Agenda Item H.2.a
Supplemental IPHC Letter
April 2008

INTERNATIONAL PACIFIC HALIBUT COMMISSION

ESTABLISHED BY A CONVENTION BETWEEN CANADA

AND THE UNITED STATES OF AMERICA

DIRECTOR
BRUCE M. LEAMAN

P.O. BOX 95009
SEATTLE, WA 98145-2009

TELEPHONE
(206) 634-1838

FAX
(206) 632-2983

March 26, 2008

Mr. Frank D. Lockhart
Assistant Regional Administrator for Sustainable Fisheries
National Marine Fisheries Service
7600 Sand Point Way NE Bldg #1
Seattle, WA 98115-0070

Dear Mr. Lockhart:

The International Pacific Halibut Commission staff has reviewed the Experimental Fishing Permit (EFP) concerning full retention in the Pacific whiting fishery, endorsed by the Pacific Fishery Management Council. Based on the bycatch rates observed in 2007, the amount of halibut mortality incurred during this fishery is expected to be low and the Commission supports the initiative for accurate bycatch accounting. This letter authorizes the National Marine Fisheries Service to permit retention, until offloading, of Pacific halibut captured and retained by those trawl vessels participating in the program covered by this EFP during 2008. We assume the vessels and processors receiving the prohibited species must comply with all applicable record keeping and recording requirements for prohibited species landings. The Commission would appreciate receiving an evaluation of this project for the 2008 calendar year and the entire project, upon completion.

Sincerely,

Bruce M. Leaman
Executive Director

cc: IPHC Commissioners
Dr. D. O. McIsaac

FISHERY MANAGEMENT PLAN AMENDMENT 21: INTERSECTOR ALLOCATION

The Council has decided to pursue a Groundfish Fishery Management Plan (FMP) amendment (Amendment 21) in consideration of formal allocations of groundfish species and species' complexes for sectors of the groundfish fishery. Intersector allocations are needed to support rationalization of the limited entry trawl fishery (Amendment 20), implementation of FMP Amendment 18 bycatch mitigation policies, and development of biennial groundfish specifications and management measures.

After considerations at four Council meetings and six Groundfish Allocation Committee (GAC) meetings since January 2005, the Council had greatly simplified the intersector allocation alternatives by removing the non-trawl-dominant overfished species (i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish), species in the minor shelf rockfish complexes, and species in the Other Fish complex (except for spiny dogfish) from the list of species under consideration for formal long term allocations. The species remaining for intersector allocation consideration are largely trawl-dominant, with a few exceptions, and the intersector allocation alternatives do not specify sector catch percentages that vary much from those observed in the recent past. The complexity and potential significance of possible impacts of the intersector allocation alternatives adopted by the Council for analysis at the November 2007 meeting are significantly less than the full suite of possibilities originally considered. Therefore, Council and National Marine Fisheries Service (NMFS) staff discussions in January, 2008 concluded an Environmental Assessment (EA) rather than an Environmental Impact Statement (EIS) was the appropriate document for analyzing intersector allocation alternatives.

A draft EA is provided as Agenda Item H.3.a, Attachment 1. The alternatives and analysis in this draft EA are informed by a mix of historical landings (1995-2005) and total catch (2003-2005) data (see Chapter 5 in the March 2008 Stock Assessment and Fishery Evaluation (SAFE) Volume 1 document).

The GAC convened their seventh intersector allocation meeting in February 2008 to develop their recommendations (Agenda Item H.3.b, GAC Report on Intersector Allocation). The GAC confirmed their previous recommendation to only pursue trawl allocations in this phase of deciding intersector allocations. They also recommended preliminary preferred alternative total catch percentages for allocating future available harvest yields to the limited entry trawl sectors. The intersector allocation alternatives and the preliminary preferred GAC alternative are analyzed in the draft EA. The GAC also recommended altering the existing schedule such that a preferred alternative be identified at the April Council meeting and there be a delay of final action to a subsequent Council meeting.

The noticed Council task at this meeting is to adopt a final preferred intersector allocation alternative for analysis. In the event final action is delayed to a subsequent meeting, the delay could be until a 2009 Council meeting given Council staff workload on the Groundfish Biennial Specifications and Trawl Rationalization schedules. The Council should consider the GAC recommendations, advisory body advice, and public comments before taking action.

Council Action:

Adopt a final preferred intersector allocation alternative.

Reference Materials:

1. Agenda Item H.3.a, Attachment 1: Allocation of Harvest Opportunity Between Sectors of the Pacific Coast Groundfish Fishery; Draft Environmental Assessment Including Regulatory Impact Review and Initial Regulatory Flexibility Analysis.
2. Agenda Item H.3.b, GAC Report: Groundfish Allocation Report on Intersector Allocation from Their February 2008 Meeting.

Agenda Order:

a. Agenda Item Overview — John DeVore
b. Reports and Comments of Advisory Bodies
c. Public Comment
d. **Council Action:** Adopt a Final Preferred Alternative for Implementation

PFMC
03/24/08

ALLOCATION OF HARVEST OPPORTUNITY BETWEEN SECTORS OF THE PACIFIC COAST GROUNDFISH FISHERY

DRAFT ENVIRONMENTAL ASSESSMENT

INCLUDING

REGULATORY IMPACT REVIEW AND INITIAL REGULATORY FLEXIBILITY ANALYSIS

PREPARED BY
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Allocation of Harvest Opportunity between Sectors of the Pacific Coast Groundfish Fishery

Proposed Action:

1. To simplify or streamline future decisions by making formal allocations of specified groundfish. Formal allocations are fixed and do not have to be decided through every biennial process or developed indirectly through the structure of management measures.
2. To support rationalization of the limited entry trawl fishery (Amendment 20). While allocations could be made biennially to support trawl rationalization, this would be a more difficult and controversial process than making those decisions in advance.
3. To limit the bycatch of Pacific halibut in future limited entry trawl fisheries. A total catch limit of Pacific halibut, with the intent of further minimization of Pacific halibut bycatch in Area 2A trawl fisheries, is consistent with the Magnuson-Stevens Act mandate to minimize bycatch and will provide increased benefits to Area 2A fishermen targeting Pacific halibut.

Type of Statement: Environmental Assessment

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EXECUTIVE SUMMARY

To be completed once the Council decides a final preferred alternative for Amendment 21.

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ACRONYMS AND GLOSSARY

Acronym	Definition
ABC	Acceptable biological catch. The ABC is a scientific calculation of the sustainable harvest level of a fishery and is used to set the upper limit of the annual total allowable catch. It is calculated by applying the estimated (or proxy) harvest rate that produces maximum sustainable yield to the estimated exploitable stock biomass (the portion of the fish population that can be harvested).
AFSC	National Marine Fisheries Service Alaska Fisheries Science Center
APA	Administrative Procedures Act
B_{MSY}	The biomass that allows maximum sustainable yield to be taken.
BO	Biological opinion
BRD	Bycatch reduction device.
CBP	(Zip)code business patterns
CCA	Cowcod Conservation Area(s)
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CFGC	California Fish and Game Commission
CFR	Code of Federal Regulations.
Council	Pacific Fishery Management Council
CPFV	Commercial passenger fishing vessel (charter boat)
CPS	Coastal pelagic species.
CPUE	Catch per unit of effort.
CRCA	California Rockfish Conservation Area.
CRFS	California Recreational Fisheries Survey
CV	Coefficient of variation
DEIS	Draft Environmental Impact Statement
DRCA	Darkblotched Rockfish Conservation Area
DTL	Daily-trip-limit
DTS	Dover sole, thornyhead, and trawl-caught sablefish complex
EA	Environmental assessment
EEZ	Exclusive Economic Zone.
EFH	Essential fish habitat.
EFP	Exempted fishing permit.
EIS	Environmental impact statement.

Acronym	Definition
ENSO	*El Niño* Southern Oscillation.
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act.
ESU	Evolutionarily significant unit
F	The instantaneous rate of fishing mortality. The term "fishing mortality rate" is a technical fishery science term that is often misunderstood. It refers to the rate at which animals are removed from the stock by fishing. The fishing mortality rate can be confusing because it is an "instantaneous" rate that is useful in mathematical calculations, but is not easily translated into the more easily understood concept of "percent annual removal."
F=0	Fishing mortality equals zero (no fishing).
FEAM	Fishery economic assessment model.
FEIS	Final Environmental Impact Statement
FMP	Fishery management plan.
F_{MSY}	The fishing mortality rate that maximizes catch biomass in the long term.
FMU	Fishery management unit
FONSI	Finding of no significant impact.
FR	Federal Register.
GAP	Groundfish Advisory Subpanel.
GDP	Gross Domestic Product
GFA	Groundfish Fishery Area
GIS	Geographic Information System
GFA	Groundfish fishing areas
GMT	Groundfish Management Team.
GPS	Global Positioning System
HAPC	Habitat areas of particular concern.
HG	Harvest guideline(s).
HMS	Highly migratory species.
IFQ	Individual fishing quota.
IMPLAN	IMpact Analysis for PLANning - a regional economic impact model
INPFC	International North Pacific Fishery Commission.
IPHC	International Pacific Halibut Commission.
IRFA	Initial regulatory flexibility analysis.
LE	Limited entry fishery.

Acronym	Definition
M	Instantaneous rate of natural mortality (as opposed to F, fishing mortality)
MBTA	Migratory Bird Treaty Act
MFMT	Maximum fishing mortality threshold.
MMPA	Marine Mammal Protection Act.
MPA	Marine protected areas
MRFSS	Marine Recreational Fisheries Statistics Survey.
MSA	Magnuson-Stevens Fishery Conservation and Management Act.
MSST	Minimum stock size threshold.
MSY	Maximum sustainable yield.
NAICS	North American Industry Classification System
NEPA	National Environmental Policy Act.
NERR	National Estuarine Research Reserves
NGO	Non-government organization
NMFS	National Marine Fisheries Service.
NOAA	National Oceanic & Atmospheric Administration. The parent agency of National Marine Fisheries Service.
NOI	Notice of intent
NRDC	Natural Resource Defense Council
NSG	National Standards Guidelines.
NWR	National Marine Fisheries Service, Northwest Region
ODFW	Oregon Department of Fish and Wildlife
OFWC	Oregon Fish and Wildlife Commission
ORBS	Oregon Recreational Boat Survey
OY	Optimum yield
PacFIN	Pacific Coast Fisheries Information Network. Provides commercial fishery information for Washington, Oregon, and California. Maintained by the Pacific States Marine Fisheries Commission.
PDO	Pacific decadal oscillation.
P_{MAX}	The estimated probability of reaching T_{MAX}. May not be less than 50%.
POP	Pacific ocean perch. A rockfish species that was declared overfished in 1999.
PRA	Paperwork Reduction Act
PSMFC	Pacific States Marine Fisheries Commission.
QSM	Quota species monitoring.
RCA	Rockfish Conservation Area

Acronym	Definition
RCG	Rockfish, cabezon, and greenlings. A species grouping used in the management of California recreational fisheries.
RecFIN	Recreational Fishery Information Network. A database managed by the Pacific States Marine Fisheries Commission that provides recreational fishery information for Washington, Oregon, and California.
RFA	Regulatory Flexibility Analysis, or Regulatory Flexibility Act.
RIR	Regulatory Impact Review.
RLMA	Rockfish/lingcod Management Area
ROD	Record of Decision
SAFE	Stock assessment and fishery evaluation.
SCTA	Southern California Trawlers Association
SFA	Sustainable Fisheries Act of 1996. Amended the MSFCMA.
SHOP	Shoreside Hake Observation Program
SPR	Spawning biomass per recruit
SSC	Scientific and Statistical Committee.
STAR Panel	Stock Assessment Review Panel. A panel set up to review stock assessments for particular fisheries. In the past there have been STAR panels for sablefish, rockfish, squid, and other species.
SWOP	Shoreside Whiting Observer Program
TAC	total allowable catch
TIQ	Trawl Individual Quota
$T_{F=0}$	The median time to rebuild a stock if all fishery-related mortality were eliminated beginning in 2007.
T_{MAX}	The maximum time period to rebuild an overfished stock, according to National Standard Guidelines. Depends on biological, environmental, and legal/policy factors.
T_{MIN}	The minimum time period to rebuild an overfished stock, according to National Standard Guidelines. Technically, this is the minimum amount of time in which a fish stock will have a 50% chance of rebuilding if no fishing occurs (depends on biological and environmental factors).
TNC	The Nature Conservancy
T_{TARGET}	The target year, set by policy, for a fish stock to be completely rebuilt.
U/A	Usual and accustomed (usually used when referring to tribal fishing, hunting or gathering areas)
UASC	United Anglers of Southern California
USFWS	U.S. Fish and Wildlife Service. A representative of USFWS is a non-voting member of the Council.
VMS	Vessel monitoring system.

Acronym	Definition
WCGOP	west coast Groundfish Observer Program
WDFW	Washington Department of Fish and Wildlife. A representative of WDFW sits on the Council.
WDNR	Washington Department of Natural Resources
WSPRC	Washington State Parks and Recreation Commission
WOC	Washington, Oregon and California
YRCA	Yelloweye Rockfish Conservation Area

CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

This document provides background information about, and analyses for alternative allocations of groundfish species and species complexes to west coast fishing sectors that target federally-managed groundfish species. This action requires an amendment to the Pacific Coast Groundfish Fishery Management Plan (FMP), which contains the policies and framework for allocating the harvestable surplus of groundfish. This action must conform to the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the principal legal basis for fishery management within the Exclusive Economic Zone (EEZ), which extends from the outer boundary of the territorial sea to a distance of 200 nautical miles from shore.

In addition to addressing MSA mandates, this document is an environmental assessment (EA), pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. This document is organized so that it contains the analyses required under NEPA, the Regulatory Flexibility Act (RFA), and Executive Order (EO) 12866. For brevity, this document is referred to as an EA, although it contains required elements of an Initial Regulatory Flexibility Analysis (IRFA) pursuant to the RFA and a Regulatory Impact Review (RIR) pursuant to EO 12866.

Environmental assessments have four essential components: a description of the purpose and need for the proposed action; a range of alternatives, including the proposed action, that represent different ways of accomplishing the purpose and need; a description of the human environment affected by the proposed action; and an evaluation of the predicted direct, indirect, and cumulative impacts of the alternatives. The human environment is interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment (40 CFR 1508.14). These elements allow the decision maker to look at different approaches to accomplishing a stated goal and understand the likely consequences of each choice or alternative. In this EA, chapters 1 and 2 cover the purpose and need for the action and describe the alternatives, and chapters 3 and 4 focus on the biological, physical, and human environments potentially affected by the proposed actions. These chapters describe both the status quo environment potentially affected by the proposed actions and the predicted impacts of each of the alternatives. Based on this structure, the document is organized in 11 chapters:

- The rest of this chapter, Chapter 1, discusses the reasons for formal allocations of groundfish species and species complexes to west coast groundfish fisheries. This description of purpose and need defines the scope of the subsequent analysis.

- Chapter 2 outlines different alternatives that have been considered to address the purpose and need. The Council will choose their preferred alternative from among these alternatives. The preferred alternative covering long term trawl allocations will be submitted to NMFS as FMP Amendment 21.

- Chapter 3 describes the human environment potentially affected by the proposed actions. The human environment includes the physical environment (i.e., west coast marine ecosystems and essential fish habitat); biological environment (i.e., west coast groundfish and non-groundfish species), and socioeconomic environment (i.e., west coast fisheries and fishing communities).

- Chapter 4 describes the possible environmental consequences of the proposed actions. These include possible impacts to west coast marine ecosystems and essential fish habitat; target and non-target groundfish fishery management unit species and non-target, non-groundfish species; and west coast fisheries and fishing communities.

- Chapter 5 describes the possible cumulative impacts of the proposed actions in association with other reasonably foreseeable actions.

- Chapter 6 addresses consistency of the proposed action with the goals and objectives of the groundfish FMP, ten National Standards set forth in the MSA (Section 301(a)), and the goals and objectives of the Council's groundfish strategic plan, "Transition to Sustainability".

- Chapter 7 provides information on those laws and executive orders, in addition to the MSA and NEPA, with which an action must be consistent, and how these actions have satisfied those mandates.

- Chapters 8 through 11 include required supporting information: the list of preparers, the list of agencies and organizations consulted in the preparation of this document, responses to EA comments, and the bibliography.

- Appendix A provides the minutes and recommendations of each meeting of the Groundfish Allocation Committee when intersector allocation was discussed. The GAC was given the charge to develop intersector allocation alternatives by the Council, although formal Council action was still required to decide intersector allocation alternatives, including the preferred alternative. The GAC therefore recommended intersector allocation alternatives and design concepts to the Council in this process.

1.2 Description of the Proposed Actions

The Council/NMFS *proposed actions*, evaluated in this document, are:

1. To simplify or streamline future decisions by making formal allocations of specified groundfish. Formal allocations are fixed and do not have to be decided through every biennial process or developed indirectly through the structure of management measures.
2. To support rationalization of the limited entry trawl fishery (Amendment 20). While allocations could be made biennially to support trawl rationalization, this would be a more difficult and controversial process than making those decisions in advance.
3. To limit the bycatch of Pacific halibut in future limited entry trawl fisheries. A total catch limit of Pacific halibut, with the intent of further minimization of Pacific halibut bycatch in Area 2A trawl fisheries, is consistent with the Magnuson-Stevens Act mandate to minimize bycatch and will provide increased benefits to Area 2A fishermen targeting Pacific halibut.

1.3 Purpose and Need for the Proposed Actions

Formal long term allocations of groundfish species and species complexes must be consistent with the goals, objectives, and management framework described in the groundfish FMP. The proposed actions fall within the management framework described in the groundfish FMP, which enumerates two goals that formal allocations must satisfy: Goal 2 - Economics - Maximize the value of the groundfish resource as a whole; and Goal 3 - Utilization - Achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities. The management regime described in the Groundfish FMP is itself consistent with 10 National Standards described in the MSA. Finally, the goals and objectives of the Council's Groundfish Strategic Plan, "Transition to Sustainability", are relevant for deciding formal allocations of groundfish species and complexes. Chapter 6 details how the proposed actions meet these goals and objectives. These sources provide a general context for the purpose and need for the proposed actions. *The specific purposes of the actions* are:

1. To reduce the risk of any one sector of the groundfish fishery (trawl, non-trawl, and recreational) exceeding a harvest guideline or OY and closing the other sectors prematurely.
2. To provide certainty to the trawl sector by reducing the risk that the trawl sector would be closed because of other non-trawl sectors exceeding their allocation. Such certainty would be especially important if IFQs or cooperatives are implemented in the future because it would make it easier for fishermen to make long range planning decisions based on the allocation of harvest privileges.
3. To provide increased benefits to Area 2A fisheries targeting Pacific halibut by minimizing halibut bycatch in Area 2A trawl fisheries.

1.4 Action Area

The action area for the proposed action comprises the fishing grounds used by federally-managed U.S. west coast groundfish fisheries and associated coastal communities. In general, the fishing grounds are within the west coast EEZ, which stretches from 3 to 200 nautical miles off the coasts of Washington, Oregon, and California (Figure 1-1), although groundfish fishing is largely confined to depths of 300 fathoms or less, or roughly within 30 miles of the coast. Some federally-managed groundfish fishing that could be affected by the proposed action occurs in state waters from the shoreline to 3 nautical miles offshore. Groundfish fisheries are an important part of the local economy and social fabric in coastal communities in all three west coast states.

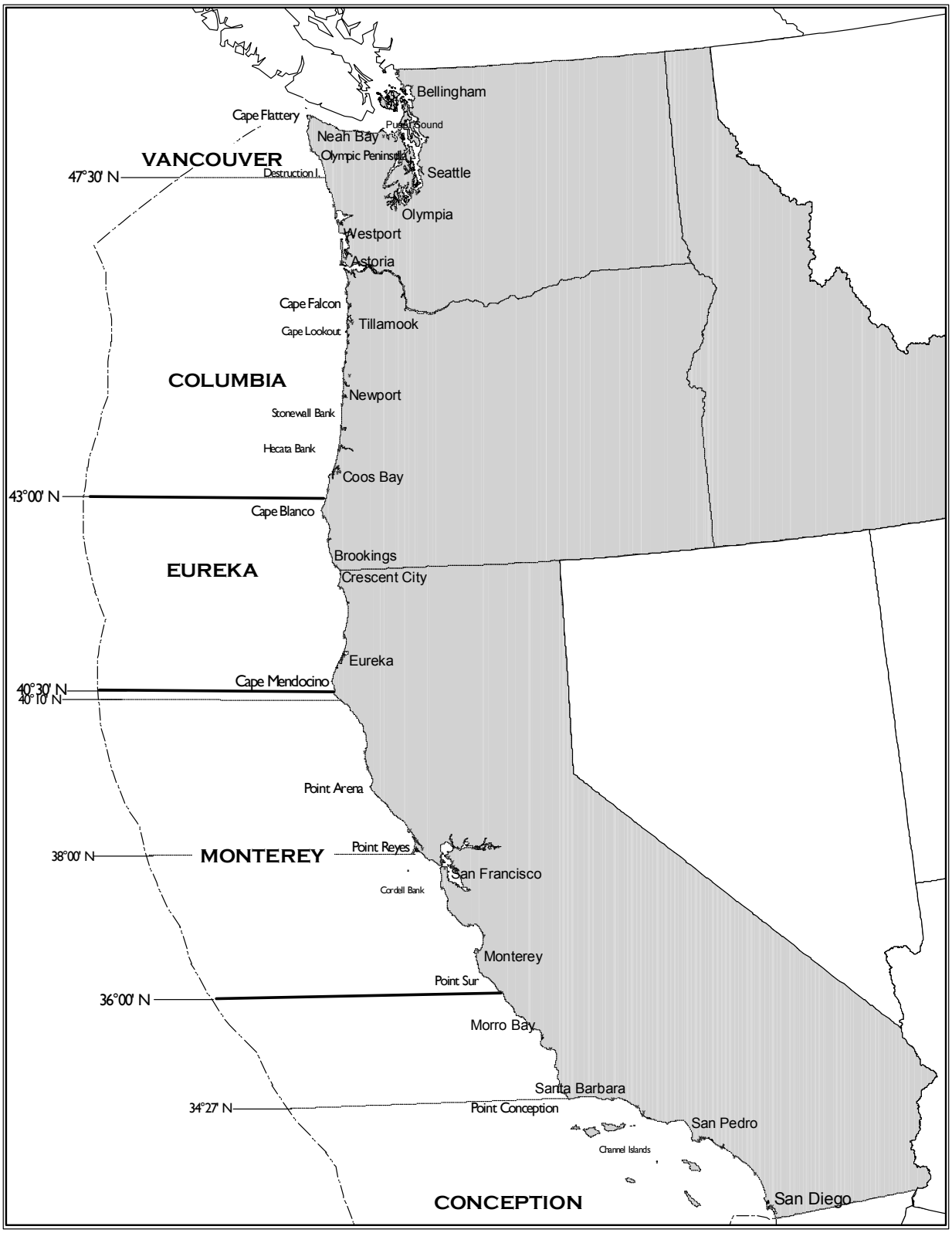

Figure 1-1. The west coast Exclusive Economic Zone and some of the latitudinal management lines used in groundfish management.

1.5 Scoping Process

1.5.1 Background to Scoping

According to the NEPA, the public and other agencies must be involved in the decision-making process for agency actions. Scoping is an important part of this process. Scoping is designed to provide interested citizens, government officials, and tribes an opportunity to help define the range of issues and alternatives that should be evaluated in the EA. NEPA regulations stress that agencies should provide public notice of NEPA-related proceedings and hold public hearings whenever appropriate during EA development (40 CFR 1506.6).

The scoping process is designed to ensure all significant issues are properly identified and fully addressed during the course of the NEPA process. The main objectives of the scoping process are to provide stakeholders with a basic understanding of the proposed action; explain where to find additional information about the project; provide a framework for the public to ask questions, raise concerns, identify issues, and recommend options other than those being considered by the agency conducting the scoping; and ensure those concerns are included within the scope of the EA/EIS.

1.5.2 Council and Agency NEPA Scoping

The Council process, which is based on stakeholder involvement and allows for public participation and public comment on fishery management proposals during Council, subcommittee, and advisory body meetings, is the principal mechanism to scope the EIS. The advisory bodies involved in groundfish management include the Groundfish Management Team (GMT), with representation from state, federal, and tribal fishery scientists; and the Groundfish Advisory Subpanel (GAP), whose members are drawn from the commercial, tribal, and recreational fisheries, fish processors, and environmental advocacy organizations. The Groundfish Allocation Committee (GAC), a subpanel of the whole Council, provides advice on allocating harvest opportunity among the various fishery sectors. Meetings of the Council and its advisory bodies constitute the Council scoping process, involving the development of alternatives and consideration of the impacts of the alternatives.

The Council first determined the need for intersector allocations in 2004 as they considered elements for designing a new trawl management program contemplating the use of individual fishing quotas (IFQs). In June, 2004 the Council discussed separating development of a trawl IFQ program and deciding formal long term allocations of future available yields of groundfish species to limited entry trawl sectors. The Council determined that the GAC should design intersector allocation alternatives. The GAC is comprised of Council members representing the National Marine Fisheries Service, the California Department of Fish and Game, the Oregon Department of Fish and Wildlife, the Washington Department of Fish and Wildlife, the Council chairman, and the Council parliamentarian and is advised by NOAA legal Counsel and Council staff. In November, 2004 the Council appointed representatives from different sectors of the west coast groundfish fishery to advise the GAC in their intersector allocation deliberations. These advisors represented the limited entry trawl sector, the limited entry fixed gear sector, the open access sector, the recreational sector, the at-sea processing sector, the shoreside processing sector, and an environmental non-governmental organization representative. The first GAC meeting to discuss intersector allocations occurred in January, 2005 (Appendix A). Six more GAC meetings were convened between January, 2005 and February, 2008 to develop and recommend intersector allocation alternatives for Council consideration. In June, 2005 the Council directed Council staff to publish a Notice of Intent (NOI) in the Federal Register to prepare an EIS to analyze intersector allocations and begin the public scoping process for developing intersector allocation alternatives for analysis.

On November 21, 2005, NMFS and the Council published the NOI in the Federal Register (70 FR 70054) announcing their intent to prepare an EIS in accordance with NEPA for deciding intersector allocations. The NOI described the proposed action and the way in which alternatives to be analyzed in the EIS would be formulated; it also enumerated a preliminary list of potentially significant impacts that could result from implementing the proposed action. A period for accepting written public comments on the scope of the EIS ended on February 6, 2006, as announced in the NOI. On December 27, 2005, NMFS and the Council published an extension of the public comment deadline for scoping the EIS in the Federal Register (70 FR 76447) until May 24, 2006 as recommended by the Council in preparation for their June, 2006 meeting in Foster City, California. The Council extended the public scoping comment deadline two more times in 2006 (71 FR 34306, 71 FR 38863), with a final deadline for written public comments of October 27, 2006 in preparation for their November, 2006 meeting, where a preliminary range of intersector allocation alternatives were adopted for public review .

The GAC met two more times in 2007 as did the Council to further refine the intersector allocation alternatives and provide guidance on analyses. In June, 2007 the Council decided to limit the scope of the proposed action to deciding formal allocations of specified groundfish species to limited entry trawl sectors of the west coast groundfish fishery under Amendment 21 and then possibly consider formal allocations of specified groundfish species to the non-trawl sectors later in one or more trailing amendments. After considerations at four Council meetings and six GAC meetings since January 2005 (Appendix A), the Council decided the final range of intersector allocation alternatives analyzed in this EA (formerly EIS) at their November, 2007 meeting (see Chapter 2). At this meeting, the Council significantly reduced the scope of the proposed intersector allocation actions by removing the non-trawl-dominant overfished species (i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish), the species comprising the minor shelf rockfish complexes, and the species other than spiny dogfish comprising the Other Fish complex from the intersector allocation analysis. The species remaining for intersector allocation consideration are largely trawl-dominant, with a few exceptions, and the intersector allocation alternatives do not specify sector catch percentages that vary much from those observed in the recent past. This course of action was taken to reduce the complexity of analyses informing the decision on a preferred alternative and the potential significant impacts associated with determining formal allocations of the non-trawl-dominant overfished species. The non-trawl-dominant overfished species' rebuilding plans constrain all sectors of the west coast groundfish fishery unlike the trawl-dominant overfished species (i.e., darkblotched rockfish, Pacific ocean perch, and widow rockfish), which constrain fishing opportunities for the limited entry trawl sectors. Therefore, Council and NMFS staff discussion in January, 2008 concluded an EA rather than an EIS was the appropriate document for analyzing intersector allocation alternatives.

1.5.3 Summary of Comments Received

1.5.3.1 *Comments from Non-Governmental Organizations*

Environmental Defense urged the Council in August, 2004 to begin the intersector allocation process as soon as possible and to modify the membership of the GAC to include representation from all affected sectors and stakeholders when designing intersector allocation alternatives. The Council heeded this advice as described in the previous section.

The Pacific Marine Conservation Council (PMCC) recommended area allocation of OY for west coast groundfish should be employed as a hedge against unpredictable spawning success at the November 2006 Council meeting. The Council conceptually agreed with the PMCC and decided that intersector allocation alternatives should allocate OYs by area as they are specified in biennial regulations. These OYs are based on recommended stock assessments, which are required in the stock assessment terms of

reference to explore spatial needs of the stock and how fishery removals, which vary in time and area, affect the abundance and structure of the stock's spawning biomass.

In public testimony to the GAC at their February 2008 meeting, the Natural Resources Defense Council recommended that the intersector allocation analysis be developed as an EIS rather than an EA. They stated that formal allocations to the trawl sector would have significant impacts to species and EFH, a comment disputed by Council and NMFS staff (see sections 4.2 and 4.3).

1.5.3.2 *Other Scoping Comments*

The Pacific Coast Federation of Fishermen's Associations in July 2004 recommended the Council consider the needs of the non-trawl harvesting sectors, including the open access sector, prior to establishing a trawl IFQ system and allocating quota share to individual trawl fishermen. The Council largely agreed and has since determined that decision-making in the intersector allocation and trawl rationalization processes can occur independently, but intersector allocations need to be done prior to implementing trawl rationalization measures. Intersector Allocation Alternative 2 (see section 2.1.4) does attempt to meet the recommendation to consider the needs of the non-trawl sectors before deciding trawl sector allocations.

The Coastal Jobs Coalition, a group formed by the West Coast Seafood Processors Association and representing a consortium of fish processors and related support industries, in June 2004 recommended the Council determine allocations between groundfish harvesting sectors prior to developing a trawl rationalization program. As stated above, the Council largely agreed with this recommendation.

The West Coast Seafood Processors Association recommended in July 2004 the Council consider and decide intersector allocations prior to developing a trawl IFQ program. As stated above, the Council largely agreed with this recommendation.

The United Anglers of California and the United Anglers of Southern California recommended in August 2004 that the Council consider and decide intersector allocations prior to developing a trawl IFQ program. As stated above, the Council largely agreed with this recommendation.

Representatives of sectors of the limited entry trawl whiting fishery were unanimous in recommending the status quo formal allocations of Pacific whiting to limited entry trawl sectors. The GAC and Council supported that position and decided to continue using the status quo formal trawl sector allocations of Pacific whiting.

Representatives of the limited entry fixed gear and directed open access sectors recommended reconsidering formal allocations of sablefish for fisheries north of 36° N latitude, while representatives of the limited entry trawl shoreside non-whiting sector recommended continuing the use of the status quo formal allocation between the three fleets . The GAC and Council decided on the latter course since reconsidering sablefish allocations would likely be a contentious process that could complicate and extend the process of deciding intersector allocations under Amendment 21.

Mr. William Daspit provided comments at numerous Council and GAC meetings recommending a personally conceived plan termed, OSHUA (Optimum Species Harvesting Unified Allocation). The OSHUA plan contemplates biennial allocations of available yields of groundfish species to individual commercial fishermen across all sectors of the fishery based on their ability to minimize bycatch. These allocations would not be IFQs, which are transferable quotas that allow fishermen to trade quota pounds and shares. The GAC and Council did not embrace the OSHUA plan and it was not considered in the range of trawl rationalization or intersector allocation alternatives.

Mr. Peter Huhtula recommended in November 2007 that the OSHUA plan be analyzed in the intersector allocation process because it created one commercial sector. The Council rejected this idea since it was beyond the scope of the proposed action to consider formal allocations of specified groundfish species to limited entry trawl sectors of the west coast groundfish fishery.

The Council's Trawl Individual Quota Committee (TIQC) recommended in November 2007 revisiting intersector allocations for overfished species once those species are rebuilt. This is contemplated for the non-trawl-dominant overfished species in the current range of intersector allocation alternatives. However, the intersector allocation action alternatives contemplate an allocation framework for the trawl-dominant overfished species. See section 4.4 for more detail on this allocation framework.

1.5.4 Criteria Used to Evaluate Impacts of the Proposed Action

The proposed action to make formal allocations of specified groundfish species (a portion of the fish management unit) to limited entry trawl sectors of the west coast groundfish fishery does not affect overall harvest levels of any species, nor does it affect management measures for any sector of fishery. The proposed action is not expected to change the magnitude or distribution of trawl efforts. Such actions and effects are analyzed and decided separately in a biennial Council process. Therefore, the proposed action is expected to have no direct impacts and potentially low indirect impacts to the west coast biological environment (i.e., affected species) or the physical environment (i.e., west coast marine ecosystems and essential fish habitat).

The anticipated impacts of the proposed action are largely socioeconomic. Therefore, most of the environmental consequences of the proposed action are discussed in section 4.4.

One overall objective of the intersector allocation process is to optimally use the available harvest of target groundfish species. This objective is guided by two of the three management goals in the Groundfish FMP: 1) goal 2 – Economics – maximize the value of the groundfish resource as a whole; and 2) goal 3 – Utilization – achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities (see section 6.1). While the proposed action is to determine long term formal allocations of a portion of the Groundfish FMP species to the limited entry trawl sectors, this decision cannot be made without understanding the needs of the directed non-trawl sectors. This is the intent of analyzing Intersector Allocation Alternative 2 and understanding how target opportunities may be constrained by the bycatch of some of the species under consideration in the proposed action. Analyses attempt to tease out these constraints to all the groundfish sectors, so that trawl allocations will not unnecessarily constrain other groundfish sectors by allocating enough yield for their needs.

The utilization goal is first addressed in these analyses by understanding the available yields or annual catch limits of the groundfish species under consideration during 1995-2005 and the harvests in each sector relative to these annual catch limits and relative to the annual catch in all non-treaty directed sectors combined.

The economics goal is addressed by first estimating revenue impacts by sector under each of the alternatives and then analyzing the importance of each of the species to each non-tribal directed groundfish sector. The analyses in this EA apply the sector catch percentages in the alternatives to the OYs specified in 2007-2008 to determine sector total catch amounts (landings plus discards). Landed catch is then estimated using sector-specific bycatch and discard rates updated from the west coast Groundfish Observer Program (WCGOP) for the commercial sectors and state sampling programs for the recreational sector. The predicted landed catch is then modeled to determine revenue impacts by

sector. Revenue impacts by sector are then compared to status quo 2005 revenue impacts. Revenue impacts are evaluated at the port group level to determine effects to west coast fishing communities. These impacts are then compared to the relative economic resiliency of the communities in the port group as well as their relative dependence on groundfish resources.

CHAPTER 2 DESCRIPTION OF THE ALTERNATIVES

2.1 Description of the Alternatives

The intersector allocation alternatives analyzed in this EA were largely developed by the Council's Groundfish Allocation Committee (GAC) with formal consideration and approval by the Council. The GAC met seven times between January 2005 and February 2008 with agency and fishing industry advisors[1] to develop these alternatives (Appendix A). The goals and objectives of the Pacific Coast Groundfish Fishery Management Plan (FMP) as well as those outlined in the Groundfish Strategic Plan, "Transition to Sustainability", were considered in this process. While longer term intersector allocations provide more stability to fishing interests in charting future business plans affected by groundfish fishing opportunities, the primary need for intersector allocations is to more effectively implement a trawl rationalization program contemplating management of the limited entry groundfish trawl sector using a system of harvesting cooperatives and individual fishing quotas. To this end the Council decided early in the process of developing intersector allocation alternatives that this action would focus on making long term allocations to the limited entry trawl sector. These allocations will be specified in the FMP under Amendment 21 once a final recommendation on limited entry trawl allocations is made to the National Marine Fisheries Service (NMFS). Longer term allocations to non-tribal, non-trawl groundfish sectors may be considered later in one or more trailing amendments to the FMP. If the Council decides to pursue longer term groundfish allocations for any of the four west coast tribes with groundfish fishing rights in the west coast EEZ, they will request NMFS engage in government-to-government negotiations with the tribes to decide these allocations.

The basic elements decided for the intersector allocation alternatives analyzed in this EA are the groundfish FMP species to be considered, the fishing sectors for which these allocations will apply, the analytical basis for the decision (i.e., historical catch periods by sector), and any yield set-asides (i.e., buffers) to be assumed for analysis (Table 2-1). Alternatives analyzed in this EA use the landings and discard mortality estimates by directed groundfish sector found in the Council's 2008 Stock Assessment and Fishery Evaluation (SAFE) Volume 1 document (PFMC 2008). Landings data were extracted in

[1] GAC advisors included representatives from the limited entry trawl sector, the limited entry fixed gear sector, the open access sector, the recreational sector, the processing sector, the at-sea whiting sectors, and the environmental community. Also advising the GAC were state representatives from the Groundfish Management Team, NOAA General Counsel, and Council staff.

November 2006 from the Pacific Fishery Information Network (PacFIN). Recreational landings and discard mortalities were extracted in September 2006 from the Recreational Fishery Information Network (RecFIN) and updated by the states in October 2006. The PacFIN and RecFIN databases are managed by the Pacific States Marine Fisheries Commission and available online at http://www.psmfc.org/pacfin/ and http://www.psmfc.org/recfin/, respectively. Discard mortality estimates by species or species complex and sector were provided by the NMFS Northwest Fisheries Science Center (annual total catch reports available online at (http://www.nwfsc.noaa.gov/research/divisions/fram/observer/datareport/index.cfm).

There are existing long-term allocations for Pacific whiting and sablefish (for fisheries north of 36° N latitude). The Council decided not to re-visit these allocations; however, it recently became clear that there may need to be consideration for apportioning the limited trawl allocation of sablefish north of 36° N latitude to the four trawl sectors identified in these analyses to effectively implement trawl rationalization measures. The Council also decided not to consider long term allocations of nearshore groundfish species at this time since those allocations are currently decided by the states under the auspices of nearshore fishery management plans and state policies for managing groundfish within their territorial waters (i.e., 0-3 nm). Furthermore, the Council decided not to consider long term allocations of non-trawl-dominant overfished species (i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish), the minor shelf rockfish species, and most species in the Other Fish complex (with the exception of spiny dogfish). These shelf species have been caught extensively by both trawl and non-trawl sectors in the past and current harvest opportunities for these species are significantly constrained by rebuilding plans for the non-trawl-dominant overfished species. Harvest opportunities for each sector are predicted to vary considerably by time and area depending on the future allowable yield of each of the non-trawl-dominant overfished species and the selectivity of the sector's gear in avoiding these species. Predicting an equitable balance of fishing opportunities and economic outcomes under such a dynamic mix of target and constraining species led the GAC and other Council advisors to recommend against pursuing long term allocations for these species. Any species not allocated in this process are recommended for short term allocations every two years in the Council process to decide biennial harvest specifications and management measures. While this may compromise some of the fishery stability and certainty inherent in deciding long term allocations, such short term allocations can be better informed with new assessments and other information relevant to making these decisions.

There are yield buffer options under each action alternative of 5%, 15%, and 25% that are designed to buffer against sector catch overages that might risk exceeding prescribed OYs or to accommodate new emerging fisheries. The former objective of buffering against OY overage is one explicitly discussed by the Council when specifying the buffer options for analysis. This objective recognizes the catch monitoring uncertainty inherent in estimating catch, especially in recreational fisheries, and is borne from recent experience of unexpected catch overages that exceeded some sectors' harvest guidelines. The second objective of accommodating new emerging fisheries is not one explicitly discussed by the Council, but one that was discussed at the February, 2008 GAC meeting. Buffers, their use in future groundfish management, and implications associated with the size of potential buffers are further discussed in section 4.4.

The Council also specified two alternatives for potential total catch limits of Pacific halibut. The 2005 and 2006 proportion of the limited entry trawl bycatch of Pacific halibut relative to the Area 2A constant exploitation yield form the basis of the two Pacific halibut bycatch limits. These trawl catch proportions should not be considered allocations to the limited entry trawl sector since the International Pacific Halibut Commission does not allow retention of Pacific halibut in trawl fisheries. Total catch limits are also known as bycatch caps and, as such, can serve to constrain future trawl fisheries targeting groundfish by limiting future halibut bycatch. When specifying these Pacific halibut total catch limit alternatives, the Council made it clear that one overarching objective is to minimize trawl bycatch of

Pacific halibut in future trawl fisheries to provide more halibut to the directed commercial and recreational fisheries that target Pacific halibut.

Table 2-1. Intersector Allocation Alternatives Decided by the Council in November 2007.

Feature	Status Quo	Alt. 1	Alt. 2	Alt. 3
Species with Allocations a/	Sablefish (N of 36º N lat.), Pacific whiting, and all nearshore species allocated by the states	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Fish complex. Suboptions: Pacific halibut “trawl allocation” based on 2005 or 2006 Area 2A CEY b/	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Fish complex. Suboptions: Pacific halibut “trawl allocation” based on 2005 or 2006 Area 2A CEY b/	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Fish complex. Suboptions: Pacific halibut “trawl allocation” based on 2005 or 2006 Area 2A CEY b/
Sectors with Allocations c/	Status quo described in scoping information document	4 LE trawl sectors + all other sectors combined	4 LE trawl sectors, LE fixed gear, directed open access, recreational	4 LE trawl sectors + all other sectors combined
Variation in Allocation Percentages (Analytical Basis for an Allocation Scheme)	Status quo described in scoping information document	2003-05 sector total catch percentages	2003-05 sector total catch percentages	1995-2005 sector landed catch percentages
Set-Asides	Set-asides will be determined for projected research catches, EFPs, incidental open access catches, and yield buffers of 5%, 15%, and 25%.			
a/ Under any alternative, there may be different allocation schemes decided for overfished versus non-overfished groundfish species.				
b/ Suboptions for trawl allocations of Pacific halibut are based on the estimated constant exploitation yield (CEY) of trawl-caught halibut in Area 2A in 2005 or 2006 for purposes of capping future trawl mortality.				
c/ Tribal allocations may be considered in a separate government to government process (see October 2006 Groundfish Allocation Committee minutes for details). Projected tribal catches by species will be deducted from available yields in the analysis of intersector allocation alternatives.				

2.1.1 The No Action Alternative

Under the No Action alternative, only long term fixed allocations for Pacific whiting and sablefish north of 36° N latitude exist (see sections 2.1.1.1 and 2.1.1.2). Amendment 6, which established the commercial non-treaty limited entry system, also established allocation procedures for any species to be newly allocated between commercial open access (including directed and incidental open access) and limited entry based on catch history for the license limitation allocation period (July 11, 1984 through August 1, 1988; Table 2-2). The FMP also suspends such allocations for overfished species. In current practice, the limited entry and open access allocations are rarely met due to constraints imposed by management measures designed to rebuild overfished species. Therefore, allocating the available harvest of groundfish species and species complexes occurs in the Council process of deciding biennial harvest specifications and management measures and, as such, can be considered ad hoc allocations. Thirdly, the Council will set aside some yield for non-groundfish fisheries, exempted fishing permits (EFPs), and to serve as a buffer against unexpected catch overages in any sector of the groundfish fishery. Set-asides are not quotas or harvest guidelines and, if inseason information indicates that a sector will exceed its set-aside, inseason action to prevent that occurrence is not necessarily required. In some cases, allocations and/or set-asides are designated for only a few of these uses. In other cases, all of the uses will have an allocation/set-aside and the total will be less than the OY. When total allocations and set-asides are less than the OY, there is a residual yield which is generally available to any fishery that may need it during the year. For some species, geographic allocations are also specified as harvest guidelines (i.e., state-specific recreational harvest guidelines (HGs) for canary, black, and yelloweye rockfish). Intersector allocation decisions for nearshore groundfish species and complexes are currently deferred to the states of Washington, Oregon, and California, where policies and nearshore groundfish FMPs (in Oregon and California) guide those decisions.

Table 2-2. Limited entry and open access allocations established by Groundfish FMP Amendment 6.

Species or Species Complex	Limited Entry Share	Open Access Share
Lingcod	81%	19%
Minor Rockfish South (including Chilipepper Rockfish)	55.7%	44.3%
Minor Rockfish North (including Yellowtail Rockfish)	91.7%	8.3%
Shortspine Thornyhead (north of Conception Area)	99.73%	0.27%

2.1.1.1 *Pacific Whiting*

Projected total mortalities of Pacific whiting in recreational, research, and non-groundfish fisheries are first set aside (about 2,000 mt have been set aside annually for these fisheries in recent years), then allocated to the tribes based on a sliding scale of the range of annually specified U.S. OYs for Pacific whiting (Table 2-3), with the remainder being available for nontribal commercial fisheries.

Table 2-3. The tribal whiting allocation based on a sliding scale of the U.S. OY.

Whiting OY Range		Tribal Share
More Than	Less Than	
0 mt	145,000 mt	15% of the commercial OY
145,000 mt	175,000 mt	25,000 mt
175,000 mt	200,000 mt	27,500 mt
200,000 mt	225,000 mt	30,000 mt
225,000 mt	250,000 mt	32,500 mt
250,000 mt	-	35,000 mt

The nontribal commercial share is then allocated to the directed whiting trawl sectors as follows: 42 % for the shoreside whiting sector, 24% for the at-sea mothership whiting sector, and 34% for the at-sea catcher-processor whiting sector. In some years the whiting set aside may be increased to accommodate other programs, such as EFPs. Five percent of the shoreside whiting sector's allocation may be taken south of 42° N latitude prior to the start of the shore-based whiting season north of 42° N latitude (in waters off Oregon and Washington).

2.1.1.2 *Sablefish North of 36° N Latitude*

Fixed allocations of sablefish are based on the OY specified for the area north of 36° N latitude (to the U.S.-Canada border). Sablefish allocations north of 36° N latitude are determined by first deducting the tribal share from the OY specified for north of 36° N latitude, then deducting the estimated total mortality of sablefish in research and non-groundfish fisheries, then dividing the remaining yield (non-tribal share) between open access and limited entry fisheries, with the limited entry share divided between the trawl and fixed gear (longline and fishpot) sectors. The proportions of each of these divisions are indicated in Figure 2-1. The limited entry fixed gear share is then generally divided 85% to the primary fishery for limited entry fixed gear vessels with sablefish endorsements and 15% for the daily-trip-limit fishery, for such vessels with and without sablefish endorsements.

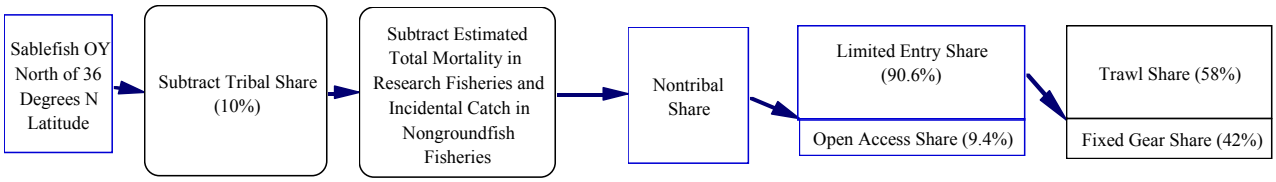

Figure 2-1. Fixed intersector allocations of sablefish north of 36° N latitude.

2.1.2 The Status Quo Allocation Alternative

Status quo allocations assume the sector total catch percentages in directed non-treaty fisheries in 2005 (Table 2-4), the most recent catch year used in the analyses in this EA. The analysis of impacts in Chapter 4 apply these sector total catch percentages to specified 2007-08 OYs in determining potential intersector impacts after the estimated take of groundfish species in treaty, research and incidental open access fisheries is deducted from the OY. Sub-options that further deduct the buffers of 5%, 15%, and 25% from the available yields for the non-treaty directed groundfish fisheries are also analyzed in Chapter 4.

Table 2-4. Status quo intersector allocation alternative (fixed allocations for Pacific whiting and sablefish north of 36º N lat. (not displayed); state allocations for nearshore species (not displayed); 2005 average percentage of annual non-treaty total catch in directed groundfish fisheries).

Stock or Complex	2005 Average Total Catch Percentage							
	LE Trawl							
	CP	MS	SS Whiting	SS Non-whiting	All Non-Treaty Trawl Sectors	LE Fixed Gear	Dir. OA	Rec.
Lingcod - coastwide	0.0%	0.2%	0.7%	30.7%	31.6%	1.9%	8.5%	57.7%
N. of 42° (OR & WA)	0.1%	0.4%	1.2%	47.3%	48.9%	2.6%	7.1%	41.1%
S. of 42° (CA)	0.0%	0.0%	0.0%	8.1%	8.1%	0.9%	10.3%	80.5%
Pacific Cod	0.0%	0.0%	0.2%	98.2%	98.3%	0.5%	0.2%	1.0%
Sablefish (Coastwide)	0.2%	0.0%	0.4%	44.5%	45.1%	38.8%	16.0%	0.0%
N. of 36° (Monterey north)	0.2%	0.0%	0.4%	44.6%	45.3%	38.5%	16.2%	0.0%
S. of 36° (Conception area)	0.0%	0.0%	0.0%	40.1%	40.1%	48.6%	11.3%	0.0%
PACIFIC OCEAN PERCH	1.1%	1.2%	0.7%	96.2%	99.2%	0.5%	0.3%	0.0%
Shortbelly Rockfish	0.2%	70.6%	0.0%	29.2%	100.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	25.9%	21.3%	46.2%	3.8%	97.3%	0.4%	0.4%	1.9%
Chilipepper Rockfish	0.0%	0.0%	0.1%	92.1%	92.2%	3.2%	0.5%	4.0%
Splitnose Rockfish	0.0%	0.0%	0.0%	99.7%	99.7%	0.3%	0.0%	0.0%
Yellowtail Rockfish	13.9%	7.5%	50.8%	17.3%	89.4%	0.2%	0.7%	9.5%
Shortspine Thornyhead - coastwide	0.8%	0.1%	0.0%	81.0%	81.9%	18.0%	0.1%	0.0%
N. of 34°27'	1.7%	0.2%	0.1%	96.1%	98.0%	1.9%	0.1%	0.0%
S. of 34°27'	0.0%	0.0%	0.0%	51.6%	51.6%	48.2%	0.1%	0.0%
Longspine Thornyhead - coastwide	0.0%	0.0%	0.0%	98.0%	98.0%	2.0%	0.0%	0.0%
N. of 34°27'	0.0%	0.0%	0.0%	98.9%	98.9%	1.1%	0.0%	0.0%
S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
DARKBLOTCHED	4.9%	4.2%	4.5%	82.5%	96.1%	2.0%	1.9%	0.0%
Minor Slope Rockfish North	15.4%	4.5%	1.5%	46.8%	68.2%	26.0%	5.8%	0.0%
Minor Slope Rockfish South	0.0%	0.0%	0.0%	67.2%	67.2%	15.2%	17.3%	0.2%
Dover Sole	0.0%	0.0%	0.0%	99.9%	99.9%	0.1%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder	0.0%	0.0%	0.0%	97.5%	97.6%	1.8%	0.6%	0.0%
Starry Flounder	0.0%	0.0%	0.0%	74.2%	74.2%	0.0%	0.0%	25.5%
Other Flatfish	0.1%	0.1%	0.0%	98.1%	98.3%	0.0%	0.1%	1.6%
Spiny Dogfish	2.4%	1.6%	5.3%	68.8%	78.1%	19.1%	2.7%	0.2%

2.1.3 Intersector Allocation Alternative 1

Intersector Allocation Alternative 1 applies the 2003-05 average total catch (landings plus discard mortalities) percentages to each of the four limited entry trawl sectors plus all the non-treaty, non-trawl, directed groundfish sectors combined (Table 2-5). This alternative reflects the differential fishing opportunities by sector resulting from specification of gear-specific Rockfish Conservation Areas (RCAs) and other management measures designed to avoid overfished species. Relative to Intersector Allocation Alternative 3, total catch impacts by sector are better described under this alternative due to availability of discard estimates from the west coast Groundfish Observer Program and more precise estimates of recreational catch. The analysis of impacts in Chapter 4 apply these sector total catch

percentages to specified 2007-08 OYs in determining potential intersector impacts. As in the status quo and other action alternatives, estimated catch in treaty, research and incidental open access fisheries, as well as buffer options of 5%, 15%, and 25%, are deducted from the 2007-08 OYs before determining yields to the directed non-treaty groundfish sectors.

Table 2-5. Intersector Allocation Alternative 1 (status quo allocations plus all other species; four non-treaty, trawl sectors + all non-treaty, non-trawl sectors combined; 2003-05 average percentage of annual non-treaty total catch in directed groundfish fisheries).

Stock or Complex	2003-05 Average Total Catch Percentage					
	LE Trawl					
	At-sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-whiting	All Non-Treaty Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod - coastwide	0.0%	0.1%	0.4%	19.3%	19.8%	80.2%
N. of 42° (OR & WA)	0.1%	0.2%	0.9%	38.7%	39.9%	60.1%
S. of 42° (CA)	0.0%	0.0%	0.0%	4.9%	4.9%	95.1%
Pacific Cod	0.0%	0.0%	0.1%	98.1%	98.2%	1.8%
Sablefish (Coastwide)	0.3%	0.1%	1.1%	48.6%	50.0%	50.0%
N. of 36° (Monterey north)	0.3%	0.1%	1.2%	48.8%	50.3%	49.7%
S. of 36° (Conception area)	0.0%	0.0%	0.0%	41.9%	41.9%	58.1%
PACIFIC OCEAN PERCH	1.8%	0.3%	0.5%	96.9%	99.5%	0.5%
Shortbelly Rockfish	4.9%	26.9%	0.5%	64.8%	97.2%	2.8%
WIDOW ROCKFISH	22.3%	16.8%	43.7%	8.6%	91.4%	8.6%
Chilipepper Rockfish	0.0%	0.0%	0.0%	94.0%	94.0%	6.0%
Splitnose Rockfish	0.0%	0.0%	0.0%	99.8%	99.8%	0.2%
Yellowtail Rockfish	6.3%	4.3%	39.2%	38.6%	88.4%	11.6%
Shortspine Thornyhead - coastwide	0.9%	0.0%	0.0%	84.0%	85.0%	15.0%
N. of 34°27'	2.1%	0.1%	0.1%	96.2%	98.4%	1.6%
S. of 34°27'	0.0%	0.0%	0.0%	58.0%	58.0%	42.0%
Longspine Thornyhead - coastwide	0.0%	0.0%	0.0%	98.4%	98.4%	1.6%
N. of 34°27'	0.0%	0.0%	0.0%	99.4%	99.4%	0.6%
S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
DARKBLOTCHED	2.7%	1.6%	1.5%	93.0%	98.7%	1.3%
Minor Slope Rockfish North	9.0%	1.4%	0.9%	69.7%	81.0%	19.0%
Minor Slope Rockfish South	0.0%	0.0%	0.0%	63.3%	63.3%	36.7%
Dover Sole	0.0%	0.0%	0.0%	99.9%	99.9%	0.1%
English Sole	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Petrale Sole (coastwide)	0.0%	0.0%	0.0%	99.9%	100.0%	0.0%
Arrowtooth Flounder	0.0%	0.0%	0.0%	99.1%	99.2%	0.8%
Starry Flounder	0.0%	0.0%	0.0%	87.5%	87.5%	12.5%
Other Flatfish	0.2%	0.0%	0.0%	97.5%	97.7%	2.3%
Spiny Dogfish	8.5%	0.9%	2.9%	61.9%	74.1%	25.9%

2.1.4 Intersector Allocation Alternative 2

Intersector Allocation Alternative 2 is identical to Alternative 1 except the non-treaty, non-trawl, directed groundfish sector total catch percentages are analyzed for each of these non-trawl sectors (Table 2-6). The analysis of impacts in Chapter 4 apply these sector total catch percentages to specified 2007-08 OYs in determining potential intersector impacts. As in the status quo and other action alternatives, estimated catch in treaty, research and incidental open access fisheries, as well as buffer options of 5%, 15%, and 25%, are deducted from the 2007-08 OYs before determining yields to the directed non-treaty groundfish sectors.

Table 2-6. Intersector allocation alternative 2 (status quo plus all other species.; four non-treaty trawl sectors plus limited entry fixed gear, directed open access, and recreational sectors; 2003-05 average percentage of annual non-treaty total catch in directed groundfish fisheries).

Stock or Complex	2003-05 Average Total Catch Percentage							
	LE Trawl							
	CP	MS	SS Whiting	SS Non-Whiting	All Non-Treaty Trawl Sectors	LE Fixed Gear	Dir. OA	Rec.
Lingcod - coastwide	0.0%	0.1%	0.4%	19.3%	19.8%	1.4%	7.7%	71.1%
N. of 42° (OR & WA)	0.1%	0.2%	0.9%	38.7%	39.9%	2.4%	8.7%	49.0%
S. of 42° (CA)	0.0%	0.0%	0.0%	4.9%	4.9%	0.6%	7.0%	87.5%
Pacific Cod	0.0%	0.0%	0.1%	98.1%	98.2%	0.6%	0.1%	1.1%
Sablefish (Coastwide)	0.3%	0.1%	1.1%	48.6%	50.0%	37.7%	12.2%	0.1%
N. of 36° (Monterey north)	0.3%	0.1%	1.2%	48.8%	50.3%	37.4%	12.2%	0.1%
S. of 36° (Conception area)	0.0%	0.0%	0.0%	41.9%	41.9%	46.2%	11.9%	0.0%
PACIFIC OCEAN PERCH	1.8%	0.3%	0.5%	96.9%	99.5%	0.2%	0.1%	0.3%
Shortbelly Rockfish	4.9%	26.9%	0.5%	64.8%	97.2%	0.0%	2.8%	0.0%
WIDOW ROCKFISH	22.3%	16.8%	43.7%	8.6%	91.4%	0.8%	0.8%	7.0%
Chilipepper Rockfish	0.0%	0.0%	0.0%	94.0%	94.0%	1.9%	0.7%	3.4%
Splitnose Rockfish	0.0%	0.0%	0.0%	99.8%	99.8%	0.2%	0.1%	0.0%
Yellowtail Rockfish	6.3%	4.3%	39.2%	38.6%	88.4%	0.4%	0.7%	10.4%
Shortspine Thornyhead - coastwide	0.9%	0.0%	0.0%	84.0%	85.0%	14.5%	0.6%	0.0%
N. of 34°27'	2.1%	0.1%	0.1%	96.2%	98.4%	1.5%	0.0%	0.0%
S. of 34°27'	0.0%	0.0%	0.0%	58.0%	58.0%	41.7%	0.3%	0.0%
Longspine Thornyhead - coastwide	0.0%	0.0%	0.0%	98.4%	98.4%	1.4%	0.2%	0.0%
N. of 34°27'	0.0%	0.0%	0.0%	99.4%	99.4%	0.6%	0.0%	0.0%
S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	99.2%	0.8%	0.0%
DARKBLOTCHED	2.7%	1.6%	1.5%	93.0%	98.7%	0.7%	0.6%	0.0%
Minor Slope Rockfish North	9.0%	1.4%	0.9%	69.7%	81.0%	16.3%	2.6%	0.0%
Minor Slope Rockfish South	0.0%	0.0%	0.0%	63.3%	63.3%	17.7%	18.8%	0.2%
Dover Sole	0.0%	0.0%	0.0%	99.9%	99.9%	0.1%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)	0.0%	0.0%	0.0%	99.9%	100.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder	0.0%	0.0%	0.0%	99.1%	99.2%	0.7%	0.2%	0.0%
Starry Flounder	0.0%	0.0%	0.0%	87.5%	87.5%	0.0%	0.1%	12.5%
Other Flatfish	0.2%	0.0%	0.0%	97.5%	97.7%	0.0%	0.1%	2.1%
Spiny Dogfish	8.5%	0.9%	2.9%	61.9%	74.1%	20.0%	5.4%	0.5%

2.1.5 Intersector Allocation Alternative 3

Intersector Allocation Alternative 3 applies the 1995-05 average landed catch percentages to each of the four limited entry trawl sectors plus all the non-treaty, non-trawl, directed groundfish sectors combined (Table 2-7). This retrospective look at sector catch percentages is more indicative of catch sharing under a management regime much less constrained by the need to rebuild overfished species. Consequently, many target species could be harvested close to the annual limits specified for each sector or for the fishery in its entirety. However, without the availability of WCGOP data, total catch impacts are not as well known despite the fact that regulatory discards were likely less than under the current management regime.

Table 2-7. Intersector Allocation Alternative 3 (status quo plus all other species; four non-treaty, trawl sectors plus all non-treaty, non-trawl sectors combined; 1995-05 average percentage of annual non-treaty landed catch in directed groundfish fisheries).

Stock or Complex	1995-05 Average Landed Catch Percentage					
	LE Trawl					
	At-sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-whiting	All Non-Treaty Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod - coastwide	0.0%	0.0%	0.1%	39.3%	39.5%	60.5%
N. of 42° (OR & WA)	0.0%	0.1%	0.3%	57.9%	58.3%	41.7%
S. of 42° (CA)	0.0%	0.0%	0.0%	21.4%	21.5%	78.5%
Pacific Cod	0.0%	0.0%	0.1%	99.0%	99.1%	0.9%
Sablefish (Coastwide)	0.3%	0.0%	0.9%	50.2%	51.3%	48.7%
N. of 36° (Monterey north)	0.3%	0.0%	0.9%	50.3%	51.5%	48.5%
S. of 36° (Conception area)	0.0%	0.0%	0.0%	47.7%	47.7%	52.3%
PACIFIC OCEAN PERCH	1.7%	1.1%	2.1%	94.4%	99.4%	0.6%
Shortbelly Rockfish	5.4%	14.0%	4.0%	76.1%	99.6%	0.4%
WIDOW ROCKFISH	2.6%	2.3%	5.1%	88.0%	98.0%	2.0%
Chilipepper Rockfish	0.0%	0.0%	0.0%	79.5%	79.5%	20.5%
Splitnose Rockfish	0.0%	0.0%	0.0%	97.2%	97.2%	2.8%
Yellowtail Rockfish	5.3%	8.2%	10.7%	72.1%	96.3%	3.7%
Shortspine Thornyhead - coastwide	0.7%	0.0%	0.0%	90.4%	91.2%	8.8%
N. of 34°27'	1.1%	0.0%	0.1%	96.7%	97.9%	2.1%
S. of 34°27'	0.0%	0.0%	0.0%	78.8%	78.8%	21.2%
Longspine Thornyhead - coastwide	0.0%	0.0%	0.0%	98.3%	98.3%	1.7%
N. of 34°27'	0.0%	0.0%	0.0%	98.8%	98.9%	1.1%
S. of 34°27'	0.0%	0.0%	0.0%	0.3%	0.3%	99.7%
DARKBLOTCHED	2.3%	0.8%	0.6%	95.3%	99.0%	1.0%
Minor Slope Rockfish North	6.7%	1.2%	1.1%	78.5%	87.5%	12.5%
Minor Slope Rockfish South	0.0%	0.0%	0.0%	69.9%	69.9%	30.1%
Dover Sole	0.0%	0.0%	0.0%	99.9%	100.0%	0.04%
English Sole	0.0%	0.0%	0.1%	99.9%	100.0%	0.0%
Petrale Sole (coastwide)	0.0%	0.0%	0.0%	99.9%	99.9%	0.1%
Arrowtooth Flounder	0.1%	0.0%	0.0%	99.8%	99.9%	0.1%
Starry Flounder	0.0%	0.0%	0.0%	48.9%	48.9%	51.1%
Other Flatfish	0.2%	0.0%	0.1%	97.0%	97.3%	2.7%
Spiny Dogfish	14.4%	8.8%	4.1%	45.2%	72.5%	27.5%

2.1.6 Trawl Allocation Alternatives for Sablefish and Pacific Halibut

A trawl allocation of sablefish north of 36° N latitude already exists, but apportioning that allocation to the three whiting trawl sectors and the one non-whiting trawl sector is needed to implement trawl rationalization measures. The Council also decided to limit the total catch of Pacific halibut in future trawl fisheries. This section describes the within-trawl allocation alternatives for sablefish north of 36° N latitude and the alternatives for limiting the total limited entry trawl catch of Pacific halibut.

2.1.6.1 *Sablefish North of 36° N Latitude*

A fixed allocation of sablefish north of 36° N latitude to the limited entry trawl fishery already exists. The limited entry trawl sector is allocated 58% of the total limited entry share of sablefish north of 36° N latitude (Figure 2-1). The alternatives described in this section pose different ways to apportion this limited entry trawl share of sablefish to the at-sea catcher-processor, at-sea mothership, shoreside whiting, and shoreside non-whiting trawl sectors. The relevant trawl sector catches of sablefish north of 36° N latitude during 1995-2005 are found in Table 2-8. Proposed sablefish trawl sector allocation alternatives are based on the data in Table 2-8.

Proposed sablefish allocation option 1 divides the limited entry trawl allocation of sablefish north 36° N latitude by taking the highest percentage of sablefish catches relative to annual OYs for all the whiting trawl sectors combined (3.5% of the OY) with the remainder (96.5%) to the shoreside non-whiting trawl sector). The combined whiting sector share of 3.5% is then apportioned according to the fixed allocations of Pacific whiting (34% to catcher-processors, 24% to motherships, and 42% to shoreside whiting) to determine individual whiting sector shares (Table 2-9).

Table 2-8. Annual OYs (mt) and catches (mt) of sablefish by non-treaty trawl sector in fisheries north of 36° N latitude, 1995-2005.

		Sablefish Catch by Limited Entry Trawl Sector									
Year	OY	At-sea Catcher-Processors		At-sea Motherships		Shoreside Whiting		Shoreside Non-whiting			Total LE Trawl Catch
		Total Catch	% of OY	Total Catch	% of OY	Total Catch	% of OY	Landings	Discard mort.	% of OY a/	
1995	7,800	4.4	0.1%	2.8	0.0%	42.8	0.5%	3,499.0	NA	44.9%	3,598.9
1996	7,800	6.7	0.1%	0.1	0.0%	37.0	0.5%	3,918.6	NA	50.2%	4,006.3
1997	7,800	0.6	0.0%	0.2	0.0%	42.0	0.5%	3,549.9	NA	45.5%	3,635.6
1998	5,200	27.2	0.5%	0.5	0.0%	27.9	0.5%	2,029.9	NA	39.0%	2,141.4
1999	7,919	0.7	0.0%	1.3	0.0%	3.5	0.0%	3,075.2	NA	38.8%	3,086.2
2000	7,919	45.7	0.6%	0.9	0.0%	1.7	0.0%	2,654.6	NA	33.5%	2,751.1
2001	6,895	21.0	0.3%	0.2	0.0%	47.1	0.7%	2,485.5	NA	36.0%	2,622.4
2002	4,367	20.6	0.5%	0.4	0.0%	131.9	3.0%	1,395.6	NA	32.0%	1,701.6
2003	6,500	16.6	0.3%	0.3	0.0%	40.3	0.6%	2,246.2	533.4	42.8%	2,894.1
2004	7,510	19.4	0.3%	9.4	0.1%	130.9	1.7%	2,364.4	321.0	35.8%	3,004.8
2005	7,486	13.0	0.2%	2.1	0.0%	22.4	0.3%	2,308.4	262.0	34.3%	2,645.6

a/ The percent of the OY for the shoreside non-whiting trawl sector is the percent of the landed catch relative to the sablefish OY for 1995-2002 and percent of the total catch relative to the sablefish OY for 2003-2005 when discard mortality estimates for the sector were estimated.

Proposed sablefish allocation option 2 apportions the limited entry trawl allocation of sablefish north 36° N latitude by applying the average 2003-05 sector total catch percentages of the total limited entry trawl catch (Table 2-9).

Proposed sablefish allocation option 3 apportions the limited entry trawl allocation of sablefish north 36° N latitude by applying the average 1995-05 sector catch percentages relative to the annual sablefish OY and then normalizes the percentages to allocate 100% of the limited entry trawl share of sablefish (Table 2-9).

Proposed sablefish allocation option 4 sets aside the highest sablefish catch in any one year during 1995-05 by each whiting sector with the remaining yield of the limited entry trawl allocation allocated to the shoreside non-whiting sector (Table 2-9).

Proposed sablefish allocation option 5 sets aside the highest sablefish catch in any one year by all whiting sectors combined during 1995-05 and then apportions that amount of sablefish (159.7 mt) to each whiting sector according to the whiting allocation. The remaining yield of the limited entry trawl allocation is allocated to the shoreside non-whiting sector (Table 2-9).

Table 2-9. Proposed alternatives for apportioning the limited entry trawl share of sablefish north of 36° N latitude to the four non-treaty trawl sectors.

Sablefish Allocation Option	Limited Entry Trawl Sector Allocations			
	At-sea Catcher-Processors	**At-sea Motherships**	**Shoreside Whiting**	**Shoreside Non-Whiting**
Option 1 - highest combined whiting sector share in 1995-05 (remainder to shoreside non-whiting), then apportion whiting sector shares by whiting allocation percentages	1.2%	0.8%	1.5%	96.5%
Option 2 - average 2003-05 total catch percentages	0.6%	0.1%	2.3%	96.9%
Option 3 - average 1995-05 sector catch percentages relative to the annual OY (normalized)	0.6%	0.1%	1.9%	97.4%
Option 4 - highest catch (mt) by whiting sector in any year during 1995-05 set aside; remainder to shoreside non-whiting sector	45.7	9.4	131.9	Remaining yield from the trawl allocation
Option 5 - highest catch (mt) in any one year by all whiting sectors combined set aside and apportioned to the whiting sectors according to the whiting allocation percentage; remainder to shoreside non-whiting sector	54.3	38.3	67.1	Remaining yield from the trawl allocation

2.1.6.2 *Pacific Halibut Total Catch Limits*

In November 2007, the Council decided to "allocate" a percent of the Area 2A (i.e., all waters off Washington, Oregon, and California) total constant exploitation yield (CEY) of Pacific halibut to the limited entry trawl sector based on the 2005 and 2006 estimated bycatch mortalities. Pacific halibut fisheries in the Northeast Pacific and Bering Sea are managed by the International Pacific Halibut Commission (IPHC). A long standing policy of the IPHC has been to prohibit retention of Pacific halibut in trawl fisheries. The Council's intent in this allocation is not to recommend a different policy to the IPHC, but to adopt a total catch limit of Pacific halibut in the west coast limited entry trawl fishery. The Council also expressed the intent to further reduce trawl bycatch of Pacific halibut in future fisheries to provide more yield for directed Area 2A halibut fisheries. The two options for initial total catch limits of Pacific halibut are to use the trawl bycatch mortalities of legal-sized (≥32 in., >81 cm) Pacific halibut in 2005 and 2006 as a percent of the Area 2A total CEYs. Table 2-10 provides the estimated trawl bycatch mortality and the catch of legal-sized Pacific halibut in Area 2A fisheries in 2005 and 2006, as well as the percent of the total CEY represented by the trawl bycatch mortality in both years.

Table 2-10. Alternative total catch limits and catches in thousands of pounds net weight of legal-sized Pacific halibut for the west coast limited entry trawl sector.

Pacific Halibut Total Catch Limit Alternative	Limited Entry Trawl		Directed and Incidental Fisheries		Area 2A Total CEY
	Est. Mort.	Est. Mort. (% of Area 2A Total CEY)	Commercial Catch	Sport Catch	
Option 1 - 2005 estimated mortality (% of Area 2A CEY)	228	14.6%	799	486	1,560
Option 2 - 2006 estimated mortality (% of Area 2A CEY)	252	14.7%	820	521	1,710

2.1.7 Council-Preferred Alternative

The Council is expected to adopt their preferred alternative at their April 2008 meeting in Seattle, Washington.

2.1.7.1 *Groundfish Allocation Committee Recommendations*

Details of the seven GAC meetings between January 2005 and February 2008, including their recommendations through the course of deciding intersector allocation alternatives, are provided in Appendix A.

The GAC met in February 2008 to discuss intersector allocations and to develop their recommendations to the Council in April 2008. The GAC recommended that only limited entry trawl allocations be decided in April 2008 and that Intersector Allocation Alternative 2, which contemplates allocations to the non-treaty, non-trawl directed groundfish sectors, not be considered at that time. Further, the GAC recommended implementing new trawl allocations in synchrony with the implementation of new trawl rationalization measures. The GAC did not recommend implementing new intersector allocations in 2009.

The preliminary preferred trawl allocations recommended by the GAC and their rationale for those allocations are provided in Table 2-11. In general, the GAC recommended the lower trawl catch percentage relative to the 2003-05 total catch percentages (Alternative 1; Table 2-5) and the 1995-05 landed catch percentages (Alternative 3). ***However, subsequent to the GAC meeting, a formulaic error was discovered in the Alternative 3 table, where limited entry fixed gear catches were counted twice. The version of the Alternative 3 table provided to the GAC therefore had lower limited entry trawl percentages than the correct ones depicted in Table 2-7. This is why the GAC-recommended trawl allocation percentage shown in Table 2-11 is lower than the lowest trawl allocation percentage in Tables 2-5 and 2-7 for Conception area sablefish, the only species affected by the error. The correct average 1995-05 landed trawl catch percentage of Conception area sablefish is 47.7%.*** Of all the recommended species allocations in Table 2-11, only lingcod was considered questionable. The GAC wanted to explore dividing the available lingcod harvest at 40°10' N latitude and further wanted to assess the biological effect of any allocation south of 40°10' N latitude on the more depleted southern sub-population. Any long term allocation decision for lingcod south of 40°10' N latitude should be revisited once a new assessment confirms a healthier southern population.

The GAC recommended a 15% set-aside for Dover, English, and petrale sole to accommodate a developing fixed gear fishery. Set-asides of 0-15% were also recommended by the GAC for all the other species considered for long term allocations. These set-asides would be used for OY management to reduce the risk of any sector's catch overage from exceeding an OY, as well as to accommodate new fishing opportunities that are not part of the current management regime.

Table 2-11. Preliminary preferred trawl allocations recommended by the Groundfish Allocation Committee in February 2008.

Stock or Complex	GAC Preliminary Preferred Trawl Allocations		
	All Non-Treaty Trawl Sectors	Buffer a/	Rationale
Lingcod - coastwide			
N. of 42° (OR & WA)	40.0%		Recommendation is less firm than for other species; Explore a 40°10' split; Reconsider alloc. % if new assessment indicates a healthier southern stock
S. of 42° (CA)	5.0%		
Pacific Cod	**98.0%**		Equals the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Sablefish (Coastwide)			
N. of 36° (Monterey north)			
S. of 36° (Conception area)	**42.0%**		Equals the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %); **Note: actual ave. 1995-05 landed catch % = 47.7%**
PACIFIC OCEAN PERCH	**99.0%**		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Shortbelly Rockfish	**No alloc.**		No allocation needed since incidental catch in all fisheries combined is a small fraction of the OY
WIDOW ROCKFISH	**91.0%**		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Chilipepper Rockfish	**80.0%**		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Splitnose Rockfish	**97.0%**		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Yellowtail Rockfish	**88.0%**		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Shortspine Thornyhead - coastwide			
N. of 34°27'	**98.0%**		Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %
S. of 34°27'	**58.0%**		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Longspine Thornyhead - coastwide			
N. of 34°27'	**99.0%**		Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %
S. of 34°27'	**5.0%**		A higher trawl allocation % is recommended than in the alternatives since this stock is under-utilized
DARKBLOTCHED	**98.7%**		Equals the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Minor Slope Rockfish North	**81.0%**		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Minor Slope Rockfish South	**63.0%**		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Dover Sole	**100.0%**	**15%**	Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %; 15% set-aside to accommodate developing fixed gear fisheries
English Sole	**100.0%**	**15%**	Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %; 15% set-aside to accommodate developing fixed gear fisheries
Petrale Sole (coastwide)	**100.0%**	**15%**	Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %; 15% set-aside to accommodate developing fixed gear fisheries
Arrowtooth Flounder	**99.0%**		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Starry Flounder	**87.0%**		Slightly less than the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Other Flatfish	**97.0%**		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Spiny Dogfish	**70.0%**		Slightly less than the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %

a/ The GAC recommends consideration for buffers of 0-15% for all intersector allocation species to manage the risk of exceeding OYs and to accommodate new fisheries. The GAC recommends a 15% buffer for petrale sole, Dover sole, and English sole.

2.2 Alternatives Considered But Eliminated From Further Detailed Analysis

Early in the scoping process the Council decided not to reconsider allocating Pacific whiting to the three whiting trawl sectors. The Council also decided not to reconsider allocations of sablefish north of 36° N latitude to the limited entry trawl, limited entry fixed gear, and open access sectors. However, within-trawl allocations are considered for sablefish north of 36° N latitude to effectively implement new trawl rationalization management measures when and if that occurs. The Council also decided not to consider long-term fixed allocations of any nearshore groundfish species (e.g., Minor Nearshore Rockfish North and South, black rockfish, blue rockfish, California scorpionfish, cabezon) since allocations are currently decided in state-managed nearshore fishery management plans in California and Oregon (Washington only allows recreational groundfish fishing in its territorial waters, where nearshore groundfish species off Washington reside).

Mr. William Daspit provided comments at numerous Council and GAC meetings recommending a personally conceived plan termed OSHUA (Optimum Species Harvesting Unified Allocation) be analyzed. The OSHUA plan contemplates biennial allocations of available yields of groundfish species to individual commercial fishermen across all sectors of the fishery based on their ability to minimize bycatch. These allocations would not be IFQs, which are transferable quotas that allow fishermen to trade quota pounds and shares. This alternative would have considerably broadened the scope of the proposed actions analyzed in this EA. For that and other reasons, the GAC and Council did not embrace the OSHUA plan and it was not considered in the range of trawl rationalization or intersector allocation alternatives and it is not analyzed further in this EA.

In November, 2007 the Council decided not to pursue long term fixed allocations of the non-trawl-dominant overfished species (bocaccio, canary rockfish, cowcod, and yelloweye rockfish) since these species' rebuilding plans currently constrain directed groundfish fishing opportunities coastwide. The multitude of possible allocation options and the significant effects each of those options might have on future fishing opportunities for each groundfish sector were too numerous to accurately analyze. Likewise, many shelf groundfish species and complexes constrained by rebuilding plans for the non-trawl-dominant overfished species, which also reside on the shelf, are not considered for long term fixed allocations for the same reason. These shelf species and complexes include Minor Shelf Rockfish North and South and species other than spiny dogfish in the Other Fish complex.

Allocations for all of the above species and complexes considered but eliminated from further detailed analysis will continue to be ad hoc allocations decided in the biennial harvest specifications and management measures process as described under the No Action Alternative.

2.3 Comparison of the Direct, Indirect, and Cumulative Effects of the Alternatives

To be completed after April 2008 when the Council is scheduled to decide its preferred alternative.

CHAPTER 3 AFFECTED ENVIRONMENT

3.1 Introduction

3.2 West Coast Marine Ecosystems and Essential Fish Habitat

The proposed action would be contained within the California Current ecosystem. A description of this ecosystem, and the effects of fishing on this ecosystem, can be found in Chapter 2 of the 2008 Status of the Pacific Coast Groundfish Fishery, Stock Assessment and Fishery Evaluation (SAFE) document Volume 1 (PFMC 2008). A comprehensive description of groundfish Essential Fish Habitat (EFH) can be found in the Final Groundfish Essential Fish Habitat Environmental Impact Statement (EFH EIS) (NMFS 2005).

3.3 Affected Species

There are over 90 species of groundfish managed under the groundfish Fishery Management Plan (FMP). These species include over 60 species of rockfish in the family Scorpaenidae, 7 roundfish species, 12 flatfish species, assorted shark, skate, and a few miscellaneous bottom-dwelling marine fish species. The 2008 Status of the Pacific Coast Groundfish Fishery, Stock Assessment and Fishery Evaluation (SAFE) document Volume 1, Chapter 1 describes the distributions, life histories and management areas for the groundfish species managed under the groundfish FMP (PFMC 2008).

3.3.1 Overfished Groundfish

Seven of the federally managed groundfish species are considered overfished with rebuilding plans governing the amount of allowable incidental fishing-related mortality in west coast fisheries and the duration of rebuilding. These species are bocaccio, canary rockfish, cowcod, darkblotched rockfish, Pacific ocean perch, widow rockfish, and yelloweye rockfish. Of these, only three species are predominantly caught in limited entry trawl fisheries (darkblotched rockfish, Pacific ocean perch, and widow rockfish) and subject to formal allocations as part of the proposed action.

3.3.2 Non-Overfished Groundfish

There are between 90 and 92 groundfish species managed under the groundfish FMP[2]. Some of these species are not exploited due to their small size not being vulnerable to west coast fishing gears (e.g.; shortbelly rockfish) and others are not targeted due to lack of market demand. Of the 90-92 federally-managed groundfish species, seven are overfished, three are in the precautionary zone or not overfished but below the target spawning biomass (cabezon in waters off California, petrale sole, and sablefish), and the others are healthy or their status is unknown. The distribution and life history of these species can be found in the most recent SAFE document, Volume 1, Chapter 1 (PFMC 2008).

3.3.3 Non-Groundfish Species

Non-groundfish species that are harvested commercially, such as California halibut, Pacific halibut, coastal pelagic species, highly migratory species, Dungeness crab, shrimp, prawns and sea cucumber, occur in the area. The distribution and life history of these species can be found in the most recent SAFE document, Volume 1, Chapter 1, Section 1.5 (PFMC 2008).

Other species that occur in the action area include Pacific salmon, marine mammals, turtles, and seabirds. Current information on the interaction of these species with the groundfish fishery is available in the most recent SAFE document, Volume 1, Chapter 3 (PFMC 2008).

[2] The groundfish FMP incorporates all species in the genus *Sebastes* occurring off the west coast. The actual number of rockfish species in the genus *Sebastes* occurring off the west coast is disputed by scientists. Therefore, the actual number of species managed under the FMP is still an open question. See Volume 1 of the Council 2008 Stock Assessment and Fishery Evaluation document (PFMC 2008) for more details.

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

The proposed action to make formal allocations of specified groundfish species to limited entry trawl sectors of the west coast groundfish fishery does not affect overall harvest levels of any species, nor does it affect management measures for any sector of fishery. The proposed action is not expected to change the magnitude or distribution of trawl efforts. Such actions and effects are analyzed and decided separately in a biennial Council process. Therefore, the proposed action is expected to have no direct impacts and potentially low indirect impacts to the west coast biological environment (i.e., affected species) or the physical environment (i.e., west coast marine ecosystems and essential fish habitat).

The anticipated impacts of the proposed action are largely socioeconomic. Therefore, most of the environmental consequences of the proposed action are discussed in section 4.4.

4.2 West Coast Marine Ecosystems and Essential Fish Habitat

4.2.1 The Effects of Fishing on Habitat and Marine Ecosystems

The National Marine Fishery Service (NMFS) recently completed an Environmental Impact Statement (EIS) to comprehensively evaluate groundfish habitat and the effects of groundfish fishing on that habitat, in response to litigation (*American Oceans Campaign v. Daley et al.*, Civil Action No 99-982(GK)). The action analyzed in the EFH EIS, authorizing harvest of groundfish within EFH, is incorporated by reference. A Record of Decision for Pacific Coast Groundfish EFH was issued on March 8, 2006, and concluded that partial approval of Amendment 19 to the FMP would minimize to the extent practicable adverse impacts to EFH from fishing. Amendment 19, approved on March 8, 2006, provides for a comprehensive strategy to conserve EFH, including its identification, designation of Habitat Areas of Particular Concern (HAPC), and the implementation of measures to minimize to the extent practicable adverse impacts to EFH from fishing. The final rule implementing Amendment 19 provided measures necessary to conserve EFH. Based on the analyses in the EFH EIS (NMFS 2005) and the mitigation measures implemented as part of that action, NMFS concluded that the effects of 2007–08 harvest specifications were not significant.

There is currently insufficient information to predict the effects of fishing on the marine ecosystem in any precise way. NEPA regulations address this issue. When an agency is evaluating reasonably foreseeable significant adverse effects, there is incomplete or unavailable information, and the costs of obtaining it are exorbitant or the means unknown, the agency must, (1) so state, (2) describe the importance of the unavailable information to the assessment, (3) summarize any existing scientific information, and (4) evaluate impacts based on generally accepted scientific principals (40 CFR Part 1502.22), which may accord with the best professional judgment of agency staff.

NMFS acknowledges that the information necessary to fully evaluate impacts to EFH and marine ecosystems cannot be reasonably obtained at this time, and impacts are generally unknown. Furthermore, it is not possible to separate out the direct/indirect effects of the action on the ecosystem (fishery removals), which may be modest, and the cumulative effects of past and future groundfish fishing mortality (occurring as past or reasonably foreseeable future actions under the management framework).

4.2.2 Possible Impacts of the Alternatives

The level of potential significant impact to the marine ecosystem under the proposed action alternatives is anticipated to be low or have no expected impact. The intersector allocation action alternatives would not have effects on the marine ecosystem and fish habitat outside of those analyzed under the NEPA documents for Amendments 16-4 and 19 to the FMP. The intersector allocation action would not affect overall harvest levels of groundfish since those decisions are analyzed in a separate NEPA document every other year. The intersector allocation action is not expected to change the magnitude or distribution of bottom trawl effort, which could otherwise have a negative impact on EFH. Therefore, no adverse impacts to groundfish EFH are anticipated from the proposed actions.

4.3 Affected Species

4.3.1 Possible Impacts of the Alternatives

The proposed action of deciding long term allocations of the future available harvest of some groundfish species to west coast limited entry sectors does not have direct impacts on any groundfish or non-groundfish species anticipated to be caught in future fisheries. Overall harvest levels of groundfish species are decided biennially in a separate Council process; a process which also contemplates the effects of future groundfish fishery management measures on non-groundfish species. Fishing practices are not anticipated to change by the proposed action.

The PMCC recommended that area allocation of OY for west coast groundfish should be employed as a hedge against unpredictable spawning success at the November, 2006 Council meeting. The Council conceptually agreed with the PMCC and decided that intersector allocation alternatives should allocate OYs as they are specified in biennial regulations. These OYs are based on SSC-recommended stock assessments, which are required in the stock assessment terms of reference to explore spatial needs of the stock and how fishery removals, which vary in time and area, affect the abundance and structure of the stock's spawning biomass. Such effects are considered when deciding species' OYs and management measures during the biennial specifications process.

The possible indirect impacts of the alternatives to groundfish and non-groundfish species due to gear selectivity effects are also expected to be minimal. Gear switching (e.g., harvesting groundfish using fixed gears rather than trawls) is contemplated for limited entry trawlers in the trawl rationalization process. Trawl fleet behavior (i.e., magnitude and distribution of trawl efforts) is anticipated to change

significantly once trawl rationalization measures are implemented. Such effects will be evaluated in the trawl rationalization EIS. No other indirect impacts are associated with the proposed action.

No impact from the alternatives is anticipated to salmonids (ESA-listed and non-listed). This action would not affect overall harvest levels of groundfish, nor would fishing practices change as a result of this action. Under any of the alternatives, west coast groundfish fishing would remain under guidance contained in the Biological Opinion for listed salmonids taken incidentally in this fishery.

No impact from the alternatives is anticipated to marine mammals and turtles. This action would not affect overall harvest levels of groundfish, and therefore would not increase the rate of interaction with marine mammals and turtles. This fishery already has low-to-zero mammal interactions and no known turtle bycatch. These bycatch levels are expected to remain unchanged under any of the alternatives because fishing practices would not be changed by this action.

No impact from the alternatives is anticipated to seabirds. This fishery's already low annual bycatch levels are expected to remain unchanged under any of the alternatives because fishing practices would not be changed by this action.

4.4 Socioeconomic Environment

Since the action contemplated in this EA concerns allocations of groundfish FMP species, the anticipated effects are largely socioeconomic. Differences in sector catch percentages between alternatives affect future fishing opportunities by sector differentially. Since the effort in the directed non-treaty groundfish sectors is not distributed uniformly along the west coast, there could be geographic variation in potential fishing opportunities across the alternatives. However, further spatial restrictions are not part of the proposed actions analyzed in this intersector allocation EA and available yields by area as specified in current harvest specifications are assumed in all analyses in this EA. Since nearshore species and sablefish are the predominant targets in the fixed gear fleets (i.e., limited entry fixed gear and directed open access) and allocation of these species are not contemplated in this action (beyond within-trawl allocations of sablefish), significant fleet displacement from status quo is not anticipated. Trawl rationalization will likely result in redistribution of trawl effort, although this connected action is analyzed in a separate EIS and not considered further in any quantitative analysis in this EA.

Sector allocation of the groundfish species considered in this action will be explored by determining how available yields of any of the species for each groundfish sectors are constrained by limiting the harvest of other co-occurring species. Allocations should attempt to provide an optimal mix of available yields for each sector that maximizes the value of landed catch and minimizes discards. While such an optimal mix will certainly vary by area, this allocation process will only explore optimizing socioeconomic benefits for each sector on a coastwide basis.

Using historical catch enables an exploration of how past regulatory limits have affected landings by sector. Recent catch histories provide a better estimate of the discarded portion of the catch and how fishing opportunities are constrained by the more conservative management regime under groundfish rebuilding. Analyses in this chapter will also attempt to differentiate to the extent possible how regulations and markets have affected both landings and discards by sector to better understand how sector allocations may provide an optimal benefit to west coast economies.

4.4.1 Criteria Used to Evaluate Impacts

One overall objective of the intersector allocation process is to optimally use the available harvest of target groundfish species. This objective is guided by two of the three management goals in the Groundfish FMP: 1) goal 2 – Economics – maximize the value of the groundfish resource as a whole; and 2) goal 3 – Utilization – achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities (see section 6.1). While the proposed action is to determine long term formal allocations of a portion of the Groundfish FMP species to the limited entry trawl sectors, this decision cannot be made without understanding the needs of the directed non-trawl sectors. This is the intent of analyzing Intersector Allocation Alternative 2 and understanding how target opportunities may be constrained by the bycatch of some of the species under consideration in the proposed action. These analyses attempt to tease out these constraints to all the groundfish sectors, so that trawl allocations will not unnecessarily constrain other groundfish sectors by allocating enough yield for their needs.

The utilization goal is first addressed in these analyses by understanding the available yields or annual catch limits of the groundfish species under consideration during 1995-2005 and the harvests in each sector relative to these annual catch limits and relative to the annual catch in all non-treaty directed sectors combined.

The economics goal is addressed by first estimating revenue impacts by sector under each of the alternatives and then analyzing the importance of each of the species to each non-tribal directed groundfish sector. The analyses in this EA apply the sector catch percentages in the alternatives to the OYs specified in 2007-2008 to determine sector total catch amounts (landings plus discards). Landed catch is then estimated using sector-specific bycatch and discard rates updated from the west coast Groundfish Observer Program (WCGOP) for the commercial sectors and state sampling programs for the recreational sector. The predicted landed catch is then modeled to determine revenue impacts by sector. Revenue impacts by sector are then compared to status quo (2005) revenue impacts. Revenue impacts are evaluated at the port group level to determine effects on west coast fishing communities.

4.4.2 Possible Impacts of the Alternatives

The three intersector allocation action alternatives analyzed in this EA show significant differences for only a subset of the species analyzed. Sector catch percentages for lingcod, widow rockfish, chilipepper rockfish, yellowtail rockfish, shortspine thornyhead, the minor slope rockfish complexes, starry flounder, and spiny dogfish differ significantly between intersector allocation alternatives 1 and 2, which are largely the same differing only by the number of non-trawl sectors analyzed, and intersector allocation alternative 3. Sector catch percentages for Pacific cod, Pacific ocean perch, shortbelly rockfish, longspine thornyhead, darkblotched rockfish, Dover sole, English sole, petrale sole, arrowtooth flounder, and Other Flatfish do not vary significantly between alternatives. This underscores the fact that these species are predominantly caught in trawl fisheries regardless of management measures specified prior to the more conservative regime in place since 2000 to rebuild overfished species or the contemporary fishery marked by relatively more constraining measures such as closed areas, selective gears, and other regulatory limits designed to reduce impacts on overfished species. The following sections will discuss the possible impacts of the intersector allocation alternatives for all the groundfish species outlined in Tables 2-1 through 2-11 with a particular emphasis on those species listed above that do show significant sector catch percentages across the alternatives. Additionally, there is a need to explore within-trawl sector allocations of sablefish north of 36° N latitude in order to effectively implement trawl rationalization. Finally, the Council specified two alternatives for limiting the total catch of Pacific halibut in limited entry trawl fisheries. These two alternatives are analyzed separately in this chapter.

4.4.2.1 *Utilization of Available Yields by Sector*

Table 4-1 depicts the annual catch limits (called OYs, formerly harvest guidelines) for each of the groundfish species subject to intersector allocation during 1995-2005. Those species in Table 4-1 without an annual catch limit during all or part of this period were managed under a groundfish species complex with its own OY. It is important to note that annual catch limits evolved during this period from landed catch limits in 1995-1997, with a mix of landed catch and total catch limits (including estimated discard mortalities) in 1998, to total catch limits from 1999 to present.

Table 4-2 depicts the utilization of these annual catch limits for specified species by all directed groundfish sectors combined (including treaty fisheries), while Tables 4-3 to 4-7 show individual groundfish sector landings or deliveries as a percent of the annual catch limits. The most heavily utilized species, of those subject to intersector allocations, are lingcod, sablefish north of 36° N latitude, widow rockfish, shortspine thornyhead, darkblotched rockfish, Dover sole, and petrale sole.

Sector annual landings as a percent of the total annual landed catch in non-treaty fisheries for each of the specified species are provided to understand the utilization of yields by sector. Tables 4-8 through 4-11 depict landings as a percent of total non-treaty landings during 1995-2005 for the limited entry trawl sectors (at-sea whiting catcher-processors, at-sea whiting motherships, shoreside whiting, and shoreside non-whiting), the limited entry fixed gear sector, the open access sectors (directed and incidental), and the recreational groundfish sector, respectively. Tables 4-12 through 4-14 show the maximum, minimum, and average shares by sector, respectively.

The following criteria are used to evaluate the utilization of groundfish species by directed non-treaty groundfish sectors in this EA. Significant utilization of a groundfish species by a sector is defined as landing an average of at least 10% of the total annual non-treaty landings during the 1995-2005 period. Dominant utilization of a groundfish species by a sector is defined as landing an average of at least 90% of the total annual non-treaty landings during the 1995-2005 period. Species categorized thusly are characterized as "sector-dominant". This evaluation is done for all the limited entry trawl sectors combined (referred to as the limited entry trawl sector), the limited entry line and pot/trap sectors combined (referred to as the limited entry fixed gear sector), the directed open access sector, and the recreational sector using Table 4-14. Shares landed in the incidental open access sector should be considered as set-asides in the intersector allocation process.

Table 4-1. Annual catch limits (mt) for groundfish FMP species subject to intersector allocations, 1995-2005.

Stock or Complex	1995 HG	1996 HG	1997 HG	1998 Total Catch or Landed Catch OY	1999 Total Catch OY	2000 Total Catch OY	2001 Total Catch OY	2002 Total Catch OY	2003 Total Catch OY	2004 Total Catch OY	2005 Total Catch OY
Lingcod - coastwide	2,400	2,400	2,400	838	730	378	611	577	651	735	2,414
N. of 42° (OR & WA)											1,801
S. of 42° (CA)											612
Pacific Cod								3,200	3,200	3,200	1,600
Sablefish (Coastwide)										7,786	7,761
N. of 36° (Monterey north)	7,800	7,800	7,800	5,200	7,919	7,919	6,895	4,367	6,500	7,510	7,486
S. of 36° (Conception area)	425	425	425	425	472	472	212	229	294	276	275
PACIFIC OCEAN PERCH	1,300	750	750	650	595	270	303	350	377	444	447
Shortbelly Rockfish	23,500	23,500	23,500	23,500	23,500	13,900	13,900	13,900	13,900	13,900	13,900
WIDOW ROCKFISH	6,500	6,500	6,500	4,960	5,023	4,333	2,300	856	832	284	285
Chilipepper Rockfish					3,724	2,000	2,000	2,000	2,000	2,000	2,000
Splitnose Rockfish					868	615	461	461	461	461	461
Yellowtail Rockfish	6,340	6,170	2,762	3,118	3,435	3,539	3,146	3,146	3,146	4,320	3,896
Shortspine Thornyhead - coastwide	1,500	1,500	1,380	1,300	1,325	1,145	751	955	955	983	999
N. of 34°27'											999
S. of 34°27'											
Longspine Thornyhead - coastwide											2,656
N. of 34°27'	6,000	6,000	6,000	4,102	4,102	4,102	2,461	2,461	2,461	2,461	2,461
S. of 34°27'				428	429	429	195	195	195	195	195
DARKBLOTCHED							130	168	172	240	269
Minor Slope Rockfish North											1,160
Minor Slope Rockfish South											639
Dover Sole	13,600	11,050	11,050	9,426	9,426	9,426	7,677	7,440	7,440	7,440	7,476
English Sole									3,100	3,100	3,100
Petrale Sole (coastwide)									2,762	2,762	2,762
Arrowtooth Flounder									5,800	5,800	5,800
Starry Flounder											
Other Flatfish									7,700	7,700	4,909
Spiny Dogfish											

Table 4-2. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by all directed groundfish sectors combined (including treaty), 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum share (%)	Minimum share (%)	Average share (%)
Lingcod - coastwide	77.9%	86.4%	83.6%	84.6%	114.3%	113.6%	67.8%	153.8%	211.4%	66.2%	29.6%	211.4%	29.6%	99.0%
N. of 42° (OR & WA)											19.6%	19.6%	19.6%	19.6%
S. of 42° (CA)											59.0%	59.0%	59.0%	59.0%
Pacific Cod								23.7%	39.9%	44.6%	54.1%	54.1%	23.7%	40.6%
Sablefish (Coastwide)										76.7%	80.7%	80.7%	76.7%	78.7%
N. of 36° (Monterey north)	96.6%	102.9%	98.7%	81.3%	82.2%	78.9%	79.9%	83.9%	81.6%	77.1%	81.7%	102.9%	77.1%	85.9%
S. of 36° (Conception area)	76.7%	80.4%	61.7%	50.3%	38.5%	25.9%	66.8%	82.8%	74.5%	66.5%	52.6%	82.8%	25.9%	61.5%
PACIFIC OCEAN PERCH	69.8%	116.7%	91.7%	101.1%	92.0%	53.8%	68.6%	43.6%	37.0%	30.7%	14.6%	116.7%	14.6%	65.4%
Shortbelly Rockfish	0.2%	0.2%	0.3%	0.1%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%
WIDOW ROCKFISH	103.1%	97.2%	103.1%	85.4%	83.3%	93.8%	86.1%	50.4%	5.2%	35.7%	67.7%	103.1%	5.2%	73.7%
Chilipepper Rockfish					24.8%	22.9%	19.0%	8.5%	0.4%	2.5%	1.9%	24.8%	0.4%	11.4%
Splitnose Rockfish					23.8%	14.5%	20.1%	12.7%	32.8%	35.5%	18.9%	35.5%	12.7%	22.6%
Yellowtail Rockfish	82.2%	93.5%	82.9%	100.8%	102.6%	101.0%	63.2%	39.5%	15.4%	15.4%	23.0%	102.6%	15.4%	65.4%
Shortspine Thornyhead - coastwide	128.0%	107.7%	106.1%	96.2%	62.5%	74.0%	72.5%	82.8%	88.5%	82.4%	66.5%	128.0%	62.5%	87.9%
N. of 34°27'											38.5%	38.5%	38.5%	38.5%
S. of 34°27'														
Longspine Thornyhead - coastwide											24.3%	24.3%	24.3%	24.3%
N. of 34°27'	89.5%	80.7%	65.4%	54.4%	43.5%	35.6%	46.5%	77.1%	63.4%	29.4%	25.9%	89.5%	25.9%	55.6%
S. of 34°27'				2.6%	3.5%	6.2%	15.8%	6.5%	5.5%	3.9%	4.0%	15.8%	2.6%	6.0%
DARKBLOTCHED							132.5%	67.2%	49.1%	82.0%	36.4%	132.5%	36.4%	73.5%
Minor Slope Rockfish North											21.4%	21.4%	21.4%	21.4%
Minor Slope Rockfish South											26.2%	26.2%	26.2%	26.2%
Dover Sole	77.0%	111.0%	92.2%	86.1%	98.2%	94.2%	89.5%	85.4%	100.9%	97.0%	95.0%	111.0%	77.0%	93.3%
English Sole									30.4%	31.4%	30.3%	31.4%	30.3%	30.7%
Petrale Sole (coastwide)									73.9%	70.7%	101.2%	101.2%	70.7%	81.9%
Arrowtooth Flounder									40.5%	42.7%	39.5%	42.7%	39.5%	40.9%
Starry Flounder														
Other Flatfish									20.5%	17.9%	24.0%	24.0%	17.9%	20.8%
Spiny Dogfish														

Table 4-3. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by all limited entry trawl sectors, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum share (%)	Minimum share (%)	Average share (%)
Lingcod - coastwide	44.6%	50.2%	48.8%	26.0%	29.8%	17.8%	9.7%	17.8%	9.4%	8.6%	3.6%	50.2%	3.6%	24.2%
N. of 42° (OR & WA)											3.6%	3.6%	3.6%	3.6%
S. of 42° (CA)											3.3%	3.3%	3.3%	3.3%
Pacific Cod								21.6%	32.5%	34.5%	45.8%	45.8%	21.6%	33.6%
Sablefish (Coastwide)										33.4%	30.9%	33.4%	30.9%	32.2%
N. of 36° (Monterey north)	45.5%	50.8%	46.1%	40.1%	38.9%	34.1%	37.0%	35.5%	35.4%	33.6%	31.3%	50.8%	31.3%	38.9%
S. of 36° (Conception area)	48.6%	50.4%	36.1%	26.9%	17.6%	7.7%	13.4%	21.4%	26.4%	29.0%	20.0%	50.4%	7.7%	27.0%
PACIFIC OCEAN PERCH	68.9%	114.5%	89.7%	100.8%	90.0%	53.4%	68.3%	43.2%	36.3%	29.8%	13.7%	114.5%	13.7%	64.4%
Shortbelly Rockfish	0.2%	0.2%	0.3%	0.1%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%
WIDOW ROCKFISH	101.3%	95.6%	101.1%	80.5%	80.6%	92.6%	84.4%	46.2%	3.5%	22.1%	55.6%	101.3%	3.5%	69.4%
Chilipepper Rockfish					21.0%	18.0%	14.9%	7.7%	0.4%	2.0%	1.5%	21.0%	0.4%	9.3%
Splitnose Rockfish					23.7%	13.6%	19.6%	12.1%	32.7%	35.5%	18.7%	35.5%	12.1%	22.3%
Yellowtail Rockfish	77.1%	84.7%	66.3%	83.0%	83.6%	93.5%	54.3%	23.9%	4.7%	5.5%	7.1%	93.5%	4.7%	53.1%
Shortspine Thornyhead - coastwide	124.1%	100.9%	101.4%	91.3%	53.8%	68.5%	64.8%	71.0%	71.3%	68.1%	51.2%	124.1%	51.2%	78.8%
N. of 34°27'											36.7%	36.7%	36.7%	36.7%
S. of 34°27'														
Longspine Thornyhead - coastwide											23.8%	23.8%	23.8%	23.8%
N. of 34°27'	88.6%	79.2%	64.2%	54.2%	43.2%	34.8%	46.0%	77.1%	63.1%	29.3%	25.7%	88.6%	25.7%	55.0%
S. of 34°27'				0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
DARKBLOTCHED							130.2%	65.6%	48.7%	81.6%	34.8%	130.2%	34.8%	72.2%
Minor Slope Rockfish North											13.3%	13.3%	13.3%	13.3%
Minor Slope Rockfish South											17.4%	17.4%	17.4%	17.4%
Dover Sole	76.3%	110.1%	91.5%	85.5%	96.9%	93.5%	89.0%	84.9%	100.3%	95.8%	93.0%	110.1%	76.3%	92.4%
English Sole									27.6%	28.6%	28.0%	28.6%	27.6%	28.1%
Petrale Sole (coastwide)									68.9%	67.4%	99.7%	99.7%	67.4%	78.7%
Arrowtooth Flounder									39.8%	41.2%	36.6%	41.2%	36.6%	39.2%
Starry Flounder														
Other Flatfish									19.2%	16.5%	22.3%	22.3%	16.5%	19.3%
Spiny Dogfish														

Table 4-4. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by the limited entry fixed gear sector, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum share (%)	Minimum share (%)	Average share (%)
Lingcod - coastwide	1.8%	2.3%	2.7%	3.0%	4.4%	4.2%	2.9%	2.1%	1.3%	1.6%	0.6%	4.4%	0.6%	2.4%
N. of 42° (OR & WA)											0.6%	0.6%	0.6%	0.6%
S. of 42° (CA)											0.6%	0.6%	0.6%	0.6%
Pacific Cod								0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%
Sablefish (Coastwide)										27.0%	28.8%	28.8%	27.0%	27.9%
N. of 36° (Monterey north)	33.9%	32.4%	35.3%	28.6%	29.8%	29.5%	26.1%	29.5%	27.7%	27.0%	28.9%	35.3%	26.1%	29.9%
S. of 36° (Conception area)	10.4%	20.2%	24.2%	22.4%	18.3%	14.7%	46.6%	48.2%	36.3%	27.8%	26.4%	48.2%	10.4%	26.9%
PACIFIC OCEAN PERCH	0.3%	1.3%	0.3%	0.0%	0.2%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	1.3%	0.0%	0.2%
Shortbelly Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	0.1%	0.1%	0.1%	0.2%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%
Chilipepper Rockfish					0.3%	0.4%	0.1%	0.0%	0.0%	0.1%	0.1%	0.4%	0.0%	0.2%
Splitnose Rockfish					0.1%	0.8%	0.2%	0.3%	0.1%	0.0%	0.1%	0.8%	0.0%	0.2%
Yellowtail Rockfish	0.2%	0.5%	1.3%	1.4%	1.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.4%
Shortspine Thornyhead - coastwide	2.2%	5.2%	3.8%	4.4%	7.5%	4.5%	6.8%	10.8%	16.3%	13.6%	14.2%	16.3%	2.2%	8.1%
N. of 34°27'											0.7%	0.7%	0.7%	0.7%
S. of 34°27'														
Longspine Thornyhead - coastwide											0.6%	0.6%	0.6%	0.6%
N. of 34°27'	0.4%	1.3%	0.9%	0.1%	0.3%	0.8%	0.5%	0.1%	0.4%	0.0%	0.3%	1.3%	0.0%	0.5%
S. of 34°27'				2.6%	3.3%	4.7%	12.4%	5.1%	5.4%	3.9%	4.0%	12.4%	2.6%	5.2%
DARKBLOTCHED							1.7%	0.1%	0.1%	0.1%	0.8%	1.7%	0.1%	0.6%
Minor Slope Rockfish North											4.6%	4.6%	4.6%	4.6%
Minor Slope Rockfish South											4.1%	4.1%	4.1%	4.1%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder									0.1%	0.0%	0.1%	0.1%	0.0%	0.1%
Starry Flounder														
Other Flatfish									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Spiny Dogfish														

Table 4-5. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by the directed open access sector, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum share (%)	Minimum share (%)	Average share (%)
Lingcod - coastwide	14.5%	12.6%	14.1%	13.0%	16.4%	17.2%	12.3%	14.2%	11.6%	11.2%	3.1%	17.2%	3.1%	12.7%
N. of 42° (OR & WA)											2.0%	2.0%	2.0%	2.0%
S. of 42° (CA)											6.2%	6.2%	6.2%	6.2%
Pacific Cod								0.1%	0.2%	0.0%	0.0%	0.2%	0.0%	0.1%
Sablefish (Coastwide)										7.0%	11.9%	11.9%	7.0%	9.5%
N. of 36° (Monterey north)	7.3%	8.7%	7.0%	4.0%	4.5%	6.3%	7.2%	8.7%	9.0%	6.9%	12.1%	12.1%	4.0%	7.4%
S. of 36° (Conception area)	17.7%	9.9%	1.3%	0.9%	2.6%	3.5%	6.8%	13.2%	11.8%	9.6%	6.2%	17.7%	0.9%	7.6%
PACIFIC OCEAN PERCH	0.5%	0.9%	0.8%	0.2%	1.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.4%
Shortbelly Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	1.6%	0.9%	1.1%	3.3%	1.0%	0.4%	0.6%	0.1%	0.2%	0.1%	0.4%	3.3%	0.1%	0.9%
Chilipepper Rockfish					2.8%	2.5%	1.4%	0.2%	0.0%	0.1%	0.0%	2.8%	0.0%	1.0%
Splitnose Rockfish					0.1%	0.1%	0.3%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%
Yellowtail Rockfish	4.4%	6.2%	9.3%	9.0%	3.1%	2.9%	2.2%	1.0%	0.2%	0.2%	0.2%	9.3%	0.2%	3.5%
Shortspine Thornyhead - coastwide	1.2%	1.0%	0.4%	0.2%	0.7%	0.7%	0.3%	0.4%	0.3%	0.1%	0.1%	1.2%	0.1%	0.5%
N. of 34°27'											0.0%	0.0%	0.0%	0.0%
S. of 34°27'														
Longspine Thornyhead - coastwide											0.0%	0.0%	0.0%	0.0%
N. of 34°27'	0.5%	0.2%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.1%
S. of 34°27'				0.0%	0.2%	1.6%	3.3%	1.1%	0.1%	0.0%	0.0%	3.3%	0.0%	0.8%
DARKBLOTCHED							0.6%	0.6%	0.2%	0.2%	0.8%	0.8%	0.2%	0.5%
Minor Slope Rockfish North											0.9%	0.9%	0.9%	0.9%
Minor Slope Rockfish South											4.7%	4.7%	4.7%	4.7%
Dover Sole	0.6%	0.9%	0.7%	0.6%	1.3%	0.7%	0.4%	0.2%	0.2%	0.1%	0.1%	1.3%	0.1%	0.5%
English Sole									0.6%	0.2%	0.2%	0.6%	0.2%	0.3%
Petrale Sole (coastwide)									1.9%	0.2%	0.4%	1.9%	0.2%	0.8%
Arrowtooth Flounder									0.3%	0.0%	0.0%	0.3%	0.0%	0.1%
Starry Flounder														
Other Flatfish									0.5%	0.6%	0.1%	0.6%	0.1%	0.4%
Spiny Dogfish														

Table 4-6. Landings of groundfish species subject to intersector allocations as a share of annual catch limits by the recreational groundfish sector, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum share (%)	Minimum share (%)	Average share (%)
Lingcod - coastwide	16.32%	19.7%	17.8%	40.1%	60.9%	70.0%	39.8%	105.2%	155.8%	40.5%	20.3%	155.8%	16.3%	53.3%
N. of 42° (OR & WA)											11.4%	11.4%	11.4%	11.4%
S. of 42° (CA)											46.3%	46.3%	46.3%	46.3%
Pacific Cod								0.1%	0.3%	0.4%	0.5%	0.5%	0.1%	0.3%
Sablefish (Coastwide)										0.0%	0.0%	0.0%	0.0%	0.0%
N. of 36° (Monterey north)	0.04%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%
S. of 36° (Conception area)	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
PACIFIC OCEAN PERCH	0.00%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%
Shortbelly Rockfish	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	0.09%	0.4%	0.7%	1.0%	0.7%	0.3%	0.6%	0.3%	0.2%	5.4%	1.1%	5.4%	0.1%	1.0%
Chilipepper Rockfish					0.7%	1.9%	2.6%	0.6%	0.0%	0.3%	0.2%	2.6%	0.0%	0.9%
Splitnose Rockfish					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellowtail Rockfish	0.47%	0.5%	1.5%	2.1%	0.8%	0.7%	0.6%	0.7%	0.7%	0.8%	0.8%	2.1%	0.5%	0.9%
Shortspine Thornyhead - coastwide	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
N. of 34°27'											0.0%	0.0%	0.0%	0.0%
S. of 34°27'														
Longspine Thornyhead - coastwide											0.0%	0.0%	0.0%	0.0%
N. of 34°27'	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S. of 34°27'				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DARKBLOTCHED							0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minor Slope Rockfish North											0.0%	0.0%	0.0%	0.0%
Minor Slope Rockfish South											0.1%	0.1%	0.1%	0.1%
Dover Sole	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Starry Flounder														
Other Flatfish									0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Spiny Dogfish														

Table 4-7. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by the treaty sector, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum share (%)	Minimum share (%)	Average share (%)
Lingcod - coastwide	0.0%	0.1%	0.0%	0.3%	0.4%	0.8%	0.7%	2.0%	3.4%	3.2%	1.3%	3.4%	0.0%	1.1%
N. of 42° (OR & WA)											1.7%	1.7%	1.7%	1.7%
S. of 42° (CA)											0.0%	0.0%	0.0%	0.0%
Pacific Cod								1.8%	6.7%	9.6%	7.7%	9.6%	1.8%	6.5%
Sablefish (Coastwide)										9.2%	9.0%	9.2%	9.0%	9.1%
N. of 36° (Monterey north)	9.9%	10.9%	10.3%	8.6%	9.0%	8.9%	9.6%	10.0%	9.3%	9.5%	9.3%	10.9%	8.6%	9.6%
S. of 36° (Conception area)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PACIFIC OCEAN PERCH	0.0%	0.0%	0.9%	0.1%	0.2%	0.0%	0.2%	0.1%	0.3%	0.9%	0.8%	0.9%	0.0%	0.3%
Shortbelly Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	0.0%	0.2%	0.1%	0.3%	0.7%	0.2%	0.5%	3.8%	1.4%	8.1%	10.5%	10.5%	0.0%	2.3%
Chilipepper Rockfish					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Splitnose Rockfish					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellowtail Rockfish	0.0%	1.5%	4.4%	5.3%	14.1%	3.8%	5.9%	14.0%	9.8%	8.8%	14.8%	14.8%	0.0%	7.5%
Shortspine Thornyhead - coastwide	0.5%	0.5%	0.6%	0.3%	0.5%	0.4%	0.7%	0.5%	0.6%	0.7%	1.1%	1.1%	0.3%	0.6%
N. of 34°27'											1.1%	1.1%	1.1%	1.1%
S. of 34°27'														
Longspine Thornyhead - coastwide											0.0%	0.0%	0.0%	0.0%
N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S. of 34°27'				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DARKBLOTCHED							0.1%	0.9%	0.0%	0.1%	0.0%	0.9%	0.0%	0.2%
Minor Slope Rockfish North											2.5%	2.5%	2.5%	2.5%
Minor Slope Rockfish South											0.0%	0.0%	0.0%	0.0%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.4%	1.1%	1.9%	1.9%	0.0%	0.4%
English Sole									2.2%	2.6%	2.1%	2.6%	2.1%	2.3%
Petrale Sole (coastwide)									3.1%	3.0%	1.1%	3.1%	1.1%	2.4%
Arrowtooth Flounder									0.4%	1.4%	2.8%	2.8%	0.4%	1.5%
Starry Flounder														
Other Flatfish									0.1%	0.2%	1.0%	1.0%	0.1%	0.4%
Spiny Dogfish														

Table 4-8. Limited entry trawl sectors' share of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Ave. Share a/
Lingcod - coastwide	57.8%	59.2%	58.5%	31.7%	26.7%	16.3%	15.0%	12.8%	5.3%	13.9%	12.9%	28.2%
N. of 42° (OR & WA)	73.0%	74.3%	69.7%	47.3%	39.0%	22.1%	17.7%	27.1%	18.4%	17.8%	20.5%	38.8%
S. of 42° (CA)	37.4%	36.2%	40.6%	19.3%	17.6%	11.9%	12.7%	6.5%	1.4%	8.4%	5.9%	18.0%
Pacific Cod	97.9%	97.5%	99.0%	98.7%	98.7%	98.9%	99.0%	98.9%	98.0%	98.5%	98.7%	98.5%
PACIFIC OCEAN PERCH	98.8%	98.1%	98.8%	99.8%	98.1%	99.5%	100.0%	99.4%	99.0%	100.0%	99.5%	99.2%
Shortbelly Rockfish	99.4%	98.7%	99.9%	98.6%	95.2%	100.0%	99.1%	100.0%	73.5%	97.8%	100.0%	96.6%
WIDOW ROCKFISH	98.2%	98.5%	98.2%	94.6%	97.6%	99.0%	98.5%	99.1%	91.7%	80.2%	97.3%	95.7%
Chilipepper Rockfish	78.1%	80.9%	76.0%	77.6%	84.7%	78.7%	78.3%	90.6%	96.0%	79.7%	82.2%	82.1%
Splitnose Rockfish	91.9%	98.7%	98.2%	96.0%	99.5%	93.8%	97.7%	95.5%	99.6%	99.9%	99.2%	97.3%
Yellowtail Rockfish	93.8%	92.1%	84.5%	87.0%	94.5%	96.2%	94.9%	93.5%	83.3%	83.8%	87.4%	90.1%
Shortspine Thornyhead - coastwide	97.3%	94.2%	96.0%	95.2%	86.8%	92.9%	90.2%	86.3%	81.1%	83.3%	78.2%	89.2%
N. of 34°27'	97.8%	98.0%	97.5%	97.9%	96.7%	97.5%	97.6%	97.9%	98.5%	98.6%	98.0%	97.8%
S. of 34°27'	96.4%	85.8%	92.5%	88.8%	67.3%	85.7%	73.4%	70.7%	57.3%	63.7%	51.6%	75.7%
Longspine Thornyhead - coastwide	99.0%	97.8%	97.8%	99.2%	98.3%	96.0%	96.2%	99.2%	98.7%	98.8%	97.7%	98.1%
N. of 34°27'	99.0%	98.2%	98.2%	99.7%	99.1%	97.8%	98.8%	99.9%	99.4%	99.8%	98.9%	99.0%
S. of 34°27'		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	0.0%	0.4%
DARKBLOTCHED	99.1%	99.4%	99.2%	97.1%	97.6%	95.6%	98.3%	98.9%	99.4%	99.6%	95.7%	98.2%
Minor Slope Rockfish North	83.1%	87.5%	96.5%	85.3%	95.5%	86.5%	86.1%	66.2%	83.0%	85.3%	70.5%	84.1%
Minor Slope Rockfish South	63.0%	71.9%	77.0%	67.6%	64.4%	73.3%	74.3%	77.8%	53.3%	70.1%	66.3%	69.0%
Dover Sole	99.1%	99.1%	99.3%	99.3%	98.7%	99.2%	99.5%	99.7%	99.8%	99.9%	99.9%	99.4%
English Sole	98.7%	97.3%	95.6%	97.7%	96.3%	96.6%	97.5%	99.2%	97.8%	99.3%	99.4%	97.8%
Petrale Sole (coastwide)	98.6%	98.5%	96.7%	98.2%	97.5%	97.3%	97.9%	99.1%	97.3%	99.6%	99.6%	98.2%
Arrowtooth Flounder	99.0%	99.7%	99.8%	99.8%	99.7%	99.4%	99.9%	99.7%	99.2%	99.9%	99.7%	99.6%
Starry Flounder	80.1%	60.8%	64.4%	61.3%	42.3%	57.7%	1.8%	41.1%	49.2%	82.7%	73.1%	55.9%
Other Flatfish	97.0%	93.1%	90.3%	94.8%	95.2%	93.0%	92.6%	93.0%	94.6%	93.4%	97.0%	94.0%
Spiny Dogfish	95.4%	83.0%	85.7%	99.2%	92.8%	53.6%	64.6%	53.3%	44.6%	68.5%	54.5%	72.3%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-9. Limited entry fixed gear sector shares of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Ave. Share a/
Lingcod - coastwide	2.3%	2.7%	3.3%	3.7%	4.0%	3.8%	4.4%	1.5%	0.7%	2.6%	2.2%	2.8%
N. of 42° (OR & WA)	0.9%	0.8%	2.3%	4.6%	6.5%	6.1%	7.4%	3.1%	2.3%	3.1%	3.5%	3.7%
S. of 42° (CA)	4.2%	5.4%	4.8%	3.0%	2.2%	2.1%	1.8%	0.8%	0.3%	1.8%	1.0%	2.5%
Pacific Cod	0.2%	0.3%	0.1%	0.2%	0.4%	0.4%	0.4%	0.1%	0.2%	0.4%	0.3%	0.3%
PACIFIC OCEAN PERCH	0.5%	1.1%	0.3%	0.0%	0.2%	0.2%	0.0%	0.2%	0.3%	0.0%	0.3%	0.3%
Shortbelly Rockfish	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	0.1%	0.1%	0.1%	0.3%	0.4%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%
Chilipepper Rockfish	0.8%	0.7%	0.7%	1.2%	1.4%	1.8%	0.8%	0.3%	1.1%	4.6%	7.8%	1.9%
Splitnose Rockfish	0.5%	0.2%	0.2%	0.0%	0.3%	5.8%	1.0%	2.2%	0.3%	0.0%	0.8%	1.0%
Yellowtail Rockfish	0.3%	0.6%	1.7%	1.5%	1.1%	0.1%	0.2%	0.1%	0.3%	0.4%	0.2%	0.6%
Shortspine Thornyhead - coastwide	1.7%	4.9%	3.6%	4.6%	12.1%	6.1%	9.4%	13.1%	18.5%	16.6%	21.7%	10.2%
N. of 34°27'	1.5%	1.7%	2.1%	1.9%	3.0%	2.3%	2.3%	1.8%	1.4%	1.3%	1.9%	1.9%
S. of 34°27'	2.0%	11.8%	7.1%	11.0%	29.9%	12.1%	25.5%	28.2%	42.0%	36.2%	48.2%	23.1%
Longspine Thornyhead - coastwide	0.5%	2.0%	1.8%	0.7%	1.4%	3.5%	3.1%	0.6%	1.2%	1.2%	2.3%	1.7%
N. of 34°27'	0.5%	1.6%	1.4%	0.2%	0.7%	2.1%	1.1%	0.1%	0.6%	0.1%	1.1%	0.9%
S. of 34°27'		98.2%	100.0%	99.1%	95.0%	74.6%	79.0%	79.2%	98.5%	99.0%	100.0%	92.2%
DARKBLOTCHED	0.3%	0.2%	0.1%	0.6%	0.2%	3.6%	1.3%	0.2%	0.3%	0.1%	2.1%	0.8%
Minor Slope Rockfish North	15.3%	9.8%	2.2%	13.1%	1.9%	10.9%	11.1%	32.0%	15.6%	13.4%	24.6%	13.6%
Minor Slope Rockfish South	7.8%	11.5%	8.6%	12.1%	14.3%	21.2%	15.6%	9.3%	22.4%	14.6%	15.7%	13.9%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Arrowtooth Flounder	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.3%	0.2%	0.1%	0.2%	0.1%
Starry Flounder	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.1%
Other Flatfish	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Spiny Dogfish	1.3%	5.3%	0.4%	0.1%	4.8%	44.0%	33.3%	43.4%	40.5%	18.3%	42.9%	21.3%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-10. Directed and incidental open access sectors' shares of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Ave. Share a/
Lingcod - coastwide	18.8%	14.9%	16.9%	15.9%	14.7%	15.7%	19.0%	10.2%	6.5%	18.1%	11.2%	14.7%
N. of 42° (OR & WA)	13.0%	13.0%	14.6%	14.9%	20.1%	24.1%	23.0%	16.9%	14.1%	14.4%	11.5%	16.3%
S. of 42° (CA)	26.5%	17.8%	20.6%	16.6%	10.7%	9.4%	15.4%	7.3%	4.3%	23.3%	10.9%	14.8%
Pacific Cod	1.9%	2.0%	0.8%	0.7%	0.7%	0.7%	0.6%	0.3%	0.7%	0.1%	0.1%	0.8%
PACIFIC OCEAN PERCH	0.7%	0.8%	0.8%	0.2%	1.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3%	0.5%
Shortbelly Rockfish	0.5%	1.1%	0.1%	1.3%	4.8%	0.0%	0.9%	0.0%	26.5%	2.2%	0.0%	3.4%
WIDOW ROCKFISH	1.6%	1.0%	1.1%	3.9%	1.3%	0.4%	0.7%	0.2%	4.2%	0.3%	0.7%	1.4%
Chilipepper Rockfish	20.7%	16.6%	19.7%	20.8%	11.3%	10.9%	7.3%	2.0%	2.8%	3.8%	1.6%	10.7%
Splitnose Rockfish	7.6%	1.1%	1.6%	4.0%	0.2%	0.4%	1.3%	2.3%	0.1%	0.0%	0.1%	1.7%
Yellowtail Rockfish	5.4%	6.7%	11.9%	9.4%	3.5%	3.0%	3.8%	3.8%	3.4%	3.6%	3.0%	5.2%
Shortspine Thornyhead - coastwide	1.0%	1.0%	0.4%	0.2%	1.1%	1.0%	0.4%	0.5%	0.3%	0.1%	0.1%	0.5%
N. of 34°27'	0.6%	0.3%	0.4%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.2%
S. of 34°27'	1.6%	2.4%	0.4%	0.2%	2.8%	2.3%	1.1%	1.1%	0.7%	0.1%	0.2%	1.2%
Longspine Thornyhead - coastwide	0.5%	0.2%	0.4%	0.1%	0.2%	0.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.3%
N. of 34°27'	0.5%	0.2%	0.4%	0.1%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%
S. of 34°27'		1.8%	0.0%	0.9%	5.0%	25.4%	21.0%	17.2%	1.5%	1.0%	0.0%	7.4%
DARKBLOTCHED	0.6%	0.4%	0.7%	2.3%	2.2%	0.8%	0.4%	0.9%	0.4%	0.3%	2.2%	1.0%
Minor Slope Rockfish North	1.6%	2.6%	1.3%	1.6%	2.6%	2.6%	2.7%	1.7%	1.5%	1.3%	5.0%	2.2%
Minor Slope Rockfish South	28.8%	14.4%	13.0%	19.9%	16.5%	4.2%	9.9%	12.3%	24.0%	15.2%	17.8%	16.0%
Dover Sole	0.8%	0.8%	0.7%	0.7%	1.3%	0.7%	0.5%	0.3%	0.2%	0.1%	0.1%	0.6%
English Sole	1.3%	2.7%	4.4%	2.3%	3.7%	3.4%	2.5%	0.8%	2.2%	0.7%	0.6%	2.2%
Petrale Sole (coastwide)	1.3%	1.5%	3.2%	1.8%	2.4%	2.7%	2.0%	0.8%	2.7%	0.3%	0.4%	1.7%
Arrowtooth Flounder	0.9%	0.3%	0.2%	0.2%	0.3%	0.6%	0.1%	0.1%	0.6%	0.0%	0.1%	0.3%
Starry Flounder	13.8%	32.4%	32.0%	29.5%	48.3%	28.6%	3.9%	25.3%	24.0%	15.0%	0.9%	23.0%
Other Flatfish	2.3%	4.5%	7.9%	4.3%	3.7%	3.2%	4.9%	2.7%	2.6%	3.3%	0.2%	3.6%
Spiny Dogfish	0.2%	7.0%	13.1%	0.3%	1.1%	0.9%	0.7%	2.4%	11.1%	12.8%	2.1%	4.7%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-11. Recreational sector shares of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Ave. Share a/
Lingcod - coastwide	21.2%	23.3%	21.4%	48.8%	54.6%	64.2%	61.6%	75.5%	87.5%	65.4%	73.7%	54.3%
N. of 42° (OR & WA)	13.1%	11.9%	13.4%	33.2%	34.5%	47.7%	51.9%	52.9%	65.2%	64.7%	64.5%	41.2%
S. of 42° (CA)	32.0%	40.5%	34.1%	61.1%	69.5%	76.5%	70.2%	85.4%	94.1%	66.5%	82.2%	64.7%
Pacific Cod	0.0%	0.1%	0.1%	0.4%	0.1%	0.0%	0.0%	0.7%	1.0%	1.0%	1.0%	0.4%
PACIFIC OCEAN PERCH	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	0.7%	0.0%	0.0%	0.1%
Shortbelly Rockfish	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	0.1%	0.4%	0.6%	1.2%	0.8%	0.4%	0.7%	0.7%	4.1%	19.4%	1.9%	2.8%
Chilipepper Rockfish	0.4%	1.8%	3.6%	0.4%	2.6%	8.5%	13.6%	7.1%	0.1%	11.9%	8.4%	5.3%
Splitnose Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellowtail Rockfish	0.6%	0.6%	1.9%	2.1%	0.9%	0.7%	1.1%	2.6%	12.9%	12.2%	9.5%	4.1%
Shortspine Thornyhead - coastwide	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Longspine Thornyhead - coastwide	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S. of 34°27'		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DARKBLOTCHED	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minor Slope Rockfish North	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Minor Slope Rockfish South	0.4%	2.2%	1.4%	0.4%	4.8%	1.4%	0.2%	0.6%	0.3%	0.1%	0.2%	1.1%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Starry Flounder	6.1%	6.7%	3.6%	9.2%	9.4%	13.7%	94.3%	33.1%	26.9%	2.3%	26.0%	21.0%
Other Flatfish	0.6%	2.4%	1.7%	0.8%	1.1%	3.7%	2.5%	4.2%	2.8%	3.3%	2.7%	2.4%
Spiny Dogfish	3.1%	4.7%	0.8%	0.4%	1.3%	1.4%	1.4%	0.9%	3.8%	0.3%	0.5%	1.7%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-12. Maximum shares of annual non-treaty landings of groundfish species subject to intersector allocation by sector during the 1995-2005 period.

Stock or Complex	MAXIMUM Shares								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting Trawl	Shoreside Non-whiting Trawl	LE Line Gear	LE Pot Gear	Directed OA	Incidental OA	Recreational
Lingcod - coastwide	0.08%	0.30%	0.91%	59.14%	4.10%	0.61%	16.11%	6.70%	87.47%
N. of 42° (OR & WA)	0.15%	0.63%	1.83%	74.25%	6.73%	0.76%	15.23%	14.44%	65.19%
S. of 42° (CA)	-	-	0.08%	40.55%	5.41%	0.39%	25.19%	2.00%	94.11%
Pacific Cod	0.07%	0.01%	0.20%	99.00%	0.45%	0.01%	0.21%	1.93%	1.05%
PACIFIC OCEAN PERCH	9.51%	3.10%	3.74%	98.41%	1.10%	0.11%	0.29%	1.65%	0.72%
Shortbelly Rockfish	67.69%	99.69%	67.78%	98.85%	0.09%	-	26.54%	4.77%	0.18%
WIDOW ROCKFISH	36.78%	21.78%	47.15%	92.82%	0.37%	0.01%	3.68%	0.61%	19.44%
Chilipepper Rockfish	-	-	-	96.03%	7.83%	-	20.23%	1.18%	13.62%
Splitnose Rockfish	-	-	-	99.93%	5.82%	-	7.47%	0.66%	-
Yellowtail Rockfish	15.01%	11.25%	54.77%	86.45%	1.68%	0.00%	4.61%	7.27%	12.94%
Shortspine Thornyhead - coastwide	2.81%	0.11%	0.22%	97.01%	21.67%	0.05%	0.90%	0.19%	0.14%
N. of 34°27'	4.06%	0.20%	0.36%	97.78%	3.00%	0.09%	0.42%	0.26%	0.24%
S. of 34°27'	-	-	-	96.41%	48.22%	0.00%	2.66%	0.36%	0.02%
Longspine Thornyhead - coastwide	0.00%	0.00%	0.05%	99.25%	3.46%	0.00%	0.56%	0.14%	-
N. of 34°27'	0.00%	0.00%	0.05%	99.89%	2.15%	0.00%	0.50%	0.14%	-
S. of 34°27'	-	-	-	3.58%	100.00%	-	25.43%	0.89%	-
DARKBLOTCHED	6.68%	5.21%	5.61%	98.85%	3.63%	0.05%	2.25%	2.13%	0.00%
Minor Slope Rockfish North	20.90%	5.28%	3.21%	92.32%	30.64%	2.15%	4.95%	2.22%	0.06%
Minor Slope Rockfish South	-	-	-	77.79%	22.36%	0.29%	28.60%	0.56%	4.84%
Dover Sole	0.02%	0.00%	0.04%	99.91%	0.03%	0.02%	0.03%	1.29%	0.00%
English Sole	0.01%	0.02%	0.15%	99.39%	0.00%	-	0.17%	4.39%	0.00%
Petrale Sole (coastwide)	0.00%	0.00%	0.10%	99.63%	0.08%	0.00%	0.43%	3.23%	0.04%
Arrowtooth Flounder	0.12%	0.09%	0.06%	99.83%	0.24%	0.06%	0.04%	0.86%	0.00%
Starry Flounder	-	-	0.04%	82.68%	0.42%	-	0.58%	47.84%	94.33%
Other Flatfish	1.03%	0.11%	0.25%	97.02%	0.07%	0.00%	0.47%	7.59%	4.25%
Spiny Dogfish	46.30%	24.71%	17.85%	62.60%	44.02%	0.02%	13.00%	1.97%	4.69%

Table 4-13. Minimum shares of annual non-treaty landings of groundfish species subject to intersector allocation by sector during the 1995-2005 period.

Stock or Complex	MINIMUM Shares								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting Trawl	Shoreside Non-whiting Trawl	LE Line Gear	LE Pot Gear	Directed OA	Incidental OA	Recreational
Lingcod - coastwide	-	-	0.01%	5.20%	0.62%	0.01%	5.59%	0.55%	21.16%
N. of 42° (OR & WA)	-	-	0.01%	15.83%	0.83%	0.01%	7.47%	0.97%	11.88%
S. of 42° (CA)	-	-	-	1.36%	0.22%	-	3.78%	0.16%	31.96%
Pacific Cod	-	-	0.00%	97.40%	0.07%	-	0.01%	0.02%	-
PACIFIC OCEAN PERCH	0.29%	0.03%	0.02%	90.41%	0.00%	-	0.00%	-	-
Shortbelly Rockfish	-	-	0.00%	0.00%	-	-	-	-	-
WIDOW ROCKFISH	1.08%	1.40%	1.28%	1.87%	0.00%	-	0.11%	0.07%	0.09%
Chilipepper Rockfish	-	-	-	75.96%	0.27%	-	1.24%	0.11%	0.09%
Splitnose Rockfish	-	-	-	91.92%	0.00%	-	0.04%	0.00%	-
Yellowtail Rockfish	0.99%	0.18%	5.30%	9.58%	0.07%	-	0.07%	2.21%	0.56%
Shortspine Thornyhead - coastwide	0.00%	-	0.01%	77.04%	1.69%	0.00%	0.06%	0.04%	-
N. of 34°27'	0.00%	-	0.01%	93.36%	1.20%	0.01%	0.00%	0.00%	-
S. of 34°27'	-	-	-	51.58%	1.99%	-	0.05%	0.02%	-
Longspine Thornyhead - coastwide	-	-	-	95.96%	0.48%	-	0.00%	0.00%	-
N. of 34°27'	-	-	-	97.72%	0.10%	-	0.00%	0.00%	-
S. of 34°27'	-	-	-	-	74.57%	-	-	-	-
DARKBLOTCHED	0.22%	0.09%	0.01%	78.78%	0.06%	-	0.02%	0.00%	-
Minor Slope Rockfish North	1.78%	0.08%	0.04%	45.16%	1.89%	-	0.27%	0.01%	0.00%
Minor Slope Rockfish South	-	-	-	53.33%	7.81%	-	3.93%	0.06%	0.13%
Dover Sole	-	-	0.00%	98.68%	0.01%	0.00%	0.00%	0.05%	-
English Sole	-	0.00%	0.00%	95.55%	-	-	0.00%	0.60%	-
Petrale Sole (coastwide)	-	-	0.00%	96.61%	0.01%	-	0.00%	0.27%	0.00%
Arrowtooth Flounder	0.00%	0.00%	0.01%	98.96%	0.01%	0.00%	0.00%	0.03%	-
Starry Flounder	-	-	-	1.81%	-	-	0.00%	0.88%	2.35%
Other Flatfish	0.00%	0.00%	0.00%	90.11%	0.01%	-	0.14%	0.08%	0.64%
Spiny Dogfish	2.12%	0.13%	0.02%	16.64%	0.10%	-	0.11%	0.00%	0.34%

Table 4-14. Average shares of annual non-treaty landings of groundfish species subject to intersector allocation by sector during the 1995-2005 period.

Stock or Complex	AVERAGE Shares (Average of Annual Percentages)								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting Trawl	Shoreside Non-whiting Trawl	LE Line Gear	LE Pot Gear	Directed OA	Incidental OA	Recreational
Lingcod - coastwide	0.02%	0.07%	0.23%	27.87%	2.66%	0.17%	11.56%	3.14%	54.28%
N. of 42° (OR & WA)	0.05%	0.14%	0.44%	38.19%	3.39%	0.30%	10.83%	5.50%	41.17%
S. of 42° (CA)	-	-	0.01%	17.97%	2.42%	0.07%	13.54%	1.24%	64.74%
Pacific Cod	0.01%	0.00%	0.07%	98.45%	0.28%	0.00%	0.10%	0.69%	0.40%
PACIFIC OCEAN PERCH	2.43%	0.91%	1.26%	94.55%	0.26%	0.02%	0.09%	0.36%	0.11%
Shortbelly Rockfish	13.58%	20.47%	9.60%	52.90%	0.01%	-	2.76%	0.64%	0.04%
WIDOW ROCKFISH	11.00%	5.38%	14.95%	64.38%	0.13%	0.00%	1.15%	0.25%	2.76%
Chilipepper Rockfish	-	-	0.02%	82.04%	1.93%	-	10.12%	0.58%	5.31%
Splitnose Rockfish	-	-	0.00%	97.27%	1.03%	-	1.58%	0.12%	-
Yellowtail Rockfish	5.18%	6.27%	18.01%	60.64%	0.58%	0.00%	1.37%	3.86%	4.09%
Shortspine Thornyhead - coastwide	0.98%	0.02%	0.05%	88.18%	10.20%	0.02%	0.44%	0.11%	0.02%
N. of 34°27'	1.59%	0.03%	0.08%	96.14%	1.90%	0.04%	0.10%	0.10%	0.03%
S. of 34°27'	-	-	-	75.74%	23.08%	0.00%	1.06%	0.11%	0.00%
Longspine Thornyhead - coastwide	0.00%	0.00%	0.01%	98.06%	1.66%	0.00%	0.21%	0.05%	-
N. of 34°27'	0.00%	0.00%	0.01%	98.96%	0.87%	0.00%	0.10%	0.05%	-
S. of 34°27'	-	-	-	0.36%	92.24%	-	7.19%	0.21%	-
DARKBLOTCHED	3.04%	1.18%	1.15%	92.80%	0.81%	0.01%	0.47%	0.55%	0.00%
Minor Slope Rockfish North	8.92%	1.29%	1.17%	72.75%	12.82%	0.81%	1.28%	0.94%	0.02%
Minor Slope Rockfish South	-	-	-	69.00%	13.83%	0.07%	15.74%	0.26%	1.10%
Dover Sole	0.00%	0.00%	0.01%	99.40%	0.02%	0.01%	0.01%	0.54%	0.00%
English Sole	0.00%	0.00%	0.06%	97.69%	0.00%	-	0.03%	2.21%	0.00%
Petrale Sole (coastwide)	0.00%	0.00%	0.03%	98.19%	0.04%	0.00%	0.06%	1.67%	0.02%
Arrowtooth Flounder	0.06%	0.03%	0.04%	99.50%	0.07%	0.01%	0.01%	0.29%	0.00%
Starry Flounder	-	-	0.01%	55.86%	0.05%	-	0.24%	22.80%	21.03%
Other Flatfish	0.25%	0.03%	0.06%	93.66%	0.03%	0.00%	0.30%	3.30%	2.36%
Spiny Dogfish	14.21%	9.08%	4.15%	44.86%	21.31%	0.00%	4.41%	0.29%	1.69%

Table 4-15 characterizes the groundfish species subject to intersector allocations as being significant or dominant to each of the directed non-treaty groundfish sectors based on the utilization criteria defined above. All of the specified groundfish species except longspine thornyhead south of 34°27' N latitude are at least significantly utilized by the limited entry trawl sector. Pacific cod, Pacific ocean perch, shortbelly rockfish, widow rockfish, splitnose rockfish, yellowtail rockfish, shortspine and longspine thornyhead north of 34°27' N latitude, darkblotched rockfish, Dover sole, petrale sole, arrowtooth flounder, and the species comprising the Other Flatfish complex are considered "trawl-dominant" according to these criteria.

Only longspine thornyhead are dominant to a non-trawl sector (limited entry fixed gear). Groundfish species subject to intersector allocation that are significantly utilized by the limited entry fixed gear sector are shortspine thornyhead south of 34°27' N latitude, species comprising the minor slope rockfish complexes, and spiny dogfish. Groundfish species subject to intersector allocation that are significantly utilized by the directed open access sector are lingcod, chilipepper rockfish, and species comprising the southern minor slope rockfish complex. Groundfish species subject to intersector allocation that are significantly utilized by the recreational sector are lingcod and starry flounder.

Tables 4-15. Utilization by directed non-treaty groundfish sectors of groundfish species subject to intersector allocations (S = significant utilization, D = dominant utilization). a/

Stock or Complex	Directed Groundfish Sector Utilization			
	Limited Entry Trawl	Limited Entry Fixed Gear	Directed OA	Recreational
Lingcod - coastwide	S		S	S
N. of 42° (OR & WA)	S		S	S
S. of 42° (CA)	S		S	S
Pacific Cod	D			
PACIFIC OCEAN PERCH	D			
Shortbelly Rockfish	D			
WIDOW ROCKFISH	D			
Chilipepper Rockfish	S		S	
Splitnose Rockfish	D			
Yellowtail Rockfish	D			
Shortspine Thornyhead - coastwide	S	S		
N. of 34°27'	D			
S. of 34°27'	S	S		
Longspine Thornyhead - coastwide	D			
N. of 34°27'	D			
S. of 34°27'		D		
DARKBLOTCHED	D			
Minor Slope Rockfish North	S	S		
Minor Slope Rockfish South	S	S	S	
Dover Sole	D			
English Sole	D			
Petrale Sole (coastwide)	D			
Arrowtooth Flounder	D			
Starry Flounder	S			S
Other Flatfish	D			
Spiny Dogfish	S	S		

a/ Significant utilization of a groundfish species by a sector is defined as landing an average of at least 10% of the total annual non-treaty landings during the 1995-2005 period. Dominant utilization of a groundfish species by a sector is defined as landing an average of at least 90% of the total annual non-treaty landings during the 1995-2005 period.

4.4.2.2 *Groundfish Sector Impacts Associated with the Alternatives*

Commercial groundfish sector impacts are first analyzed to compare the revenue impacts by sector of each intersector allocation alternative, including the status quo alternative by applying current ex-vessel prices to predicted landings under each alternative. This analysis is done in three steps: 1) the amount of available yield under each intersector allocation alternative is calculated by setting aside yields for treaty fisheries, incidental open access catches, and scientific research catches according to assumptions detailed below; 2) the available yields estimated for each directed groundfish sector are modeled using existing models[3] developed and used by the GMT to predict sector bycatch impacts; and 3) the amount of landed catch by sector is predicted based on the bycatch rates of any constraining groundfish species. Assumptions in this analysis are that trawl effort will shift based on available yields of shelf/nearshore species (i.e., those species caught in open areas shoreward of the trawl RCA) and slope species (i.e., those species caught in open areas seaward of the trawl RCA) as predicted from past patterns of trawl effort distribution; the seasonal gear-specific RCA configurations are held constant across all alternatives, and commercial non-trawl effort. Given the very constraining nature to all directed groundfish sectors of the available yield of canary rockfish, each alternative is analyzed under a reasonable range of canary OYs contemplated in the 2009-2010 harvest specifications decision-making process. The alternatives also explore the relative effect of buffer amounts by ranging outcomes under each alternative with species buffers of 5%, 10%, and 25% of OYs. Further details concerning analytical methods are provided below.

Sector impacts are also analyzed to determine the constraints imposed by intersector allocation alternatives for each of the species and species' complexes subject to intersector allocation relative to each sector's primary target strategies. Further comparisons are made based on the annual total catch of these constraining species subject to intersector allocations by each groundfish sector during 2003-2005 and annual landings during 1995-2002 by comparing the average and maximum sector's percentage catch during the entire period. Additionally, a total catch report of groundfish species catch by sector in 2006 is used to the extent practical to determine whether each sector might have had a higher catch of a constraining species in 2006 relative to the 1995-2005 period. Yield amounts for constraining species relative to each directed sector's main target species or assemblage of species are provided in terms of maximum tonnage since 1995. Intersector allocation alternative 2, which contemplates formal allocations to each of the directed non-trawl groundfish sectors, is the particular focus in this discussion since it was specified to understand the needs of the non-trawl groundfish sectors before deciding formal allocations of the specified groundfish species to the trawl sectors. A matrix depicting minimum, average, and maximum bycatch amounts of constraining species for each sector is provided to aid the decision of how much set-aside to allocate to minimize constraints for the most valuable target species in each sector strategy. This analytical treatment is responsive to the management goal of maximizing each sector's fishing opportunities to the extent practical given other constraining species' limits affected by the intersector allocations decided under Amendment 21. To better understand sector needs, the sections also include discussions for each of the affected species or species' assemblages that are caught in a target strategy for directed groundfish species subject to intersector allocations.

Estimated sector impacts associated with the intersector allocation alternatives are affected by the recommended set-asides for non-groundfish fisheries, tribal fisheries, and research catches, as well as

[3] These models were updated using west coast Groundfish Observer data provided in early 2008 by the NMFS Northwest Fisheries Science Center informed by observations of fishing efforts through April of 2007.

the yield buffers to accommodate EFPs[4] and new fisheries and the allowable future harvest of canary rockfish, which is the most constraining groundfish species in the current management regime. Amounts reserved for treaty fisheries, scientific research catch, incidental open access fisheries, and set-asides are taken off the OY before allocations to non-treaty directed groundfish sectors are made. The maximum annual percentage of the total catch of each species subject to intersector allocations in treaty fisheries was used for the tribal set-aside, except for lingcod and Pacific cod, where 250 mt and 400 mt, respectively, were used. The maximum annual scientific research catch of each intersector allocation species since 2001 was used for the research set-aside (Table 4-16). The estimated annual catch in incidental open access fisheries was set aside for non-groundfish fisheries. Finally, buffer amounts of 0%, 5%, 15%, and 25% were alternatively deducted before allocating yield amounts to directed non-treaty groundfish fisheries. The use of these buffers is discussed in more detail in section 4.4.2.5.

Table 4-16. Summary of scientific research catches (mt) of groundfish species permitted by NMFS, 2001-2006.

Stock/Category	2006	2005	2004	2003	2002	2001	2001 - 2006	
							MAX	AVG
Lingcod	5.7	4.2	4.3	4.5	3.3	10.1	10.1	5.4
Sablefish North of 36° N. lat.	13.6	30.1	16.2	43.5	15.0	61.6	61.6	30.0
Sablefish South of 36° N. lat.	1.7							
PACIFIC OCEAN PERCH	1.2	3.6	1.1	5.0	0.3	2.3	5.0	2.3
Shortbelly Rockfish	1.1	6.0	2.8	6.0	0.0	5.9	6.0	3.6
WIDOW ROCKFISH	0.3	0.9	0.2	1.0	0.3	0.3	1.0	0.5
Chilipepper Rockfish: Monterey and Conception	8.3	12.6	8.6	12.6	1.7	10.8	12.6	9.1
Yellowtail Rockfish: Eureka and North	1.7	4.3	3.7	4.3	0.0	4.9	4.9	3.2
Shortspine Thornyhead (coastwide)	4.2	3.8	2.9	8.1	5.4	13.3	13.3	6.3
Longspine Thornyhead: Pt. Conception and North	10.6	11.2	4.2	11.2	8.6	22.7	22.7	11.4
Longspine Thornyhead: S. of Pt. Conception	1.0						1.0	0.0
DARKBLOTCHED ROCKFISH	0.9	3.8	1.4	5.1	0.1	1.9	5.1	2.2
MINOR SLOPE ROCKFISH NORTH	2.2	2.9	4.0	3.4	0.5	2.8	4.0	2.6
MINOR SLOPE ROCKFISH SOUTH	1.4	1.9	2.6	2.2	0.3	1.8	2.6	1.7
Dover Sole	28.9	31.1	27.4	40.0	20.1	72.1	72.1	36.6
English Sole	2.5	4.1	7.5	4.1	1.3	6.6	7.5	4.3
Petrale Sole	2.3	1.7	2.2	1.9	0.9	2.1	2.3	1.8
Arrowtooth Flounder	6.6	6.5	8.7	17.2	4.7	18.0	18.0	10.3
Other Flatfish	11.9	7.6	11.4	9.1	3.3	19.9	19.9	10.5
Spiny Dogfish	13.7	41.8	12.9	42.0	0.1	23.3	42.0	22.3

Sector allocations for overfished species not subject to the intersector allocations in the proposed action (i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish) were assumed to be in proportion to the final November 2006 projected mortality impacts of overfished species (also known as the bycatch scorecard) for the 2007 fishery (Table 4-17). Sector allocations for non-overfished species not subject to the intersector allocations in the proposed action (e.g., Minor Nearshore Rockfish, Minor Shelf rockfish, and black rockfish) were assumed to not change under the alternatives.

[4] EFP bycatch caps are typically treated as a yield set-aside and not necessarily treated as part of the buffer. In these analyses, EFP set-aside amounts are not specified due to the lack of a comprehensive existing database that would better inform how much yield set-aside to assume for future EFPs. Therefore, the buffer amounts in these analyses are assumed to be available within the alternative buffer amounts analyzed. In actuality, future management with Amendment 21 intersector allocations implemented would be expected to deduct all set-asides, including those specified for EFPs, prior to applying intersector allocations to the available yield for harvest by directed groundfish sectors.

For commercial fisheries, ex-vessel prices and delivery patterns are assumed to be the same as observed in 2005. A portion of the amount set aside of non-overfished species is assumed to be available to buffer bycatch in groundfish fisheries; so, for example, arrowtooth flounder bycatch does not constrain limited entry fixed gear sablefish catch, as long as there is enough arrowtooth flounder yield set aside available to cover the need.

Non-whiting trawl impacts are calculated based on results of runs from the GMT's non-whiting trawl bycatch model. Whiting trawl sector impacts are calculated based on results of runs using the GMT's whiting bycatch model. Fixed gear sablefish impacts in both the limited entry and directed open access sectors are calculated based on results of the fixed gear sablefish model runs. In cases where the alternative did not include specific allocations to the fixed gear sectors (e.g., intersector allocation alternatives 1, 3 and the GAC preliminary preferred alternative), the entire non-trawl allocations for the key constraining species were used as an upper bound to estimate impacts. For simplicity, all other directed and incidental groundfish fisheries impacts are assumed to be the same as recorded in 2005. This assumption may understate the effects on these fisheries, especially given the more constraining allocations for certain species under some of the alternatives. However bycatch modeling of these sectors is not yet sufficiently developed to examine impacts in greater detail.

For recreational fisheries, each state estimates recreational impacts separately. State analysts incorporate input on the season structure, bag limits and area/depth closures to estimate angler response in terms of the expected number of angler trips taken under the different management measure alternatives. However in this case there are no management measure changes being contemplated, only bulk allocations of certain species to the coastwide recreational sector. Most of these species are not taken or targeted in the recreational fisheries. Furthermore, only intersector allocation alternative 2 scenarios specify allocation amounts to the recreational sector as opposed to an allocation to the three non-trawl sectors in aggregate. For these reasons modeling of recreational fisheries impacts for this project is very rudimentary.

The distributions of yield under each intersector allocation alternative (including the buffer yield options of 0%, 5%, 15%, and 25% of OY; as well as "low" and "high" canary OY scenarios) when alternative catch percentages are applied to the 2007-2008 OYs are displayed in Tables 4-18 through 4-36.

The preliminary preferred alternative recommended by the GAC at their February, 2008 meeting (including the GAC-recommended range of yield buffers as well as the "low" and "high" canary OY scenarios) are shown in Tables 4-37 through 4-40.

Table 4-17. 2007 projected mortality impacts (mt) under current regulations.

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	48.0	7.9	2.8	233.1	101.1	0.7	0.1
Limited Entry Trawl- Whiting							
At-sea whiting motherships					1.0		0.0
At-sea whiting cat-proc		4.7		25.0	2.9	200.0	0.0
Shoreside whiting					1.8		0.0
Tribal whiting		0.7		0.0	0.6	6.1	0.0
Tribal							
Midwater Trawl		1.8		0.0	0.0	40.0	0.0
Bottom Trawl		0.8		0.0	3.7	0.0	0.0
Troll		0.5		0.0	0.0		0.0
Fixed gear		0.3		0.0	0.0	0.0	2.3
Limited Entry Fixed Gear		1.2		1.3	0.4		2.9
Sablefish	13.4		0.0			0.0	
Non-Sablefish			0.1			0.5	
Open Access: Directed Groundfish		3.0					3.0
Sablefish DTL	0.0			0.2	0.1	0.0	
Nearshore (North of 40°10' N. lat.)	0.0		0.1	0.0	0.0	0.1	
Nearshore (South of 40°10' N. lat.)	0.0			0.0	0.0		
Other	10.6			0.0	0.0	0.0	
Open Access: Incidental Groundfish							
CA Halibut	0.1	0.0		0.0	0.0		
CA Gillnet c/	0.5			0.0	0.0	0.0	
CA Sheephead c/				0.0	0.0	0.0	0.0
CPS- wetfish c/	0.3						
CPS- squid d/							
Dungeness crab c/	0.0		0.0	0.0	0.0		
HMS b/		0.0	0.0	0.0			
Pacific Halibut c/	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	0.0	0.0	0.0	0.1	0.1
Ridgeback prawn	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Salmon troll	0.2	0.8	0.0	0.0	0.0	0.3	0.2
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)							
Recreational Groundfish e/							
WA		5.7					6.2
OR						1.4	
CA	98.0	8.3	0.4			8.0	1.7
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	7.5	0.1	3.8	3.6	0.9	2.0
TOTAL	173.3	43.3	3.5	263.5	115.2	258.1	18.6
2007 OY	218	44.0	4.0	290	150	368	23
Difference	44.7	0.7	0.5	26.6	34.8	110.0	4.4
Percent of OY	79.5%	98.4%	87.5%	90.8%	76.8%	70.1%	80.7%
Key		= either not applicable; trace amount (<0.01 mt); or not reported in available data sources.					

a/ All numbers reflect projected annual total catches except that the non-tribal "Limited Entry Trawl- Whiting" numbers are the total bycatch caps for canary, darkblotched, and widow rockfish.

b/ South of 40°10' N. lat.

c/ Mortality estimates are not hard numbers; based on the GMT's best professional judgment.

d/ Bycatch amounts by species unavailable, but bocaccio occurred in 0.1% of all port samples and other rockfish in another 0.1% of all port samples (and squid fisheries usually land their whole catch).

e/ Values in scorecard represent projected impacts. However, harvest guidelines for 2007 are as follows: canary in WA and OR combined = 8.2 mt and in CA = 9.0 mt; yelloweye in WA and OR combined = 6.8 mt and in CA = 2.1 mt.

f/ Research projections only updated for canary rockfish in November 2006. The other species' updates will be updated in March 2007.

Table 4-18. Distribution of sector allocations of 2007-2008 OYs under the status quo alternative (2005 catch shares, no buffer, low canary OY).

Stock	2007-08 OY	Set-Aside			Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	LE FG	Dir OA	Rec	Non-Trawl Total
		Tribal	%	mt										
Lingcod - coastwide														
N of 42º (OR & WA)	5558	1.7%	0%	0.0	5,462.8	4.3	21.8	63.2	2,582.5	2,671.8	140.8	391.6	2,258.7	2,791.0
S of 42º (CA)	612	0	0%	0.0	612.0	0.0	0.0	0.1	49.5	49.7	5.7	63.3	493.3	562.3
Pacific Cod	1600	9.6%	0%	0.0	1,446.1	0.0	0.0	2.3	1,419.7	1,422.0	7.1	2.2	14.8	24.1
Sablefish (Coastwide)	5934													
N of 36º (Monterey north)	5723	10.0%			5,150.6	13.5	2.2	23.3	2,667.5	2,706.5	1,959.9	484.2		2,444.1
S of 36º (Conception area)	211	0	0%	0.0	210.6	0.0	0.0	0.0	84.4	84.4	102.4	23.7	0.1	126.3
PACIFIC OCEAN PERCH	150	0.9%	0%	0.0	148.7	1.6	1.8	1.1	143.0	147.4	0.8	0.5	0.0	1.3
WIDOW ROCKFISH	368	10.5%	0%	0.0	329.3	85.4	70.2	152.0	12.6	320.3	1.4	1.2	6.3	9.0
LOW CANARY ROCKFISH OY	**44**	4.1				These sectors share 4.7 mt			7.9	12.6	1.2	3	14	26.6
Chilipepper Rockfish	2000	0	0%	0.0	2,000.0	0.0	0.0	2.2	1,842.5	1,844.6	64.9	10.3	80.1	155.4
Splitnose Rockfish	461	0.0%	0%	0.0	461.0	0.0	0.0	0.0	459.5	459.5	1.3	0.2	0.0	1.5
Yellowtail Rockfish	4548	14.8%	0%	0.0	3,872.9	538.8	288.9	1,965.8	668.5	3,462.0	9.5	27.7	373.8	410.9
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1634	1.1%	0%	0.0	1,616.3	27.4	3.2	1.3	1,552.8	1,584.7	30.6	1.0	0.0	31.7
Shortspine Thornyhead - S of 34º27'	421	0	0%	0.0	421.0	0.0	0.0	0.0	217.4	217.4	203.2	0.5	0.0	203.6
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2220	0.0%	0%	0.0	2,219.8	0.0	0.0	0.0	2,195.1	2,195.1	24.6	0.0	0.0	24.6
Longspine Thornyhead - S of 34º27'	476	0	0%	0.0	476.0	0.0	0.0	0.0	0.0	0.0	476.0	0.0	0.0	476.0
DARKBLOTCHED	290	0.9%	0%	0.0	287.3	14.0	12.0	12.9	237.1	276.0	5.7	5.6	0.0	11.3
Minor Slope Rockfish North	1160	2.5%	0%	0.0	1,130.7	174.4	50.5	17.2	529.5	771.6	293.6	65.5	0.0	359.0
Minor Slope Rockfish South	626	0	0%	0.0	626.0	0.0	0.0	0.0	420.8	420.8	95.4	108.3	1.5	205.2
Dover Sole	16500	1.9%	0%	0.0	16,180.0	0.7	0.1	0.1	16,165.5	16,166.4	10.5	3.1	0.0	13.6
English Sole	6237	2.6%	0%	0.0	6,073.9	0.0	0.3	0.1	6,073.5	6,073.9	0.0	0.0	0.0	0.0
Petrale Sole (coastwide)	2499	3.1%	0%	0.0	2,422.8	0.0	0.0	0.0	2,422.1	2,422.2	0.3	0.0	0.3	0.6
Arrowtooth Flounder	5800	2.8%	0%	0.0	5,639.5	1.2	0.8	1.4	5,500.7	5,504.1	103.1	32.4	0.0	135.5
Starry Flounder	890		0%	0.0	890.0	0.0	0.0	0.3	660.2	660.5	0.3	0.0	229.2	229.5
Other Flatfish	4884	1.0%	0%	0.0	4,837.4	4.8	3.0	0.4	4,745.4	4,753.6	1.2	4.6	77.9	83.8
Spiny Dogfish	2406	17.4%	0%	0.0	1,987.5	46.8	31.0	106.1	1,367.4	1,551.4	379.0	54.0	3.1	436.1

Table 4-19. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 1 (2003-2005 total catch shares, 5% buffer, low canary OY).

Stock	2007-08 OY	Set-Aside				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	5%	277.9	5,016.0	4.8	12.1	42.7	1,943.1	2,002.6	3,013.4
S of 42º (CA)	612	0	1.0	2.8	3.8	5%	30.6	577.6	0.0	0.0	0.1	28.2	28.3	549.3
Pacific Cod	1,600	450		2.4	452.4	5%	80.0	1,067.6	0.1	0.0	0.8	1,047.3	1,048.2	19.3
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	5%	10.5	193.9	0.0	0.0	0.0	81.2	81.2	112.7
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	5%	7.5	136.2	2.4	0.4	0.6	132.0	135.4	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	5%	18.4	309.6	68.9	52.1	135.4	26.7	283.1	26.5
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	26.6
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	5%	100.0	1,887.1	0.0	0.0	0.7	1,773.7	1,774.4	112.8
Splitnose Rockfish	461	0.0%		0.0	0.0	5%	23.1	437.9	0.0	0.0	0.0	437.0	437.0	1.0
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	5%	227.4	3,634.0	229.3	157.7	1,423.6	1,403.5	3,214.1	419.9
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	5%	81.7	1,524.0	31.6	1.1	1.0	1,466.6	1,500.2	23.9
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	5%	21.1	396.9	0.0	0.0	0.0	230.3	230.3	166.6
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	5%	111.0	2,086.0	0.0	0.0	0.0	2,073.8	2,073.9	12.1
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	5%	23.8	451.2	0.0	0.0	0.0	0.0	0.0	451.2
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	5%	14.5	267.6	7.3	4.2	3.9	248.8	264.2	3.4
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	5%	58.0	1,068.5	96.0	15.0	10.1	744.6	865.7	202.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	5%	31.3	591.5	0.0	0.0	0.0	374.3	374.3	217.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	5%	825.0	15,276.2	0.9	0.0	0.1	15,262.2	15,263.1	13.0
English Sole	6,237	2.6%	7.5	10.0	180.6	5%	311.9	5,744.6	0.0	0.1	1.7	5,742.4	5,744.2	0.4
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	5%	125.0	2,272.6	0.0	0.0	0.1	2,271.4	2,271.5	1.1
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	5%	290.0	5,325.9	1.3	0.2	0.5	5,279.4	5,281.4	44.5
Starry Flounder	890		0.0	11.9	11.9	5%	44.5	833.6	0.0	0.0	0.1	729.1	729.2	104.4
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	5%	244.2	4,546.3	7.6	1.2	0.4	4,434.1	4,443.3	103.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	5%	120.3	1,824.9	154.7	15.6	52.4	1,129.6	1,352.3	472.6

Table 4-20. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 1 (2003-2005 total catch shares, 5% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	5%	277.9	5,016.0	4.8	12.1	42.7	1,943.1	2,002.6	3,013.4
S of 42º (CA)	612	0	1.0	2.8	3.8	5%	30.6	577.6	0.0	0.0	0.1	28.2	28.3	549.3
Pacific Cod	1,600	450		2.4	452.4	5%	80.0	1,067.6	0.1	0.0	0.8	1,047.3	1,048.2	19.3
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	5%	10.5	193.9	0.0	0.0	0.0	81.2	81.2	112.7
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	5%	7.5	136.2	2.4	0.4	0.6	132.0	135.4	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	5%	18.4	309.6	68.9	52.1	135.4	26.7	283.1	26.5
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	95.3
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	5%	100.0	1,887.1	0.0	0.0	0.7	1,773.7	1,774.4	112.8
Splitnose Rockfish	461	0.0%		0.0	0.0	5%	23.1	437.9	0.0	0.0	0.0	437.0	437.0	1.0
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	5%	227.4	3,634.0	229.3	157.7	1,423.6	1,403.5	3,214.1	419.9
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	5%	81.7	1,524.0	31.6	1.1	1.0	1,466.6	1,500.2	23.9
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	5%	21.1	396.9	0.0	0.0	0.0	230.3	230.3	166.6
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	5%	111.0	2,086.0	0.0	0.0	0.0	2,073.8	2,073.9	12.1
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	5%	23.8	451.2	0.0	0.0	0.0	0.0	0.0	451.2
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	5%	14.5	267.6	7.3	4.2	3.9	248.8	264.2	3.4
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	5%	58.0	1,068.5	96.0	15.0	10.1	744.6	865.7	202.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	5%	31.3	591.5	0.0	0.0	0.0	374.3	374.3	217.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	5%	825.0	15,276.2	0.9	0.0	0.1	15,262.2	15,263.1	13.0
English Sole	6,237	2.6%	7.5	10.0	180.6	5%	311.9	5,744.6	0.0	0.1	1.7	5,742.4	5,744.2	0.4
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	5%	125.0	2,272.6	0.0	0.0	0.1	2,271.4	2,271.5	1.1
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	5%	290.0	5,325.9	1.3	0.2	0.5	5,279.4	5,281.4	44.5
Starry Flounder	890		0.0	11.9	11.9	5%	44.5	833.6	0.0	0.0	0.1	729.1	729.2	104.4
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	5%	244.2	4,546.3	7.6	1.2	0.4	4,434.1	4,443.3	103.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	5%	120.3	1,824.9	154.7	15.6	52.4	1,129.6	1,352.3	472.6

Table 4-21. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 1 (2003-2005 total catch shares, 15% buffer, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	15%	833.7	4,460.2	4.3	10.7	37.9	1,727.8	1,780.7	2,679.5
S of 42º (CA)	612	0	1.0	2.8	3.8	15%	91.8	516.4	0.0	0.0	0.1	25.2	25.3	491.1
Pacific Cod	1,600	450		2.4	452.4	15%	240.0	907.6	0.1	0.0	0.7	890.4	891.1	16.4
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	15%	31.6	172.8	0.0	0.0	0.0	72.4	72.4	100.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	15%	22.5	121.2	2.2	0.3	0.6	117.4	120.5	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	15%	55.2	272.8	60.7	45.9	119.3	23.5	249.4	23.3
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	26.6
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	15%	300.0	1,687.1	0.0	0.0	0.6	1,585.7	1,586.3	100.8
Splitnose Rockfish	461	0.0%		0.0	0.0	15%	69.2	391.8	0.0	0.0	0.0	391.0	391.0	0.9
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	15%	682.2	3,179.2	200.6	138.0	1,245.4	1,227.9	2,811.8	367.3
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	15%	245.1	1,360.6	28.2	0.9	0.9	1,309.3	1,339.3	21.3
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	15%	63.2	354.8	0.0	0.0	0.0	205.9	205.9	148.9
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	15%	333.0	1,864.0	0.0	0.0	0.0	1,853.1	1,853.2	10.8
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	15%	71.4	403.6	0.0	0.0	0.0	0.0	0.0	403.6
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	15%	43.5	238.6	6.5	3.7	3.5	221.9	235.6	3.1
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	15%	174.0	952.5	85.6	13.4	9.0	663.8	771.8	180.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	15%	93.9	528.9	0.0	0.0	0.0	334.6	334.6	194.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,613.7	13,614.5	11.6
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,118.9	5,120.6	0.3
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,021.6	2,021.7	1.0
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	15%	870.0	4,745.9	1.2	0.1	0.4	4,704.5	4,706.3	39.6
Starry Flounder	890		0.0	11.9	11.9	15%	133.5	744.6	0.0	0.0	0.1	651.2	651.3	93.3
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	15%	732.6	4,057.9	6.8	1.1	0.4	3,957.7	3,966.0	92.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	15%	360.9	1,584.3	134.3	13.6	45.5	980.7	1,174.0	410.3

Table 4-22. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 1 (2003-2005 total catch shares, 15% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	15%	833.7	4,460.2	4.3	10.7	37.9	1,727.8	1,780.7	2,679.5
S of 42º (CA)	612	0	1.0	2.8	3.8	15%	91.8	516.4	0.0	0.0	0.1	25.2	25.3	491.1
Pacific Cod	1,600	450		2.4	452.4	15%	240.0	907.6	0.1	0.0	0.7	890.4	891.1	16.4
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	15%	31.6	172.8	0.0	0.0	0.0	72.4	72.4	100.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	15%	22.5	121.2	2.2	0.3	0.6	117.4	120.5	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	15%	55.2	272.8	60.7	45.9	119.3	23.5	249.4	23.3
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	95.3
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	15%	300.0	1,687.1	0.0	0.0	0.6	1,585.7	1,586.3	100.8
Splitnose Rockfish	461	0.0%		0.0	0.0	15%	69.2	391.8	0.0	0.0	0.0	391.0	391.0	0.9
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	15%	682.2	3,179.2	200.6	138.0	1,245.4	1,227.9	2,811.8	367.3
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	15%	245.1	1,360.6	28.2	0.9	0.9	1,309.3	1,339.3	21.3
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	15%	63.2	354.8	0.0	0.0	0.0	205.9	205.9	148.9
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	15%	333.0	1,864.0	0.0	0.0	0.0	1,853.1	1,853.2	10.8
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	15%	71.4	403.6	0.0	0.0	0.0	0.0	0.0	403.6
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	15%	43.5	238.6	6.5	3.7	3.5	221.9	235.6	3.1
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	15%	174.0	952.5	85.6	13.4	9.0	663.8	771.8	180.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	15%	93.9	528.9	0.0	0.0	0.0	334.6	334.6	194.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,613.7	13,614.5	11.6
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,118.9	5,120.6	0.3
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,021.6	2,021.7	1.0
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	15%	870.0	4,745.9	1.2	0.1	0.4	4,704.5	4,706.3	39.6
Starry Flounder	890		0.0	11.9	11.9	15%	133.5	744.6	0.0	0.0	0.1	651.2	651.3	93.3
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	15%	732.6	4,057.9	6.8	1.1	0.4	3,957.7	3,966.0	92.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	15%	360.9	1,584.3	134.3	13.6	45.5	980.7	1,174.0	410.3

Table 4-23. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 1 (2003-2005 total catch shares, 25% buffer, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	25%	1,389.5	3,904.4	3.7	9.4	33.2	1,512.5	1,558.8	2,345.6
S of 42º (CA)	612	0	1.0	2.8	3.8	25%	153.0	455.2	0.0	0.0	0.0	22.2	22.3	432.9
Pacific Cod	1,600	450		2.4	452.4	25%	400.0	747.6	0.1	0.0	0.6	733.4	734.0	13.5
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	25%	52.7	151.8	0.0	0.0	0.0	63.5	63.5	88.2
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	25%	37.5	106.2	1.9	0.3	0.5	102.9	105.6	0.6
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	25%	92.0	236.0	52.5	39.7	103.2	20.3	215.8	20.2
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	26.6
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	25%	500.0	1,487.1	0.0	0.0	0.5	1,397.7	1,398.3	88.9
Splitnose Rockfish	461	0.0%		0.0	0.0	25%	115.3	345.7	0.0	0.0	0.0	345.0	345.0	0.8
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	25%	1,137.0	2,724.4	171.9	118.2	1,067.2	1,052.2	2,409.6	314.8
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	25%	408.5	1,197.2	24.8	0.8	0.8	1,152.1	1,178.5	18.7
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	25%	105.3	312.7	0.0	0.0	0.0	181.5	181.5	131.2
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	25%	555.0	1,642.0	0.0	0.0	0.0	1,632.4	1,632.5	9.5
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	25%	119.0	356.0	0.0	0.0	0.0	0.0	0.0	356.0
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	25%	72.5	209.6	5.7	3.3	3.0	194.9	207.0	2.7
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	25%	290.0	836.5	75.2	11.7	7.9	582.9	677.8	158.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	25%	156.5	466.3	0.0	0.0	0.0	295.0	295.0	171.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	25%	4,125.0	11,976.2	0.7	0.0	0.1	11,965.2	11,966.0	10.2
English Sole	6,237	2.6%	7.5	10.0	180.6	25%	1,559.3	4,497.2	0.0	0.1	1.3	4,495.4	4,496.9	0.3
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	25%	624.8	1,772.8	0.0	0.0	0.1	1,771.9	1,771.9	0.8
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	25%	1,450.0	4,165.9	1.0	0.1	0.4	4,129.5	4,131.1	34.8
Starry Flounder	890		0.0	11.9	11.9	25%	222.5	655.6	0.0	0.0	0.1	573.4	573.5	82.1
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	25%	1,221.0	3,569.5	6.0	1.0	0.3	3,481.4	3,488.6	80.9
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	25%	601.6	1,343.7	113.9	11.5	38.6	831.7	995.7	348.0

Table 4-24. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 1 (2003-2005 total catch shares, 25% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	25%	1,389.5	3,904.4	3.7	9.4	33.2	1,512.5	1,558.8	2,345.6
S of 42º (CA)	612	0	1.0	2.8	3.8	25%	153.0	455.2	0.0	0.0	0.0	22.2	22.3	432.9
Pacific Cod	1,600	450		2.4	452.4	25%	400.0	747.6	0.1	0.0	0.6	733.4	734.0	13.5
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	25%	52.7	151.8	0.0	0.0	0.0	63.5	63.5	88.2
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	25%	37.5	106.2	1.9	0.3	0.5	102.9	105.6	0.6
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	25%	92.0	236.0	52.5	39.7	103.2	20.3	215.8	20.2
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	95.3
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	25%	500.0	1,487.1	0.0	0.0	0.5	1,397.7	1,398.3	88.9
Splitnose Rockfish	461	0.0%		0.0	0.0	25%	115.3	345.7	0.0	0.0	0.0	345.0	345.0	0.8
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	25%	1,137.0	2,724.4	171.9	118.2	1,067.2	1,052.2	2,409.6	314.8
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	25%	408.5	1,197.2	24.8	0.8	0.8	1,152.1	1,178.5	18.7
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	25%	105.3	312.7	0.0	0.0	0.0	181.5	181.5	131.2
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	25%	555.0	1,642.0	0.0	0.0	0.0	1,632.4	1,632.5	9.5
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	25%	119.0	356.0	0.0	0.0	0.0	0.0	0.0	356.0
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	25%	72.5	209.6	5.7	3.3	3.0	194.9	207.0	2.7
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	25%	290.0	836.5	75.2	11.7	7.9	582.9	677.8	158.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	25%	156.5	466.3	0.0	0.0	0.0	295.0	295.0	171.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	25%	4,125.0	11,976.2	0.7	0.0	0.1	11,965.2	11,966.0	10.2
English Sole	6,237	2.6%	7.5	10.0	180.6	25%	1,559.3	4,497.2	0.0	0.1	1.3	4,495.4	4,496.9	0.3
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	25%	624.8	1,772.8	0.0	0.0	0.1	1,771.9	1,771.9	0.8
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	25%	1,450.0	4,165.9	1.0	0.1	0.4	4,129.5	4,131.1	34.8
Starry Flounder	890		0.0	11.9	11.9	25%	222.5	655.6	0.0	0.0	0.1	573.4	573.5	82.1
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	25%	1,221.0	3,569.5	6.0	1.0	0.3	3,481.4	3,488.6	80.9
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	25%	601.6	1,343.7	113.9	11.5	38.6	831.7	995.7	348.0

Table 4-25. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 2 (2003-2005 total catch shares, 5% buffer, low canary OY).

Stock	2007-08 OY	Tribal	Set-asides			Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	LE FG	Dir. OA	Rec	Non-Trawl Total
			Res.	Inc. OA	Total Set-Aside	%	mt										
Lingcod - coastwide																	
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	5%	277.9	5,016.0	4.8	12.1	42.7	1,943.1	2,002.6	120.9	434.8	2,457.7	3,013.4
S of 42º (CA)	612	0	1.0	2.8	3.8	5%	30.6	577.6	0.0	0.0	0.1	28.2	28.3	3.3	40.4	505.6	549.3
Pacific Cod	1,600	450		2.4	452.4	5%	80.0	1,067.6	0.1	0.0	0.8	1,047.3	1,048.2	6.7	1.2	11.4	19.3
Sablefish (Coastwide)	5,934																
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	1,959.9	484.2		2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	5%	10.5	193.9	0.0	0.0	0.0	81.2	81.2	89.6	23.1	0.0	112.7
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	5%	7.5	136.2	2.4	0.4	0.6	132.0	135.4	0.3	0.1	0.4	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	5%	18.4	309.6	68.9	52.1	135.4	26.7	283.1	2.4	2.4	21.6	26.5
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	1.2	3	14	26.6
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	5%	100.0	1,887.1	0.0	0.0	0.7	1,773.7	1,774.4	35.5	12.7	64.5	112.8
BOCACCIO	218	0										48.0	48.0	13.4	10.6	98.0	125.3
Splitnose Rockfish	461	0.0%		0.0	0.0	5%	23.1	437.9	0.0	0.0	0.0	437.0	437.0	0.7	0.2	0.0	1.0
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	5%	227.4	3,634.0	229.3	157.7	1,423.6	1,403.5	3,214.1	15.2	25.5	379.2	419.9
Shortspine Thornyhead - coastwide																	
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	5%	81.7	1,524.0	31.6	1.1	1.0	1,466.6	1,500.2	23.2	0.6	0.1	23.9
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	5%	21.1	396.9	0.0	0.0	0.0	230.3	230.3	165.5	1.0	0.0	166.6
Longspine Thornyhead - coastwide																	
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	5%	111.0	2,086.0	0.0	0.0	0.0	2,073.8	2,073.9	12.0	0.1	0.0	12.1
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	5%	23.8	451.2	0.0	0.0	0.0	0.0	0.0	447.6	3.5	0.0	451.2
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	5%	14.5	267.6	7.3	4.2	3.9	248.8	264.2	1.7	1.7	0.0	3.4
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	5%	58.0	1,068.5	96.0	15.0	10.1	744.6	865.7	174.7	28.0	0.1	202.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	5%	31.3	591.5	0.0	0.0	0.0	374.3	374.3	104.6	111.3	1.3	217.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	5%	825.0	15,276.2	0.9	0.0	0.1	15,262.2	15,263.1	9.8	3.3	0.0	13.0
English Sole	6,237	2.6%	7.5	10.0	180.6	5%	311.9	5,744.6	0.0	0.1	1.7	5,742.4	5,744.2	0.0	0.3	0.0	0.4
Petrale Sole (coastwide) b/	2,499	3.1%	2.3	23.0	101.5	5%	125.0	2,272.6	0.0	0.0	0.1	2,271.4	2,271.5	0.7	0.1	0.3	1.1
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	5%	290.0	5,325.9	1.3	0.2	0.5	5,279.4	5,281.4	35.4	9.1	0.0	44.5
Starry Flounder	890		0.0	11.9	11.9	5%	44.5	833.6	0.0	0.0	0.1	729.1	729.2	0.1	0.5	103.8	104.4
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	5%	244.2	4,546.3	7.6	1.2	0.4	4,434.1	4,443.3	0.9	5.8	96.3	103.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	5%	120.3	1,824.9	154.7	15.6	52.4	1,129.6	1,352.3	365.5	97.7	9.4	472.6

Table 4-26. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 2 (2003-2005 total catch shares, 5% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SN	Trawl Total	LE FG	Dir. OA	Rec	Non-Trawl Total
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt										
Lingcod - coastwide																	
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	5%	277.9	5,016.0	4.8	12.1	42.7	1,943.1	2,002.6	120.9	434.8	2,457.7	3,013.4
S of 42º (CA)	612	0	1.0	2.8	3.8	5%	30.6	577.6	0.0	0.0	0.1	28.2	28.3	3.3	40.4	505.6	549.3
Pacific Cod	1,600	450		2.4	452.4	5%	80.0	1,067.6	0.1	0.0	0.8	1,047.3	1,048.2	6.7	1.2	11.4	19.3
Sablefish (Coastwide)	5,934																
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	1,959.9	484.2		2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	5%	10.5	193.9	0.0	0.0	0.0	81.2	81.2	89.6	23.1	0.0	112.7
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	5%	7.5	136.2	2.4	0.4	0.6	132.0	135.4	0.3	0.1	0.4	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	5%	18.4	309.6	68.9	52.1	135.4	26.7	283.1	2.4	2.4	21.6	26.5
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	4.3	10.8	50.2	95.3
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	5%	100.0	1,887.1	0.0	0.0	0.7	1,773.7	1,774.4	35.5	12.7	64.5	112.8
Splitnose Rockfish	461	0.0%		0.0	0.0	5%	23.1	437.9	0.0	0.0	0.0	437.0	437.0	0.7	0.2	0.0	1.0
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	5%	227.4	3,634.0	229.3	157.7	1,423.6	1,403.5	3,214.1	15.2	25.5	379.2	419.9
Shortspine Thornyhead - coastwide																	
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	5%	81.7	1,524.0	31.6	1.1	1.0	1,466.6	1,500.2	23.2	0.6	0.1	23.9
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	5%	21.1	396.9	0.0	0.0	0.0	230.3	230.3	165.5	1.0	0.0	166.6
Longspine Thornyhead - coastwide																	
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	5%	111.0	2,086.0	0.0	0.0	0.0	2,073.8	2,073.9	12.0	0.1	0.0	12.1
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	5%	23.8	451.2	0.0	0.0	0.0	0.0	0.0	447.6	3.5	0.0	451.2
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	5%	14.5	267.6	7.3	4.2	3.9	248.8	264.2	1.7	1.7	0.0	3.4
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	5%	58.0	1,068.5	96.0	15.0	10.1	744.6	865.7	174.7	28.0	0.1	202.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	5%	31.3	591.5	0.0	0.0	0.0	374.3	374.3	104.6	111.3	1.3	217.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	5%	825.0	15,276.2	0.9	0.0	0.1	15,262.2	15,263.1	9.8	3.3	0.0	13.0
English Sole	6,237	2.6%	7.5	10.0	180.6	5%	311.9	5,744.6	0.0	0.1	1.7	5,742.4	5,744.2	0.0	0.3	0.0	0.4
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	5%	125.0	2,272.6	0.0	0.0	0.1	2,271.4	2,271.5	0.7	0.1	0.3	1.1
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	5%	290.0	5,325.9	1.3	0.2	0.5	5,279.4	5,281.4	35.4	9.1	0.0	44.5
Starry Flounder	890		0.0	11.9	11.9	5%	44.5	833.6	0.0	0.0	0.1	729.1	729.2	0.1	0.5	103.8	104.4
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	5%	244.2	4,546.3	7.6	1.2	0.4	4,434.1	4,443.3	0.9	5.8	96.3	103.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	5%	120.3	1,824.9	154.7	15.6	52.4	1,129.6	1,352.3	365.5	97.7	9.4	472.6

Table 4-27. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 2 (2003-2005 total catch shares, 15% buffer, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	LE FG	Dir. OA	Rec	Non-Trawl Total
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt										
Lingcod - coastwide																	
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	15%	833.7	4,460.2	4.3	10.7	37.9	1,727.8	1,780.7	107.5	386.6	2,185.3	2,679.5
S of 42º (CA)	612	0	1.0	2.8	3.8	15%	91.8	516.4	0.0	0.0	0.1	25.2	25.3	2.9	36.2	452.0	491.1
Pacific Cod	1,600	450		2.4	452.4	15%	240.0	907.6	0.1	0.0	0.7	890.4	891.1	5.7	1.0	9.7	16.4
Sablefish (Coastwide)	5,934																
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	1,959.9	484.2		2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	15%	31.6	172.8	0.0	0.0	0.0	72.4	72.4	79.8	20.6	0.0	100.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	15%	22.5	121.2	2.2	0.3	0.6	117.4	120.5	0.2	0.1	0.3	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	15%	55.2	272.8	60.7	45.9	119.3	23.5	249.4	2.2	2.2	19.0	23.3
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	1.2	3	14	26.6
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	15%	300.0	1,687.1	0.0	0.0	0.6	1,585.7	1,586.3	31.8	11.4	57.7	100.8
Splitnose Rockfish	461	0.0%		0.0	0.0	15%	69.2	391.8	0.0	0.0	0.0	391.0	391.0	0.7	0.2	0.0	0.9
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	15%	682.2	3,179.2	200.6	138.0	1,245.4	1,227.9	2,811.8	13.3	22.3	331.7	367.3
Shortspine Thornyhead - coastwide																	
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	15%	245.1	1,360.6	28.2	0.9	0.9	1,309.3	1,339.3	20.7	0.5	0.1	21.3
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	15%	63.2	354.8	0.0	0.0	0.0	205.9	205.9	148.0	0.9	0.0	148.9
Longspine Thornyhead - coastwide																	
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	15%	333.0	1,864.0	0.0	0.0	0.0	1,853.1	1,853.2	10.7	0.1	0.0	10.8
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	15%	71.4	403.6	0.0	0.0	0.0	0.0	0.0	400.4	3.2	0.0	403.6
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	15%	43.5	238.6	6.5	3.7	3.5	221.9	235.6	1.6	1.5	0.0	3.1
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	15%	174.0	952.5	85.6	13.4	9.0	663.8	771.8	155.7	25.0	0.1	180.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	15%	93.9	528.9	0.0	0.0	0.0	334.6	334.6	93.6	99.5	1.2	194.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,613.7	13,614.5	8.7	2.9	0.0	11.6
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,118.9	5,120.6	0.0	0.3	0.0	0.3
Petrale Sole (coastwide) b/	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,021.6	2,021.7	0.6	0.1	0.3	1.0
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	15%	870.0	4,745.9	1.2	0.1	0.4	4,704.5	4,706.3	31.5	8.1	0.0	39.6
Starry Flounder	890		0.0	11.9	11.9	15%	133.5	744.6	0.0	0.0	0.1	651.2	651.3	0.1	0.4	92.7	93.3
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	15%	732.6	4,057.9	6.8	1.1	0.4	3,957.7	3,966.0	0.8	5.2	86.0	92.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	15%	360.9	1,584.3	134.3	13.6	45.5	980.7	1,174.0	317.3	84.8	8.2	410.3

Table 4-28. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 2 (2003-2005 total catch shares, 15% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	LE FG	Dir. OA	Rec	Non-Trawl Total
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt										
Lingcod - coastwide																	
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	15%	833.7	4,460.2	4.3	10.7	37.9	1,727.8	1,780.7	107.5	386.6	2,185.3	2,679.5
S of 42º (CA)	612	0	1.0	2.8	3.8	15%	91.8	516.4	0.0	0.0	0.1	25.2	25.3	2.9	36.2	452.0	491.1
Pacific Cod	1,600	450		2.4	452.4	15%	240.0	907.6	0.1	0.0	0.7	890.4	891.1	5.7	1.0	9.7	16.4
Sablefish (Coastwide)	5,934																
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	1,959.9	484.2		2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	15%	31.6	172.8	0.0	0.0	0.0	72.4	72.4	79.8	20.6	0.0	100.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	15%	22.5	121.2	2.2	0.3	0.6	117.4	120.5	0.2	0.1	0.3	0.7
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	15%	55.2	272.8	60.7	45.9	119.3	23.5	249.4	2.2	2.2	19.0	23.3
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	4.3	10.8	50.2	95.3
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	15%	300.0	1,687.1	0.0	0.0	0.6	1,585.7	1,586.3	31.8	11.4	57.7	100.8
Splitnose Rockfish	461	0.0%		0.0	0.0	15%	69.2	391.8	0.0	0.0	0.0	391.0	391.0	0.7	0.2	0.0	0.9
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	15%	682.2	3,179.2	200.6	138.0	1,245.4	1,227.9	2,811.8	13.3	22.3	331.7	367.3
Shortspine Thornyhead - coastwide																	
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	15%	245.1	1,360.6	28.2	0.9	0.9	1,309.3	1,339.3	20.7	0.5	0.1	21.3
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	15%	63.2	354.8	0.0	0.0	0.0	205.9	205.9	148.0	0.9	0.0	148.9
Longspine Thornyhead - coastwide																	
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	15%	333.0	1,864.0	0.0	0.0	0.0	1,853.1	1,853.2	10.7	0.1	0.0	10.8
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	15%	71.4	403.6	0.0	0.0	0.0	0.0	0.0	400.4	3.2	0.0	403.6
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	15%	43.5	238.6	6.5	3.7	3.5	221.9	235.6	1.6	1.5	0.0	3.1
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	15%	174.0	952.5	85.6	13.4	9.0	663.8	771.8	155.7	25.0	0.1	180.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	15%	93.9	528.9	0.0	0.0	0.0	334.6	334.6	93.6	99.5	1.2	194.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,613.7	13,614.5	8.7	2.9	0.0	11.6
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,118.9	5,120.6	0.0	0.3	0.0	0.3
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,021.6	2,021.7	0.6	0.1	0.3	1.0
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	15%	870.0	4,745.9	1.2	0.1	0.4	4,704.5	4,706.3	31.5	8.1	0.0	39.6
Starry Flounder	890		0.0	11.9	11.9	15%	133.5	744.6	0.0	0.0	0.1	651.2	651.3	0.1	0.4	92.7	93.3
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	15%	732.6	4,057.9	6.8	1.1	0.4	3,957.7	3,966.0	0.8	5.2	86.0	92.0
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	15%	360.9	1,584.3	134.3	13.6	45.5	980.7	1,174.0	317.3	84.8	8.2	410.3

Table 4-29. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 2 (2003-2005 total catch shares, 25% buffer, low canary OY).

Stock	2007-08 OY	Set-Asides			Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	LE FG	Dir. OA	Rec	Non-Trawl Total
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt									
Lingcod - coastwide																
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	25%	1,389.5	3,904.4	3.7	9.4	33.2	1,512.5	1,558.8	94.1	338.5	1,913.0	2,345.6
S of 42º (CA)	612	0	1.0	2.8	3.8	25%	153.0	455.2	0.0	0.0	0.0	22.2	22.3	2.6	31.9	398.4	432.9
Pacific Cod	1,600	450		2.4	452.4	25%	400.0	747.6	0.1	0.0	0.6	733.4	734.0	4.7	0.9	8.0	13.5
Sablefish (Coastwide)	5,934																
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	1,959.9	484.2		2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	25%	52.7	151.8	0.0	0.0	0.0	63.5	63.5	70.1	18.1	0.0	88.2
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	25%	37.5	106.2	1.9	0.3	0.5	102.9	105.6	0.2	0.1	0.3	0.6
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	25%	92.0	236.0	52.5	39.7	103.2	20.3	215.8	1.9	1.9	16.5	20.2
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	1.2	3.0	14.0	26.6
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	25%	500.0	1,487.1	0.0	0.0	0.5	1,397.7	1,398.3	28.0	10.0	50.9	88.9
Splitnose Rockfish	461	0.0%		0.0	0.0	25%	115.3	345.7	0.0	0.0	0.0	345.0	345.0	0.6	0.2	0.0	0.8
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	25%	1,137.0	2,724.4	171.9	118.2	1,067.2	1,052.2	2,409.6	11.4	19.1	284.3	314.8
Shortspine Thornyhead - coastwide																	
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	25%	408.5	1,197.2	24.8	0.8	0.8	1,152.1	1,178.5	18.2	0.5	0.1	18.7
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	25%	105.3	312.7	0.0	0.0	0.0	181.5	181.5	130.4	0.8	0.0	131.2
Longspine Thornyhead - coastwide																	
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	25%	555.0	1,642.0	0.0	0.0	0.0	1,632.4	1,632.5	9.4	0.1	0.0	9.5
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	25%	119.0	356.0	0.0	0.0	0.0	0.0	0.0	353.2	2.8	0.0	356.0
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	25%	72.5	209.6	5.7	3.3	3.0	194.9	207.0	1.4	1.3	0.0	2.7
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	25%	290.0	836.5	75.2	11.7	7.9	582.9	677.8	136.8	21.9	0.1	158.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	25%	156.5	466.3	0.0	0.0	0.0	295.0	295.0	82.5	87.8	1.1	171.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	25%	4,125.0	11,976.2	0.7	0.0	0.1	11,965.2	11,966.0	7.7	2.6	0.0	10.2
English Sole	6,237	2.6%	7.5	10.0	180.6	25%	1,559.3	4,497.2	0.0	0.1	1.3	4,495.4	4,496.9	0.0	0.3	0.0	0.3
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	25%	624.8	1,772.8	0.0	0.0	0.1	1,771.9	1,771.9	0.5	0.1	0.3	0.8
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	25%	1,450.0	4,165.9	1.0	0.1	0.4	4,129.5	4,131.1	27.7	7.1	0.0	34.8
Starry Flounder	890		0.0	11.9	11.9	25%	222.5	655.6	0.0	0.0	0.1	573.4	573.5	0.1	0.4	81.6	82.1
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	25%	1,221.0	3,569.5	6.0	1.0	0.3	3,481.4	3,488.6	0.7	4.6	75.6	80.9
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	25%	601.6	1,343.7	113.9	11.5	38.6	831.7	995.7	269.1	71.9	6.9	348.0

Table 4-30. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 2 (2003-2005 total catch shares, 25% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides			Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	LE FG	Dir. OA	Rec	Non-Trawl Total
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt									
Lingcod - coastwide																
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	25%	1,389.5	3,904.4	3.7	9.4	33.2	1,512.5	1,558.8	94.1	338.5	1,913.0	2,345.6
S of 42º (CA)	612	0	1.0	2.8	3.8	25%	153.0	455.2	0.0	0.0	0.0	22.2	22.3	2.6	31.9	398.4	432.9
Pacific Cod	1,600	450		2.4	452.4	25%	400.0	747.6	0.1	0.0	0.6	733.4	734.0	4.7	0.9	8.0	13.5
Sablefish (Coastwide)	5,934																
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5	1,959.9	484.2		2,444.1
S of 36º (Conception area)	211	0	2.2	4.0	6.2	25%	52.7	151.8	0.0	0.0	0.0	63.5	63.5	70.1	18.1	0.0	88.2
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	25%	37.5	106.2	1.9	0.3	0.5	102.9	105.6	0.2	0.1	0.3	0.6
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	25%	92.0	236.0	52.5	39.7	103.2	20.3	215.8	1.9	1.9	16.5	20.2
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	4.3	10.8	50.2	95.3
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	25%	500.0	1,487.1	0.0	0.0	0.5	1,397.7	1,398.3	28.0	10.0	50.9	88.9
Splitnose Rockfish	461	0.0%		0.0	0.0	25%	115.3	345.7	0.0	0.0	0.0	345.0	345.0	0.6	0.2	0.0	0.8
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	25%	1,137.0	2,724.4	171.9	118.2	1,067.2	1,052.2	2,409.6	11.4	19.1	284.3	314.8
Shortspine Thornyhead - coastwide																	
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	25%	408.5	1,197.2	24.8	0.8	0.8	1,152.1	1,178.5	18.2	0.5	0.1	18.7
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	25%	105.3	312.7	0.0	0.0	0.0	181.5	181.5	130.4	0.8	0.0	131.2
Longspine Thornyhead - coastwide																	
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	25%	555.0	1,642.0	0.0	0.0	0.0	1,632.4	1,632.5	9.4	0.1	0.0	9.5
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	25%	119.0	356.0	0.0	0.0	0.0	0.0	0.0	353.2	2.8	0.0	356.0
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	25%	72.5	209.6	5.7	3.3	3.0	194.9	207.0	1.4	1.3	0.0	2.7
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	25%	290.0	836.5	75.2	11.7	7.9	582.9	677.8	136.8	21.9	0.1	158.8
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	25%	156.5	466.3	0.0	0.0	0.0	295.0	295.0	82.5	87.8	1.1	171.3
Dover Sole	16,500	1.9%	72.1	6.8	398.8	25%	4,125.0	11,976.2	0.7	0.0	0.1	11,965.2	11,966.0	7.7	2.6	0.0	10.2
English Sole	6,237	2.6%	7.5	10.0	180.6	25%	1,559.3	4,497.2	0.0	0.1	1.3	4,495.4	4,496.9	0.0	0.3	0.0	0.3
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	25%	624.8	1,772.8	0.0	0.0	0.1	1,771.9	1,771.9	0.5	0.1	0.3	0.8
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	25%	1,450.0	4,165.9	1.0	0.1	0.4	4,129.5	4,131.1	27.7	7.1	0.0	34.8
Starry Flounder	890		0.0	11.9	11.9	25%	222.5	655.6	0.0	0.0	0.1	573.4	573.5	0.1	0.4	81.6	82.1
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	25%	1,221.0	3,569.5	6.0	1.0	0.3	3,481.4	3,488.6	0.7	4.6	75.6	80.9
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	25%	601.6	1,343.7	113.9	11.5	38.6	831.7	995.7	269.1	71.9	6.9	348.0

Table 4-31. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 3 (1995-2005 landed catch shares, 5% buffer, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	24.6	283.7	5%	277.9	4,996.4	1.5	3.8	13.3	2,893.8	2,912.4	2,083.9
S of 42º (CA)	612	0	1.0	6.4	7.4	5%	30.6	574.0	0.0	0.0	0.1	123.1	123.2	450.9
Pacific Cod	1,600	450		3.4	453.4	5%	80.0	1,066.6	0.1	0.0	0.7	1,055.7	1,056.6	10.0
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	15.8	1.6	47.2	2,641.9	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	2.0	4.2	5%	10.5	195.9	0.0	0.0	0.0	93.4	93.4	102.6
PACIFIC OCEAN PERCH	150	0.9%	5.0	2.6	8.9	5%	7.5	133.6	2.3	1.5	2.9	126.2	132.8	0.8
WIDOW ROCKFISH	368	10.5%	1.0	6.7	46.4	5%	18.4	303.2	7.8	7.0	15.5	266.9	297.2	6.0
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	26.6
Chilipepper Rockfish	2,000	0	12.6	4.2	16.8	5%	100.0	1,883.2	0.0	0.0	0.0	1,496.6	1,496.6	386.6
Splitnose Rockfish	461	0.0%		1.0	1.0	5%	23.1	436.9	0.0	0.0	0.0	424.6	424.6	12.3
Yellowtail Rockfish	4,548	14.8%	4.9	102.8	782.9	5%	227.4	3,537.7	185.7	288.4	380.2	2,551.9	3,406.2	131.5
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.9	29.1	5%	81.7	1,523.2	17.2	0.3	1.0	1,473.2	1,491.7	31.5
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.1	5%	21.1	396.9	0.0	0.0	0.0	312.8	312.8	84.1
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	1.4	24.3	5%	111.0	2,084.7	0.0	0.0	0.3	2,060.6	2,061.0	23.8
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.1	5%	23.8	451.1	0.0	0.0	0.0	1.3	1.3	449.8
DARKBLOTCHED	290	0.9%	5.1	2.9	10.7	5%	14.5	264.8	6.0	2.1	1.7	252.4	262.2	2.6
Minor Slope Rockfish North	1,160	2.5%	4.0	4.8	38.1	5%	58.0	1,063.9	70.9	12.4	11.7	835.5	930.5	133.4
Minor Slope Rockfish South	626	0	2.6	1.1	3.7	5%	31.3	591.0	0.0	0.0	0.0	413.1	413.1	177.9
Dover Sole	16,500	1.9%	72.1	50.9	442.9	5%	825.0	15,232.1	0.6	0.0	1.5	15,223.7	15,225.8	6.2
English Sole	6,237	2.6%	7.5	23.6	194.1	5%	311.9	5,731.0	0.2	0.2	3.6	5,724.9	5,728.8	2.2
Petrale Sole (coastwide)	2,499	3.1%	2.3	30.3	108.7	5%	125.0	2,265.3	0.0	0.0	0.6	2,262.2	2,262.8	2.5
Arrowtooth Flounder	5,800	2.8%	18.0	8.0	186.5	5%	290.0	5,323.5	2.9	1.4	2.0	5,312.7	5,319.1	4.4
Starry Flounder	890		0.0	16.1	16.1	5%	44.5	829.4	0.0	0.0	0.0	405.4	405.4	424.0
Other Flatfish	4,884	1.0%	19.9	60.4	126.9	5%	244.2	4,512.9	11.2	1.0	3.1	4,377.2	4,392.5	120.4
Spiny Dogfish	3,912	17.4%	42.0	2.4	725.2	5%	195.6	2,991.3	430.9	261.8	123.0	1,353.3	2,169.0	822.3

Table 4-32. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 3 (1995-2005 landed catch shares, 5% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	24.6	283.7	5%	277.9	4,996.4	1.5	3.8	13.3	2,893.8	2,912.4	2,083.9
S of 42º (CA)	612	0	1.0	6.4	7.4	5%	30.6	574.0	0.0	0.0	0.1	123.1	123.2	450.9
Pacific Cod	1,600	450		3.4	453.4	5%	80.0	1,066.6	0.1	0.0	0.7	1,055.7	1,056.6	10.0
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	15.8	1.6	47.2	2,641.9	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	2.0	4.2	5%	10.5	195.9	0.0	0.0	0.0	93.4	93.4	102.6
PACIFIC OCEAN PERCH	150	0.9%	5.0	2.6	8.9	5%	7.5	133.6	2.3	1.5	2.9	126.2	132.8	0.8
WIDOW ROCKFISH	368	10.5%	1.0	6.7	46.4	5%	18.4	303.2	7.8	7.0	15.5	266.9	297.2	6.0
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	95.3
Chilipepper Rockfish	2,000	0	12.6	4.2	16.8	5%	100.0	1,883.2	0.0	0.0	0.0	1,496.6	1,496.6	386.6
Splitnose Rockfish	461	0.0%		1.0	1.0	5%	23.1	436.9	0.0	0.0	0.0	424.6	424.6	12.3
Yellowtail Rockfish	4,548	14.8%	4.9	102.8	782.9	5%	227.4	3,537.7	185.7	288.4	380.2	2,551.9	3,406.2	131.5
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.9	29.1	5%	81.7	1,523.2	17.2	0.3	1.0	1,473.2	1,491.7	31.5
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.1	5%	21.1	396.9	0.0	0.0	0.0	312.8	312.8	84.1
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	1.4	24.3	5%	111.0	2,084.7	0.0	0.0	0.3	2,060.6	2,061.0	23.8
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.1	5%	23.8	451.1	0.0	0.0	0.0	1.3	1.3	449.8
DARKBLOTCHED	290	0.9%	5.1	2.9	10.7	5%	14.5	264.8	6.0	2.1	1.7	252.4	262.2	2.6
Minor Slope Rockfish North	1,160	2.5%	4.0	4.8	38.1	5%	58.0	1,063.9	70.9	12.4	11.7	835.5	930.5	133.4
Minor Slope Rockfish South	626	0	2.6	1.1	3.7	5%	31.3	591.0	0.0	0.0	0.0	413.1	413.1	177.9
Dover Sole	16,500	1.9%	72.1	50.9	442.9	5%	825.0	15,232.1	0.6	0.0	1.5	15,223.7	15,225.8	6.2
English Sole	6,237	2.6%	7.5	23.6	194.1	5%	311.9	5,731.0	0.2	0.2	3.6	5,724.9	5,728.8	2.2
Petrale Sole (coastwide)	2,499	3.1%	2.3	30.3	108.7	5%	125.0	2,265.3	0.0	0.0	0.6	2,262.2	2,262.8	2.5
Arrowtooth Flounder	5,800	2.8%	18.0	8.0	186.5	5%	290.0	5,323.5	2.9	1.4	2.0	5,312.7	5,319.1	4.4
Starry Flounder	890		0.0	16.1	16.1	5%	44.5	829.4	0.0	0.0	0.0	405.4	405.4	424.0
Other Flatfish	4,884	1.0%	19.9	60.4	126.9	5%	244.2	4,512.9	11.2	1.0	3.1	4,377.2	4,392.5	120.4
Spiny Dogfish	3,912	17.4%	42.0	2.4	725.2	5%	195.6	2,991.3	430.9	261.8	123.0	1,353.3	2,169.0	822.3

Table 4-33. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 3 (1995-2005 landed catch shares, 15% buffer, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	24.6	283.7	15%	833.7	4,440.6	1.4	3.4	11.8	2,571.9	2,588.4	1,852.1
S of 42º (CA)	612	0	1.0	6.4	7.4	15%	91.8	512.8	0.0	0.0	0.0	110.0	110.0	402.8
Pacific Cod	1,600	450		3.4	453.4	15%	240.0	906.6	0.1	0.0	0.6	897.4	898.1	8.5
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	15.8	1.6	47.2	2,641.9	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	2.0	4.2	15%	31.6	174.9	0.0	0.0	0.0	83.3	83.3	91.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	2.6	8.9	15%	22.5	118.6	2.1	1.3	2.5	112.0	117.9	0.7
WIDOW ROCKFISH	368	10.5%	1.0	6.7	46.4	15%	55.2	266.4	6.8	6.2	13.6	234.5	261.2	5.3
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	26.6
Chilipepper Rockfish	2,000	0	12.6	4.2	16.8	15%	300.0	1,683.2	0.0	0.0	0.0	1,337.6	1,337.7	345.6
Splitnose Rockfish	461	0.0%		1.0	1.0	15%	69.2	390.8	0.0	0.0	0.0	379.8	379.8	11.0
Yellowtail Rockfish	4,548	14.8%	4.9	102.8	782.9	15%	682.2	3,082.9	161.9	251.4	331.3	2,223.8	2,968.3	114.6
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.9	29.1	15%	245.1	1,359.8	15.4	0.2	0.9	1,315.1	1,331.7	28.1
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.1	15%	63.2	354.8	0.0	0.0	0.0	279.6	279.6	75.2
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	1.4	24.3	15%	333.0	1,862.7	0.0	0.0	0.3	1,841.2	1,841.5	21.2
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.1	15%	71.4	403.5	0.0	0.0	0.0	1.2	1.2	402.3
DARKBLOTCHED	290	0.9%	5.1	2.9	10.7	15%	43.5	235.8	5.3	1.9	1.5	224.8	233.5	2.3
Minor Slope Rockfish North	1,160	2.5%	4.0	4.8	38.1	15%	174.0	947.9	63.1	11.0	10.4	744.4	829.0	118.9
Minor Slope Rockfish South	626	0	2.6	1.1	3.7	15%	93.9	528.4	0.0	0.0	0.0	369.3	369.3	159.1
Dover Sole	16,500	1.9%	72.1	50.9	442.9	15%	2,475.0	13,582.1	0.6	0.0	1.3	13,574.6	13,576.5	5.5
English Sole	6,237	2.6%	7.5	23.6	194.1	15%	935.6	5,107.3	0.1	0.1	3.2	5,101.8	5,105.3	2.0
Petrale Sole (coastwide)	2,499	3.1%	2.3	30.3	108.7	15%	374.9	2,015.4	0.0	0.0	0.6	2,012.6	2,013.2	2.2
Arrowtooth Flounder	5,800	2.8%	18.0	8.0	186.5	15%	870.0	4,743.5	2.6	1.2	1.8	4,733.9	4,739.6	3.9
Starry Flounder	890		0.0	16.1	16.1	15%	133.5	740.4	0.0	0.0	0.0	361.9	361.9	378.5
Other Flatfish	4,884	1.0%	19.9	60.4	126.9	15%	732.6	4,024.5	10.0	0.9	2.7	3,903.5	3,917.1	107.4
Spiny Dogfish	3,912	17.4%	42.0	2.4	725.2	15%	586.8	2,600.1	374.5	227.6	106.9	1,176.3	1,885.3	714.7

Table 4-34. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 3 (1995-2005 landed catch shares, 15% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	24.6	283.7	15%	833.7	4,440.6	1.4	3.4	11.8	2,571.9	2,588.4	1,852.1
S of 42º (CA)	612	0	1.0	6.4	7.4	15%	91.8	512.8	0.0	0.0	0.0	110.0	110.0	402.8
Pacific Cod	1,600	450		3.4	453.4	15%	240.0	906.6	0.1	0.0	0.6	897.4	898.1	8.5
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	15.8	1.6	47.2	2,641.9	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	2.0	4.2	15%	31.6	174.9	0.0	0.0	0.0	83.3	83.3	91.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	2.6	8.9	15%	22.5	118.6	2.1	1.3	2.5	112.0	117.9	0.7
WIDOW ROCKFISH	368	10.5%	1.0	6.7	46.4	15%	55.2	266.4	6.8	6.2	13.6	234.5	261.2	5.3
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	95.3
Chilipepper Rockfish	2,000	0	12.6	4.2	16.8	15%	300.0	1,683.2	0.0	0.0	0.0	1,337.6	1,337.7	345.6
Splitnose Rockfish	461	0.0%		1.0	1.0	15%	69.2	390.8	0.0	0.0	0.0	379.8	379.8	11.0
Yellowtail Rockfish	4,548	14.8%	4.9	102.8	782.9	15%	682.2	3,082.9	161.9	251.4	331.3	2,223.8	2,968.3	114.6
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.9	29.1	15%	245.1	1,359.8	15.4	0.2	0.9	1,315.1	1,331.7	28.1
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.1	15%	63.2	354.8	0.0	0.0	0.0	279.6	279.6	75.2
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	1.4	24.3	15%	333.0	1,862.7	0.0	0.0	0.3	1,841.2	1,841.5	21.2
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.1	15%	71.4	403.5	0.0	0.0	0.0	1.2	1.2	402.3
DARKBLOTCHED	290	0.9%	5.1	2.9	10.7	15%	43.5	235.8	5.3	1.9	1.5	224.8	233.5	2.3
Minor Slope Rockfish North	1,160	2.5%	4.0	4.8	38.1	15%	174.0	947.9	63.1	11.0	10.4	744.4	829.0	118.9
Minor Slope Rockfish South	626	0	2.6	1.1	3.7	15%	93.9	528.4	0.0	0.0	0.0	369.3	369.3	159.1
Dover Sole	16,500	1.9%	72.1	50.9	442.9	15%	2,475.0	13,582.1	0.6	0.0	1.3	13,574.6	13,576.5	5.5
English Sole	6,237	2.6%	7.5	23.6	194.1	15%	935.6	5,107.3	0.1	0.1	3.2	5,101.8	5,105.3	2.0
Petrale Sole (coastwide)	2,499	3.1%	2.3	30.3	108.7	15%	374.9	2,015.4	0.0	0.0	0.6	2,012.6	2,013.2	2.2
Arrowtooth Flounder	5,800	2.8%	18.0	8.0	186.5	15%	870.0	4,743.5	2.6	1.2	1.8	4,733.9	4,739.6	3.9
Starry Flounder	890		0.0	16.1	16.1	15%	133.5	740.4	0.0	0.0	0.0	361.9	361.9	378.5
Other Flatfish	4,884	1.0%	19.9	60.4	126.9	15%	732.6	4,024.5	10.0	0.9	2.7	3,903.5	3,917.1	107.4
Spiny Dogfish	3,912	17.4%	42.0	2.4	725.2	15%	586.8	2,600.1	374.5	227.6	106.9	1,176.3	1,885.3	714.7

Table 4-35. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 3 (1995-2005 landed catch shares, 25% buffer, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	24.6	283.7	25%	1,389.5	3,884.8	1.2	3.0	10.3	2,250.0	2,264.5	1,620.3
S of 42º (CA)	612	0	1.0	6.4	7.4	25%	153.0	451.6	0.0	0.0	0.0	96.9	96.9	354.7
Pacific Cod	1,600	450		3.4	453.4	25%	400.0	746.6	0.1	0.0	0.5	739.0	739.6	7.0
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	15.8	1.6	47.2	2,641.9	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	2.0	4.2	25%	52.7	153.8	0.0	0.0	0.0	73.3	73.3	80.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	2.6	8.9	25%	37.5	103.6	1.8	1.1	2.2	97.9	103.0	0.6
WIDOW ROCKFISH	368	10.5%	1.0	6.7	46.4	25%	92.0	229.6	5.9	5.3	11.7	202.1	225.1	4.5
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6	26.6
Chilipepper Rockfish	2,000	0	12.6	4.2	16.8	25%	500.0	1,483.2	0.0	0.0	0.0	1,178.7	1,178.7	304.5
Splitnose Rockfish	461	0.0%		1.0	1.0	25%	115.3	344.7	0.0	0.0	0.0	335.0	335.0	9.7
Yellowtail Rockfish	4,548	14.8%	4.9	102.8	782.9	25%	1,137.0	2,628.1	138.0	214.3	282.4	1,895.8	2,530.4	97.7
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.9	29.1	25%	408.5	1,196.4	13.5	0.2	0.8	1,157.1	1,171.7	24.7
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.1	25%	105.3	312.7	0.0	0.0	0.0	246.4	246.4	66.2
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	1.4	24.3	25%	555.0	1,640.7	0.0	0.0	0.3	1,621.8	1,622.0	18.7
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.1	25%	119.0	355.9	0.0	0.0	0.0	1.1	1.1	354.9
DARKBLOTCHED	290	0.9%	5.1	2.9	10.7	25%	72.5	206.8	4.7	1.7	1.3	197.1	204.8	2.0
Minor Slope Rockfish North	1,160	2.5%	4.0	4.8	38.1	25%	290.0	831.9	55.4	9.7	9.2	653.3	727.6	104.3
Minor Slope Rockfish South	626	0	2.6	1.1	3.7	25%	156.5	465.8	0.0	0.0	0.0	325.6	325.6	140.2
Dover Sole	16,500	1.9%	72.1	50.9	442.9	25%	4,125.0	11,932.1	0.5	0.0	1.2	11,925.5	11,927.2	4.9
English Sole	6,237	2.6%	7.5	23.6	194.1	25%	1,559.3	4,483.6	0.1	0.1	2.8	4,478.8	4,481.9	1.7
Petrale Sole (coastwide)	2,499	3.1%	2.3	30.3	108.7	25%	624.8	1,765.5	0.0	0.0	0.5	1,763.1	1,763.6	1.9
Arrowtooth Flounder	5,800	2.8%	18.0	8.0	186.5	25%	1,450.0	4,163.5	2.3	1.1	1.6	4,155.1	4,160.1	3.4
Starry Flounder	890		0.0	16.1	16.1	25%	222.5	651.4	0.0	0.0	0.0	318.4	318.4	333.0
Other Flatfish	4,884	1.0%	19.9	60.4	126.9	25%	1,221.0	3,536.1	8.8	0.8	2.4	3,429.8	3,441.7	94.4
Spiny Dogfish	3,912	17.4%	42.0	2.4	725.2	25%	978.0	2,208.9	318.2	193.3	90.8	999.3	1,601.7	607.2

Table 4-36. Distribution of sector allocations of 2007-2008 OYs under intersector allocation alternative 3 (1995-2005 landed catch shares, 25% buffer, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	Non-Trawl Total
		Tribal	Research	Inc. OA	Total Set-Aside	%	mt							
Lingcod - coastwide														
N of 42º (OR & WA)	5,558	250	9.1	24.6	283.7	25%	1,389.5	3,884.8	1.2	3.0	10.3	2,250.0	2,264.5	1,620.3
S of 42º (CA)	612	0	1.0	6.4	7.4	25%	153.0	451.6	0.0	0.0	0.0	96.9	96.9	354.7
Pacific Cod	1,600	450		3.4	453.4	25%	400.0	746.6	0.1	0.0	0.5	739.0	739.6	7.0
Sablefish (Coastwide)	5,934													
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	15.8	1.6	47.2	2,641.9	2,706.5	2,444.1
S of 36º (Conception area)	211	0	2.2	2.0	4.2	25%	52.7	153.8	0.0	0.0	0.0	73.3	73.3	80.5
PACIFIC OCEAN PERCH	150	0.9%	5.0	2.6	8.9	25%	37.5	103.6	1.8	1.1	2.2	97.9	103.0	0.6
WIDOW ROCKFISH	368	10.5%	1.0	6.7	46.4	25%	92.0	229.6	5.9	5.3	11.7	202.1	225.1	4.5
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1	95.3
Chilipepper Rockfish	2,000	0	12.6	4.2	16.8	25%	500.0	1,483.2	0.0	0.0	0.0	1,178.7	1,178.7	304.5
Splitnose Rockfish	461	0.0%		1.0	1.0	25%	115.3	344.7	0.0	0.0	0.0	335.0	335.0	9.7
Yellowtail Rockfish	4,548	14.8%	4.9	102.8	782.9	25%	1,137.0	2,628.1	138.0	214.3	282.4	1,895.8	2,530.4	97.7
Shortspine Thornyhead - coastwide														
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.9	29.1	25%	408.5	1,196.4	13.5	0.2	0.8	1,157.1	1,171.7	24.7
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.1	25%	105.3	312.7	0.0	0.0	0.0	246.4	246.4	66.2
Longspine Thornyhead - coastwide														
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	1.4	24.3	25%	555.0	1,640.7	0.0	0.0	0.3	1,621.8	1,622.0	18.7
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.1	25%	119.0	355.9	0.0	0.0	0.0	1.1	1.1	354.9
DARKBLOTCHED	290	0.9%	5.1	2.9	10.7	25%	72.5	206.8	4.7	1.7	1.3	197.1	204.8	2.0
Minor Slope Rockfish North	1,160	2.5%	4.0	4.8	38.1	25%	290.0	831.9	55.4	9.7	9.2	653.3	727.6	104.3
Minor Slope Rockfish South	626	0	2.6	1.1	3.7	25%	156.5	465.8	0.0	0.0	0.0	325.6	325.6	140.2
Dover Sole	16,500	1.9%	72.1	50.9	442.9	25%	4,125.0	11,932.1	0.5	0.0	1.2	11,925.5	11,927.2	4.9
English Sole	6,237	2.6%	7.5	23.6	194.1	25%	1,559.3	4,483.6	0.1	0.1	2.8	4,478.8	4,481.9	1.7
Petrale Sole (coastwide)	2,499	3.1%	2.3	30.3	108.7	25%	624.8	1,765.5	0.0	0.0	0.5	1,763.1	1,763.6	1.9
Arrowtooth Flounder	5,800	2.8%	18.0	8.0	186.5	25%	1,450.0	4,163.5	2.3	1.1	1.6	4,155.1	4,160.1	3.4
Starry Flounder	890		0.0	16.1	16.1	25%	222.5	651.4	0.0	0.0	0.0	318.4	318.4	333.0
Other Flatfish	4,884	1.0%	19.9	60.4	126.9	25%	1,221.0	3,536.1	8.8	0.8	2.4	3,429.8	3,441.7	94.4
Spiny Dogfish	3,912	17.4%	42.0	2.4	725.2	25%	978.0	2,208.9	318.2	193.3	90.8	999.3	1,601.7	607.2

Table 4-37. Distribution of sector allocations of 2007-2008 OYs under the GAC preliminary preferred alternative 1 (2003-2005 total catch shares, 15% buffer for sole species, no buffer for other species, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	*Trawl Share*	Non-Trawl Total	*Non-Trawl Share*
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt									
Lingcod - coastwide																
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	0%	0.0	5,293.9	5.1	12.8	45.1	2,054.6	2,117.6	*40.0%*	3,176.4	*60.0%*
S of 42º (CA)	612	0	1.0	2.8	3.8	0%	0.0	608.2	0.0	0.0	0.1	30.3	30.4	*5.0%*	577.8	*95.0%*
Pacific Cod	1,600	450		2.4	452.4	0%	0.0	1,147.6	0.1	0.0	0.9	1,123.6	1,124.6	*98.0%*	23.0	*2.0%*
Sablefish (Coastwide)	5,934															
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5		2,444.1	
S of 36º (Conception area)	211	0	2.2	4.0	6.2	0%	0.0	204.4	0.0	0.0	0.0	85.9	85.9	*42.0%*	118.6	*58.0%*
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	0%	0.0	143.7	2.5	0.4	0.7	138.6	142.2	*99.0%*	1.4	*1.0%*
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	0%	0.0	328.0	72.6	54.9	142.7	28.1	298.4	*91.0%*	29.5	*9.0%*
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6		26.6	
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	0%	0.0	1,987.1	0.0	0.0	0.6	1,589.1	1,589.7	*80.0%*	397.4	*20.0%*
Splitnose Rockfish	461	0.0%		0.0	0.0	0%	0.0	461.0	0.0	0.0	0.0	447.2	447.2	*97.0%*	13.8	*3.0%*
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	0%	0.0	3,861.4	242.4	166.7	1,505.0	1,483.8	3,398.0	*88.0%*	463.4	*12.0%*
Shortspine Thornyhead - coastwide																
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	0%	0.0	1,605.7	33.1	1.1	1.0	1,538.3	1,573.6	*98.0%*	32.1	*2.0%*
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	0%	0.0	418.0	0.0	0.0	0.0	242.4	242.4	*58.0%*	175.5	*42.0%*
Longspine Thornyhead - coastwide																
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	0%	0.0	2,197.0	0.0	0.0	0.0	2,175.0	2,175.0	*99.0%*	22.0	*1.0%*
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	0%	0.0	475.0	0.0	0.0	0.0	23.7	23.7	*5.0%*	451.2	*95.0%*
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	0%	0.0	282.1	7.7	4.4	4.1	262.3	278.5	*98.7%*	3.7	*1.3%*
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	0%	0.0	1,126.5	101.2	15.8	10.7	784.8	912.5	*81.0%*	214.0	*19.0%*
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	0%	0.0	622.8	0.0	0.0	0.0	392.4	392.4	*63.0%*	230.4	*37.0%*
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,625.3	13,626.2	*100.0%*	0.0	*0.0%*
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,119.2	5,120.9	*100.0%*	0.0	*0.0%*
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,022.6	2,022.7	*100.0%*	0.0	*0.0%*
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	0%	0.0	5,615.9	1.4	0.2	0.5	5,557.6	5,559.7	*99.0%*	56.2	*1.0%*
Starry Flounder	890		0.0	11.9	11.9	0%	0.0	878.1	0.0	0.0	0.1	763.8	763.9	*87.0%*	114.2	*13.0%*
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	0%	0.0	4,790.5	8.0	1.3	0.4	4,637.2	4,646.8	*97.0%*	143.7	*3.0%*
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	0%	0.0	1,945.2	155.8	15.7	52.8	1,137.4	1,361.7	*70.0%*	583.6	*30.0%*

Table 4-38. Distribution of sector allocations of 2007-2008 OYs under the GAC preliminary preferred alternative 1 (2003-2005 total catch shares, 15% buffer for sole species, no buffer for other species, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	*Trawl Share*	Non-Trawl Total	*Non-Trawl Share*
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt									
Lingcod - coastwide																
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	0%	0.0	5,293.9	5.1	12.8	45.1	2,054.6	2,117.6	*40.0%*	3,176.4	*60.0%*
S of 42º (CA)	612	0	1.0	2.8	3.8	0%	0.0	608.2	0.0	0.0	0.1	30.3	30.4	*5.0%*	577.8	*95.0%*
Pacific Cod	1,600	450		2.4	452.4	0%	0.0	1,147.6	0.1	0.0	0.9	1,123.6	1,124.6	*98.0%*	23.0	*2.0%*
Sablefish (Coastwide)	5,934															
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5		2,444.1	
S of 36º (Conception area)	211	0	2.2	4.0	6.2	0%	0.0	204.4	0.0	0.0	0.0	85.9	85.9	*42.0%*	118.6	*58.0%*
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	0%	0.0	143.7	2.5	0.4	0.7	138.6	142.2	*99.0%*	1.4	*1.0%*
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	0%	0.0	328.0	72.6	54.9	142.7	28.1	298.4	*91.0%*	29.5	*9.0%*
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1		95.3	
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	0%	0.0	1,987.1	0.0	0.0	0.6	1,589.1	1,589.7	*80.0%*	397.4	*20.0%*
Splitnose Rockfish	461	0.0%		0.0	0.0	0%	0.0	461.0	0.0	0.0	0.0	447.2	447.2	*97.0%*	13.8	*3.0%*
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	0%	0.0	3,861.4	242.4	166.7	1,505.0	1,483.8	3,398.0	*88.0%*	463.4	*12.0%*
Shortspine Thornyhead - coastwide																
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	0%	0.0	1,605.7	33.1	1.1	1.0	1,538.3	1,573.6	*98.0%*	32.1	*2.0%*
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	0%	0.0	418.0	0.0	0.0	0.0	242.4	242.4	*58.0%*	175.5	*42.0%*
Longspine Thornyhead - coastwide																
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	0%	0.0	2,197.0	0.0	0.0	0.0	2,175.0	2,175.0	*99.0%*	22.0	*1.0%*
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	0%	0.0	475.0	0.0	0.0	0.0	23.7	23.7	*5.0%*	451.2	*95.0%*
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	0%	0.0	282.1	7.7	4.4	4.1	262.3	278.5	*98.7%*	3.7	*1.3%*
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	0%	0.0	1,126.5	101.2	15.8	10.7	784.8	912.5	*81.0%*	214.0	*19.0%*
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	0%	0.0	622.8	0.0	0.0	0.0	392.4	392.4	*63.0%*	230.4	*37.0%*
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,625.3	13,626.2	*100.0%*	0.0	*0.0%*
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,119.2	5,120.9	*100.0%*	0.0	*0.0%*
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,022.6	2,022.7	*100.0%*	0.0	*0.0%*
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	0%	0.0	5,615.9	1.4	0.2	0.5	5,557.6	5,559.7	*99.0%*	56.2	*1.0%*
Starry Flounder	890		0.0	11.9	11.9	0%	0.0	878.1	0.0	0.0	0.1	763.8	763.9	*87.0%*	114.2	*13.0%*
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	0%	0.0	4,790.5	8.0	1.3	0.4	4,637.2	4,646.8	*97.0%*	143.7	*3.0%*
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	0%	0.0	1,945.2	155.8	15.7	52.8	1,137.4	1,361.7	*70.0%*	583.6	*30.0%*

Table 4-39. Distribution of sector allocations of 2007-2008 OYs under the GAC preliminary preferred alternative 2 (2003-2005 total catch shares, 15% buffer for all species, low canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	*Trawl Share*	Non-Trawl Total	*Non-Trawl Share*
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt									
Lingcod - coastwide																
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	15%	833.7	4,460.2	4.3	10.8	38.0	1,731.0	1,784.1	*40.0%*	2,676.1	*60.0%*
S of 42º (CA)	612	0	1.0	2.8	3.8	15%	91.8	516.4	0.0	0.0	0.1	25.8	25.8	*5.0%*	490.6	*95.0%*
Pacific Cod	1,600	450		2.4	452.4	15%	240.0	907.6	0.1	0.0	0.7	888.6	889.4	*98.0%*	18.2	*2.0%*
Sablefish (Coastwide)	5,934															
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5		2,444.1	
S of 36º (Conception area)	211	0	2.2	4.0	6.2	15%	31.6	172.8	0.0	0.0	0.0	72.6	72.6	*42.0%*	100.2	*58.0%*
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	15%	22.5	121.2	2.2	0.3	0.6	116.9	120.0	*99.0%*	1.2	*1.0%*
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	15%	55.2	272.8	60.4	45.7	118.7	23.4	248.2	*91.0%*	24.5	*9.0%*
LOW CANARY ROCKFISH OY	**44**	4.1							These sectors share 4.7 mt			7.9	12.6		26.6	
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	15%	300.0	1,687.1	0.0	0.0	0.5	1,349.2	1,349.7	*80.0%*	337.4	*20.0%*
Splitnose Rockfish	461	0.0%		0.0	0.0	15%	69.2	391.8	0.0	0.0	0.0	380.1	380.1	*97.0%*	11.8	*3.0%*
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	15%	682.2	3,179.2	199.6	137.3	1,239.1	1,221.7	2,797.7	*88.0%*	381.5	*12.0%*
Shortspine Thornyhead - coastwide																
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	15%	245.1	1,360.6	28.0	0.9	0.9	1,303.5	1,333.4	*98.0%*	27.2	*2.0%*
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	15%	63.2	354.8	0.0	0.0	0.0	205.8	205.8	*58.0%*	149.0	*42.0%*
Longspine Thornyhead - coastwide																
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	15%	333.0	1,864.0	0.0	0.0	0.0	1,845.3	1,845.4	*99.0%*	18.6	*1.0%*
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	15%	71.4	403.6	0.0	0.0	0.0	20.2	20.2	*5.0%*	383.4	*95.0%*
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	15%	43.5	238.6	6.5	3.7	3.5	221.8	235.5	*98.7%*	3.1	*1.3%*
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	15%	174.0	952.5	85.6	13.4	9.0	663.6	771.6	*81.0%*	181.0	*19.0%*
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	15%	93.9	528.9	0.0	0.0	0.0	333.2	333.2	*63.0%*	195.7	*37.0%*
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,625.3	13,626.2	*100.0%*	0.0	*0.0%*
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,119.2	5,120.9	*100.0%*	0.0	*0.0%*
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,022.6	2,022.7	*100.0%*	0.0	*0.0%*
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	15%	870.0	4,745.9	1.2	0.1	0.4	4,696.6	4,698.4	*99.0%*	47.5	*1.0%*
Starry Flounder	890		0.0	11.9	11.9	15%	133.5	744.6	0.0	0.0	0.1	647.7	647.8	*87.0%*	96.8	*13.0%*
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	15%	732.6	4,057.9	6.7	1.1	0.4	3,928.0	3,936.2	*97.0%*	121.7	*3.0%*
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	15%	360.9	1,584.3	126.9	12.8	43.0	926.3	1,109.0	*70.0%*	475.3	*30.0%*

Table 4-40. Distribution of sector allocations of 2007-2008 OYs under the GAC preliminary preferred alternative 2 (2003-2005 total catch shares, 15% buffer for all species, high canary OY).

Stock	2007-08 OY	Set-Asides				Buffer		Yield (mt) to be allocated	CP	MS	SW	SNW	Trawl Total	*Trawl Share*	Non-Trawl Total	*Non-Trawl Share*
		Tribal	Res.	Inc. OA	Total Set-Aside	%	mt									
Lingcod - coastwide																
N of 42º (OR & WA)	5,558	250	9.1	5.0	264.1	15%	833.7	4,460.2	4.3	10.8	38.0	1,731.0	1,784.1	*40.0%*	2,676.1	*60.0%*
S of 42º (CA)	612	0	1.0	2.8	3.8	15%	91.8	516.4	0.0	0.0	0.1	25.8	25.8	*5.0%*	490.6	*95.0%*
Pacific Cod	1,600	450		2.4	452.4	15%	240.0	907.6	0.1	0.0	0.7	888.6	889.4	*98.0%*	18.2	*2.0%*
Sablefish (Coastwide)	5,934															
N of 36º (Monterey north)	5,723	10.0%			572.3			5,150.6	16.0	3.8	63.2	2,623.4	2,706.5		2,444.1	
S of 36º (Conception area)	211	0	2.2	4.0	6.2	15%	31.6	172.8	0.0	0.0	0.0	72.6	72.6	*42.0%*	100.2	*58.0%*
PACIFIC OCEAN PERCH	150	0.9%	5.0	0.0	6.3	15%	22.5	121.2	2.2	0.3	0.6	116.9	120.0	*99.0%*	1.2	*1.0%*
WIDOW ROCKFISH	368	10.5%	1.0	0.4	40.0	15%	55.2	272.8	60.4	45.7	118.7	23.4	248.2	*91.0%*	24.5	*9.0%*
HIGH CANARY ROCKFISH OY	**155**	4.1							These sectors share 16.8 mt			28.3	45.1		95.3	
Chilipepper Rockfish	2,000	0	12.6	0.3	12.9	15%	300.0	1,687.1	0.0	0.0	0.5	1,349.2	1,349.7	*80.0%*	337.4	*20.0%*
Splitnose Rockfish	461	0.0%		0.0	0.0	15%	69.2	391.8	0.0	0.0	0.0	380.1	380.1	*97.0%*	11.8	*3.0%*
Yellowtail Rockfish	4,548	14.8%	4.9	6.6	686.6	15%	682.2	3,179.2	199.6	137.3	1,239.1	1,221.7	2,797.7	*88.0%*	381.5	*12.0%*
Shortspine Thornyhead - coastwide																
Shortspine Thornyhead - N of 34º27'	1,634	1.1%	10.6	0.1	28.3	15%	245.1	1,360.6	28.0	0.9	0.9	1,303.5	1,333.4	*98.0%*	27.2	*2.0%*
Shortspine Thornyhead - S of 34º27'	421	0	2.7	0.3	3.0	15%	63.2	354.8	0.0	0.0	0.0	205.8	205.8	*58.0%*	149.0	*42.0%*
Longspine Thornyhead - coastwide																
Longspine Thornyhead - N of 34º27'	2,220	0.0%	22.7	0.1	23.0	15%	333.0	1,864.0	0.0	0.0	0.0	1,845.3	1,845.4	*99.0%*	18.6	*1.0%*
Longspine Thornyhead - S of 34º27'	476	0	1.0	0.0	1.0	15%	71.4	403.6	0.0	0.0	0.0	20.2	20.2	*5.0%*	383.4	*95.0%*
DARKBLOTCHED	290	0.9%	5.1	0.0	7.9	15%	43.5	238.6	6.5	3.7	3.5	221.8	235.5	*98.7%*	3.1	*1.3%*
Minor Slope Rockfish North	1,160	2.5%	4.0	0.1	33.5	15%	174.0	952.5	85.6	13.4	9.0	663.6	771.6	*81.0%*	181.0	*19.0%*
Minor Slope Rockfish South	626	0	2.6	0.6	3.2	15%	93.9	528.9	0.0	0.0	0.0	333.2	333.2	*63.0%*	195.7	*37.0%*
Dover Sole	16,500	1.9%	72.1	6.8	398.8	15%	2,475.0	13,626.2	0.8	0.0	0.1	13,625.3	13,626.2	*100.0%*	0.0	*0.0%*
English Sole	6,237	2.6%	7.5	10.0	180.6	15%	935.6	5,120.9	0.0	0.1	1.5	5,119.2	5,120.9	*100.0%*	0.0	*0.0%*
Petrale Sole (coastwide)	2,499	3.1%	2.3	23.0	101.5	15%	374.9	2,022.7	0.0	0.0	0.1	2,022.6	2,022.7	*100.0%*	0.0	*0.0%*
Arrowtooth Flounder	5,800	2.8%	18.0	5.7	184.1	15%	870.0	4,745.9	1.2	0.1	0.4	4,696.6	4,698.4	*99.0%*	47.5	*1.0%*
Starry Flounder	890		0.0	11.9	11.9	15%	133.5	744.6	0.0	0.0	0.1	647.7	647.8	*87.0%*	96.8	*13.0%*
Other Flatfish	4,884	1.0%	19.9	26.9	93.5	15%	732.6	4,057.9	6.7	1.1	0.4	3,928.0	3,936.2	*97.0%*	121.7	*3.0%*
Spiny Dogfish	2,406	17.4%	42.0	0.3	461.0	15%	360.9	1,584.3	126.9	12.8	43.0	926.3	1,109.0	*70.0%*	475.3	*30.0%*

Constraints to Sector Fishing Opportunities

The main target strategies for non-whiting trawl fisheries shoreward of the trawl RCA are those for petrale sole, Dover sole, flatfish, and sablefish during periods 3-5, as well as yellowtail/widow rockfish under scenarios where widow rockfish are at healthy abundance (Note: This is not a target trawl strategy when widow rockfish are under rebuilding). The main targets for non-whiting trawl fisheries seaward of the trawl RCA are petrale sole during periods 1 and 2 and species of the DTS complex (i.e., Dover sole, thornyheads, and sablefish. The main constraints to non-whiting trawl fisheries modeled under the intersector allocation alternatives are the assumed canary rockfish OY (the "low" OY of 44 mt and the "high" OY of 155 mt are used in the analysis based on a reasonable range consistent with the Council's preliminary preferred specifications for 2009-2010), and the allocations of trawl-dominant overfished species (i.e., darkblotched rockfish, Pacific ocean perch, and widow rockfish). Non-whiting trawl modeling does not account for a possible increase in opportunities to target lingcod, chilipepper and yellowtail rockfish under some alternatives. These cases are addressed qualitatively in the text. Non-whiting sector catch may be constrained by bycatch of whiting under intersector allocation alternative 3 unless enough whiting yield is set aside to cover this incidental bycatch.

The target species to the whiting trawl sectors is Pacific whiting and the main constraints to whiting catch by the shoreside whiting, at-sea mothership, and at-sea catcher-processor sectors modeled under the intersector allocation alternatives are the allocations of overfished species, especially widow rockfish under intersector allocation alternative 3. Allocations of canary rockfish, darkblotched rockfish, yellowtail rockfish, and sablefish may also be constraining under the alternatives. Allocations of flatfish, spiny dogfish and Pacific cod may be constraining under intersector allocation alternative 2.

The main constraints to fixed gear sablefish fisheries (both limited entry fixed gear and directed open access) modeled under the intersector allocation alternatives are the very low allocations of arrowtooth flounder, Dover sole and petrale sole to the fixed gear sectors under most of the alternatives. However bycatch of these species is assumed not to constrain fixed gear catch of sablefish as long as there is enough set aside available under an alternative to cover the needed amount of bycatch.

Impacts to the recreational groundfish sector are analyzed differently than those for commercial groundfish sectors. Table 4-41 compares estimated number of angler trips taken in the recent past and under the status quo alternative with the amounts of the key constraining species available to the recreational sector under the Alternative 2 scenarios. The only species being varied between the scenarios are canary rockfish (based on the high/low OY assumption), and lingcod based on a constant OY but different set-aside assumptions used. The main species subject to long term allocation under this program that has significant recreational catch history is lingcod. In fact, in some recent years, lingcod catch in the recreational sector is estimated to have exceeded the coastwide OY for the species, although the 2003 catch estimate is considered implausible by many. California recreational catch estimates prior to 2004 were determined using the Marine Recreational Fisheries Scientific Survey (MRFSS), which polled recreational anglers nation-wide to determine effort. Such a survey design is limited in its efficacy as a catch estimator given very low sample sizes leading to very high variance estimates. For this reason a new angler census, the California Recreational Fisheries Survey (CRFS), was developed and implemented in 2004. The CRFS census polls anglers from a California license-holder database to determine effort and therefore produces a much lower variance about the catch estimate. Catch sampling is also higher relative to the MRFSS program, leading to higher confidence in catch estimates after 2003.

Table 4-41 shows that only Alternative 2 with 5% set aside provides at least as much lingcod to each region as does status quo. Increasing the set aside to 15% or 25% will reduce the amount of lingcod allocated to the recreational sector compared with status quo.

Table 4-41. Estimated recreational allocations for selected species and angler effort under the intersector allocation alternatives.

	Effort (angler trips)	Bocaccio (mt)	Canary (mt)	Cowcod (mt)	Yelloweye (mt)	Lingcod (mt)
Year:			*2004*			
Washington	197,623		2		4	64
Oregon	216,954		4		3	112
North. California	329,000	2	10		1	107
South. California	894,692	60	0	0.5	0	23
REC TOTAL	1,638,269	62	16	0.5	7	306
Non-trawl catch or allocation (mt)		68	16	0.5	8	400
Non-treaty Total catch (mt)		75	29	0.5	8	463
OY (mt)		250	47	4.8	22	735
Year:			*2005*			
Washington	172,715		2		5	59
Oregon	166,498		5		4	151
North. California	309,085	6	2		2	270
South. California	565,452	32	0	0.1	0	30
REC TOTAL	1,213,750	38	9	0.1	11	509
Non-trawl catch or allocation (mt)		42	9	0.1	11	598
Non-treaty Total catch or Allocation (mt)		45	18	0.1	11	684
OY (mt)		307	47	4.2	26	2,414
Year:			*2007-08*			
Washington	167,766		2		3	*633*
Oregon	175,250		4		3	*1,626*
North. California	310,929	16	8		2	*444*
South. California	596,071	82	0	0.4	0	50
REC TOTAL	1,250,016	98	14	0.4	8	*2,752*
Non-trawl catch or allocation (mt)		125	27	0.7	16	*3,353*
Non-treaty Total catch or Allocation (mt)		173	39	3.5	16	*6,075*
OY (mt)		218	44	4.0	20	6,170
ISA Alt:			**Status Quo Alternative**			
Washington	*167,766*		2		3	633
Oregon	*175,250*		4		3	1,626
North. California	*310,929*	16	8		2	444
South. California	596,071	82	0	0.4	0	50
REC TOTAL	*1,250,016*	98	14	0.4	8	2,752
Non-trawl catch or allocation (mt)		125	27	0.7	16	3,353
Non-treaty Total catch or Allocation (mt)		173	39	3.5	16	6,075
OY (mt)		218	44	4.0	20	6,170
ISA Alt:			**Alternative 2 w/ 5% set aside and low canary OY**			
Washington			2		3	**689**
Oregon			4		3	**1,769**
North. California		16	8		2	**455**
South. California		82	0	0.4	0	**51**
REC TOTAL		98	14	0.4	8	**2,963**
Non-trawl catch or allocation (mt)		125	27	0.7	16	**3,563**
Non-treaty Total catch or Allocation (mt)		173	39	3.5	16	**5,594**
OY (mt)		218	44	4.0	20	6,170

Table 4-41. Estimated recreational allocations for selected species and angler effort under the intersector allocation alternatives (continued).

	Effort (angler trips)	Bocaccio (mt)	Canary (mt)	Cowcod (mt)	Yelloweye (mt)	Lingcod (mt)
ISA Alt:			**Alternative 2 w/ 5% set aside and high canary OY**			
Washington			***6***		3	**689**
Oregon			***15***		3	**1,769**
North. California		16	***28***		2	**455**
South. California		82	**2**	0.4	0	**51**
REC TOTAL		98	***50***	0.4	8	**2,963**
Non-trawl catch or allocation (mt)		125	**95**	0.7	16	**3,563**
Non-treaty Total catch or Allocation (mt)		173	**140**	3.5	16	**5,594**
OY (mt)		218	**155**	4.0	20	6,170
ISA Alt:			**Alternative 2 w/ 15% set aside and low canary OY**			
Washington			***2***		3	**612**
Oregon			***4***		3	**1,573**
North. California		16	***8***		2	**407**
South. California		82	**0**	0.4	0	**45**
REC TOTAL		98	***14***	0.4	8	**2,637**
Non-trawl catch or allocation (mt)		125	**27**	0.7	16	**3,171**
Non-treaty Total catch or Allocation (mt)		173	**39**	3.5	16	**4,977**
OY (mt)		218	**44**	4.0	20	6,170
ISA Alt:			**Alternative 2 w/ 15% set aside and high canary OY**			
Washington			***6***		3	**612**
Oregon			***15***		3	**1,573**
North. California		16	***28***		2	**407**
South. California		82	**2**	0.4	0	**45**
REC TOTAL		98	***50***	0.4	8	**2,637**
Non-trawl catch or allocation (mt)		125	**95**	0.7	16	**3,171**
Non-treaty Total catch or Allocation (mt)		173	**140**	3.5	16	**4,977**
OY (mt)		218	**155**	4.0	20	6,170
ISA Alt:			**Alternative 2 w/ 25% set aside and low canary OY**			
Washington			***2***		3	**536**
Oregon			***4***		3	**1,377**
North. California		16	***8***		2	**358**
South. California		82	**0**	0.4	0	**40**
REC TOTAL		98	***14***	0.4	8	**2,311**
Non-trawl catch or allocation (mt)		125	**27**	0.7	16	**2,779**
Non-treaty Total catch or Allocation (mt)		173	**39**	3.5	16	**4,360**
OY (mt)		218	**44**	4.0	20	6,170
ISA Alt:			**Alternative 2 w/ 25% set aside and high canary OY**			
Washington			***6***		3	**536**
Oregon			***15***		3	**1,377**
North. California		16	***28***		2	**358**
South. California		82	**2**	0.4	0	**40**
REC TOTAL		98	***50***	0.4	8	**2,311**
Non-trawl catch or allocation (mt)		125	**95**	0.7	16	**2,779**
Non-treaty Total catch or Allocation (mt)		173	**140**	3.5	16	**4,360**
OY (mt)		218	**155**	4.0	20	6,170

The maximum, average, and minimum yields of each groundfish species subject to intersector allocations not considered a target in directed groundfish sectors are displayed in Tables 4-42 and 4-43 for the whiting trawl sectors and non-whiting sectors (including shoreside non-whiting trawl), respectively. Table 4-42 provides a reasonable range of incidental catches in whiting trawl fisheries given the better accountability of bycatch in these fisheries. Accountability of discard mortalities in the non-whiting directed groundfish sectors is lacking for the years prior to 2003; therefore, the range of bycatch yields for these sectors in Table 4-43 should be considered with some care. Recreational catches are even less precise with some especially uncertain estimates prior to 2005 for the California recreational fishery[5]. Lingcod should probably be considered a target species for the limited entry fixed gear sector. Lingcod is listed as an incidentally caught species for this sector in Table 4-43 given the utilization criteria informing Table 4-15.

To better inform allocation of constraining species subject to intersector allocations to directed groundfish sectors, the 2006 total catch of groundfish species by sector is provided (Table 4-44). Estimated 2006 catches of groundfish species subject to intersector allocations were excerpted from a total catch report provided by the NMFS Northwest Fisheries Science Center. While Table 4-44 does not depict all catches for the directed sectors subject to analyses in this EA, it may be helpful in cases where the maximum yield of a constraining species in a directed groundfish sector occurred in 2006. The higher bycatch of arrowtooth flounder (79 mt) in the shoreside non-trawl fisheries targeting sablefish (i.e., limited entry fixed gear and directed open access fisheries) is an example of this case.

[5] The MRFSS census was employed for California recreational catch and effort estimation through 2003. In 2004, the first year the more precise CRFS census was implemented, there were problems with the angler license data frame leading to greater uncertainty in catch and effort estimates.

Table 4-42. Yield amounts (mt) of incidentally caught groundfish species subject to intersector allocations predicted to be needed by directed whiting trawl sectors to prevent constraining target fishing strategies.

Stock or Complex	At-sea Catcher-Processors			At-sea Motherships			Shoreside Whiting		
	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch
Lingcod - coastwide	0.0	0.2	0.4	0.0	0.2	0.5	0.1	1.3	5.9
N. of 42° (OR & WA)	0.0	0.2	0.4	0.0	0.2	0.5	0.1	1.3	5.9
S. of 42° (CA)							0.0	0.1	0.3
Pacific Cod	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.4	1.2
Sablefish (Coastwide)	0.6	16.0	45.7	0.1	5.0	19.4	1.7	48.0	131.9
N. of 36° (Monterey north)	0.6	16.0	45.7	0.1	5.0	19.4	1.7	48.0	131.9
S. of 36° (Conception area)									
PACIFIC OCEAN PERCH	0.8	7.1	19.7	0.1	5.0	28.1	0.1	8.7	32.8
Shortbelly Rockfish	0.0	1.3	6.2	0.0	3.6	27.2	0.0	1.0	5.5
WIDOW ROCKFISH	8.2	81.1	139.7	8.2	74.4	173.7	5.1	161.0	571.5
Chilipepper Rockfish									
Splitnose Rockfish									
Yellowtail Rockfish	1.7	118.2	426.3	1.4	185.1	505.3	42.5	241.9	499.7
Shortspine Thornyhead - coastwide	0.0	7.7	19.5	0.0	3.1	15.5	0.1	0.5	1.9
N. of 34°27'	0.0	7.7	19.5	0.0	3.1	15.5	0.1	0.5	1.9
S. of 34°27'									
Longspine Thornyhead - coastwide	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.8
N. of 34°27'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.8
S. of 34°27'									
DARKBLOTCHED	1.8	9.3	48.9	0.6	3.9	12.9	0.0	2.6	5.9
Minor Slope Rockfish North	11.2	28.7	78.3	0.9	11.1	39.9	0.2	4.7	18.2
Minor Slope Rockfish South									
Dover Sole	0.0	0.4	1.5	0.0	0.2	0.9	0.0	0.8	3.5
English Sole	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.6	1.7
Petrale Sole (coastwide)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.8
Arrowtooth Flounder	0.1	1.5	3.8	0.0	1.1	3.1	0.2	1.0	3.4
Starry Flounder									
Other Flatfish	0.0	4.2	18.0	0.0	1.2	6.7	0.0	1.2	4.1
Spiny Dogfish	10.1	93.0	331.6	1.2	87.9	331.6	0.1	26.6	95.5

Table 4-43. Yield amounts (mt) of incidentally caught groundfish species subject to intersector allocations predicted to be needed by the directed non-whiting trawl and non-trawl sectors to prevent constraining target fishing strategies.

Stock or Complex	Shoreside Non-whiting Trawl			Limited Entry Fixed Gear			Directed Open Access			Recreational		
	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch
Lingcod - coastwide				9.4	32.6	65.2						
N. of 42° (OR & WA)				6.3	14.0	28.0						
S. of 42° (CA)				2.3	18.6	43.8						
Pacific Cod				0.5	1.0	1.4	0.0	0.7	1.5	0.0	4.4	12.3
Sablefish (Coastwide)										0.2	3.1	8.0
N. of 36° (Monterey north)										0.2	3.1	8.0
S. of 36° (Conception area)										0.0	0.1	0.1
PACIFIC OCEAN PERCH				0.0	2.1	9.7	0.0	0.5	1.8	0.0	0.3	1.0
Shortbelly Rockfish	0.1	17.6	78.2				0.0	0.1	0.3	0.0	0.0	0.1
WIDOW ROCKFISH				0.0	7.4	15.4	0.3	37.9	155.4	1.3	19.0	51.9
Chilipepper Rockfish										0.0	23.0	73.5
Splitnose Rockfish				0.0	10.9	77.0	0.1	7.5	45.3	0.0	0.0	0.0
Yellowtail Rockfish				0.6	21.2	43.7	1.3	36.8	123.7	19.2	31.6	64.0
Shortspine Thornyhead - coastwide							0.8	6.5	15.7	0.0	0.3	1.1
N. of 34°27'				5.8	15.1	21.5	0.0	1.0	5.3	0.0	0.3	1.1
S. of 34°27'	121.7	291.2	642.4				0.2	4.1	12.0	0.0	0.0	0.1
Longspine Thornyhead - coastwide				8.6	41.7	96.1	0.0	6.6	27.0	0.0	0.0	0.0
N. of 34°27'				0.9	27.9	79.1	0.0	4.6	27.0	0.0	0.0	0.0
S. of 34°27'	0.0	0.1	0.5				0.0	1.8	6.8	0.0	0.0	0.0
DARKBLOTCHED				0.2	3.2	9.5	0.2	1.7	11.0	0.0	0.0	0.0
Minor Slope Rockfish North										0.0	0.1	0.4
Minor Slope Rockfish South										0.4	4.9	21.8
Dover Sole				1.0	9.3	61.7	0.3	1.3	4.1	0.0	0.0	0.0
English Sole							0.0	0.4	1.9	0.0	0.0	0.0
Petrale Sole (coastwide)				0.3	0.7	1.6	0.1	1.1	6.9	0.0	0.3	0.7
Arrowtooth Flounder				0.3	1.4	5.1	0.0	3.1	20.9	0.0	0.0	0.1
Starry Flounder	7.3	41.9	141.8	0.0	0.1	0.2	0.0	0.2	0.3			
Other Flatfish				0.1	0.5	1.1	1.9	5.3	8.2	13.5	40.4	74.6
Spiny Dogfish										2.4	9.7	19.8

Table 4-44. Estimated total mortality (mt) of groundfish species subject to intersector allocations during 2006, by sector. Data excerpted from the NMFS Northwest Fisheries Science Center total catch report.

	Shoreside commercial fisheries				At-sea Whiting (Treaty + Non-Treaty)	Shoreside Tribal Whiting	Total recreational fishing mortality			Research	Estimated total fishing mortality
	Non-Whiting trawl a/	Whiting trawl	Non-trawl b/	Total Shoreside mortality			CA	OR	WA		
Non-rebuilding species											
Sablefish mortality	2,654	11.0	3,119	5,785	2	669	0.0	2.1	0	11	6,470
Shortspine thornyhead	649	0.1	178	827	0.5	21	0.0	0	0	4	853
Longspine thornyhead	821	0	21	843	0.0		0	0	0	11.6	854
Dover sole	7,476	0.0	5	7,480	0.0	221	0	0.0	0	28.8	7,730
Petrale sole	2,690	0.0	4	2,694	0	26	0.5	0.0	0	2.3	2,723
English sole	1,291	0.0	0.0	1,291	0.0	42	0.0	0.0	0	2.5	1,336
Arrowtooth flounder	2,818	2.3	79	2,899	2.8	197	0	0.0	0	6.1	3,105
Other Flatfish	1,855	0.1	4	1,859	0.3	60	27.6	3.3	0.2	11.8	1,962
Splitnose rockfish c/	159	na	0	160	na	na	0	na	na	2.1	162
Other slope rockfish N	187	2.8	58	248	8.2	25	0	0.0	0	2.5	283
Other slope rockfish S	122	na	10	132	na	na	0.0	na	na	1.3	133
Yellowtail rockfish d/	32	153.7	3	189	109	172	0.4	8.7	13.9	1.2	493
Chilipepper rockfish e/	116	na	0	116	na	na	1.6	na	na	8.3	126
Lingcod mortality	272	5.4	100	378	3.2	45	348	127	47	5.3	952
Pacific cod	344	0.9	0.5	346	0.1	36	0	0.0	3.5	0.2	385
Spiny dogfish	666	33.2	563	1,262	59	77	3.9	0.0	0	5.8	1,407
Rebuilding species											
Widow rockfish	6.5	47.9	0.8	55.2	143.3	9.9	3.3	1.1	0	0.2	213.8
Pacific ocean perch f/	71.7	0.1	0.3	72.1	3.1	3.9	0	0	0	1.2	80.3
Darkblotched rockfish	178.5	2.1	0.5	181.1	11.1	0.1	0	0	0	0.9	193.3

a/ Includes minor landings by trawlers not targeting groundfish.

b/ Includes minor landings made with troll gear.

c/ Amounts in this row are for the area south of 40°10' N latitude. Northern catch is included in the Other Slope Rockfish category.

d/ Amounts in this row are for the area north of 40°10' N latitude. Southern catch is included in the Other Shelf Rockfish category.

e/ Amounts in this row are for the area south of 40°10' N latitude. Northern catch is included in the Other Shelf Rockfish category.

f/ Amounts in this row are for the area north of 40°10' N latitude.

Sector Revenue Impacts Under the Alternatives

Table 4-45 provides a list of the intersector allocation scenarios analyzed to determine revenue impacts under the alternatives and a key to the shorthand labeling used in the results table and graphics for each scenario.

Table 4-45. List of intersector allocation scenarios analyzed for revenue impacts.

Scenario	Description
2005	Actual landings and revenue recorded in PacFIN and NORPAC in 2005.
Original intersector allocation alternatives [Note: Intersector allocation alternative 1 is the same as intersector allocation alternative 2 except without allocations designated for the three non-trawl sectors]	
SQ	"Status Quo": Landings and revenue assuming current OYs and regulations and no buffers.
Alt2_5_L	Intersector allocation alternative 2 with a 5% buffer and low canary OY assumption.
Alt2_5_H	Intersector allocation alternative 2 with a 5% buffer and high canary OY assumption.
Alt2_15_L	Intersector allocation alternative 2 with a 15% buffer and low canary OY assumption.
Alt2_15_H	Intersector allocation alternative 2 with a 15% buffer and high canary OY assumption.
Alt2_25_L	Intersector allocation alternative 2 with a 25% buffer and low canary OY assumption.
Alt2_25_H	Intersector allocation alternative 2 with a 25% buffer and high canary OY assumption.
Alt3_5_L	Intersector allocation alternative 3 with a 5% buffer and low canary OY assumption.
Alt3_5_H	Intersector allocation alternative 3 with a 5% buffer and high canary OY assumption.
Alt3_15_L	Intersector allocation alternative 3 with a 15% buffer and low canary OY assumption.
Alt3_15_H	Intersector allocation alternative 3 with a 15% buffer and high canary OY assumption.
Alt3_25_L	Intersector allocation alternative 3 with a 25% buffer and low canary OY assumption.
Alt3_25_H	Intersector allocation alternative 3 with a 25% buffer and high canary OY assumption.
GAC-requested intersector allocation alternatives [Note: All GAC alternatives include 15% buffers for Dover sole, English sole and petrale sole.]	
AltGAC_0_L	Intersector allocation GAC alternative with a 0% buffer and low canary OY assumption.
AltGAC_0_H	Intersector allocation GAC alternative with a 0% buffer and high canary OY assumption.
AltGAC_15_L	Intersector allocation GAC alternative with a 15% buffer and low canary OY assumption.
AltGAC_15_H	Intersector allocation GAC alternative with a 15% buffer and high canary OY assumption.

Table 4-46 and Figures 4-1 through 4-8 are provided to illustrate the distribution of revenue impacts to commercial fishery sectors and port areas under the intersector allocation alternatives. Figures 4-1 through 4-8 generally summarize information presented in Table 4-46, although Figures 4-6 and 4-8 showing impacts on the fixed gear sablefish fishery are based on data not included in Table 4-46.

Ex-vessel revenue is generally used to compare the value of landings by harvesting sectors under a set of alternatives. Income impacts are used to compare the geographic distribution of economic activity generated by those landings in affected communities along the coast. In addition to the amount and location of landings, income impacts incorporate assumptions regarding ex-vessel prices, prices of inputs used to harvest and process the resource, wages paid to harvesting and processing labor, the list of outputs sold by fish processors, and the spending of earnings generated by participants to estimate the total amount of personal income generated by the combined harvesting and processing activities in each community. In general, estimating income impacts requires a much greater level of specificity regarding the array of fisheries management measures in place and the nature of input and product markets assumed to be present. Since the alternatives being considered under this action do not presuppose what type of management measures might later be incorporated to maximize value to stakeholders under each scenario, in the following analysis, ex-vessel revenue is used as to make a simpler comparison of

impacts at both the harvesting sector and coastal community level. While ex-vessel revenue is a less comprehensive measure than total income, it is appropriate to use in cases where adoption of detailed management measures is not part of the proposed action.

Table 4-46. Estimated ex-vessel revenue (million $) for groundfish sectors from all groundfish species by port area under the intersector allocation alternatives.

GF Sector	Port Area	Intersector Allocation Alternatives																	
		2005	SQ	Alt2_5_L	Alt2_5_H	Alt2_15_L	Alt2_15_H	Alt2_25_L	Alt2_25_H	Alt3_5_L	Alt3_5_H	Alt3_15_L	Alt3_15_H	Alt3_25_L	Alt3_25_H	AltGAC_0_L	AltGAC_0_H	AltGAC_15_L	AltGAC_15_H
Whiting C-P	At-Sea Catcher-Processor	8.63	7.11	5.82	5.82	3.98	3.98	4.44	4.44	0.67	0.67	0.46	0.46	0.51	0.51	4.84	4.84	3.98	3.98
CV-Mothership	At-Sea Catcher Vessel	5.33	3.97	2.99	2.99	2.63	2.63	2.28	2.28	0.41	0.41	0.34	0.34	0.31	0.31	3.15	3.15	2.63	2.63
Shoreside Whiting	S. and C. WA Coast	3.90	4.70	4.25	4.26	3.67	3.67	3.26	3.26	0.53	0.53	0.47	0.47	0.41	0.42	4.40	4.40	3.67	3.67
	Astoria	2.55	2.83	2.60	2.62	2.27	2.29	2.05	2.07	0.64	0.66	0.58	0.60	0.55	0.58	2.66	2.67	2.26	2.29
	Newport	4.78	5.76	5.23	5.23	4.51	4.51	4.01	4.01	0.70	0.70	0.61	0.62	0.55	0.56	5.40	5.40	4.51	4.51
	Coos Bay	0.42	0.51	0.46	0.46	0.40	0.40	0.36	0.36	0.07	0.07	0.06	0.06	0.06	0.06	0.48	0.48	0.40	0.40
	Eureka	0.33	0.41	0.37	0.37	0.32	0.32	0.28	0.28	0.04	0.05	0.04	0.04	0.03	0.04	0.38	0.38	0.32	0.32
Non-whiting Trawl	N. Puget Sound	1.68	1.57	1.57	1.66	1.38	1.45	1.34	1.41	1.60	1.68	1.38	1.45	1.34	1.41	1.49	1.56	1.45	1.56
	N. WA Coast	0.52	0.32	0.32	0.35	0.30	0.34	0.30	0.34	0.32	0.35	0.30	0.34	0.30	0.34	0.32	0.33	0.30	0.33
	S. and C. WA Coast	0.33	0.28	0.28	0.28	0.29	0.29	0.29	0.29	0.28	0.28	0.29	0.29	0.29	0.29	0.28	0.33	0.27	0.33
	Astoria	4.61	5.97	5.87	6.03	5.54	5.58	5.39	5.43	6.00	6.15	5.54	5.58	5.39	5.43	5.85	6.13	5.72	6.12
	Tillamook	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Newport	1.74	2.23	2.20	2.32	2.01	2.05	1.97	2.01	2.26	2.37	2.01	2.05	1.97	2.01	2.18	2.20	2.13	2.20
	Coos Bay	2.77	3.59	3.50	3.63	3.21	3.21	3.10	3.10	3.61	3.73	3.21	3.21	3.10	3.10	3.52	3.53	3.42	3.52
	Brookings	0.68	1.29	1.25	1.25	1.20	1.15	1.18	1.13	1.29	1.30	1.20	1.15	1.18	1.13	1.29	1.29	1.29	1.29
	Crescent City	0.55	0.68	0.66	0.67	0.62	0.58	0.62	0.58	0.69	0.69	0.62	0.58	0.62	0.58	0.60	0.65	0.64	0.65
	Eureka	1.56	2.63	2.57	2.63	2.40	2.38	2.34	2.33	2.64	2.69	2.40	2.38	2.34	2.33	2.58	2.59	2.55	2.59
	Fort Bragg	1.34	2.28	2.21	2.21	2.19	2.38	2.19	2.38	2.28	2.25	2.19	2.38	2.19	2.38	2.33	2.34	2.31	2.32
	Bodega Bay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	San Francisco	1.04	0.95	0.94	0.94	0.96	1.00	0.96	0.99	0.95	0.95	0.96	1.00	0.96	0.99	0.93	0.93	0.93	0.93
	Monterey	0.63	0.90	0.88	0.89	0.89	0.95	0.89	0.94	0.90	0.91	0.89	0.95	0.89	0.94	0.92	0.92	0.91	0.92
	Morro Bay	0.53	0.55	0.54	0.54	0.53	0.57	0.53	0.57	0.55	0.55	0.53	0.57	0.53	0.57	0.56	0.57	0.55	0.55

Table 4-46. Estimated ex-vessel revenue (million $) for groundfish sectors from all groundfish species by port area under the intersector allocation alternatives (continued).

Groundfish Sector	Port Area	Intersector Allocation Alternatives																	
		2005	SQ	Alt2_ 5_L	Alt2_ 5_H	Alt2_ 15_L	Alt2_ 15_H	Alt2_ 25_L	Alt2_ 25_H	Alt3_ 5_L	Alt3_ 5_H	Alt3_ 15_L	Alt3_ 15_H	Alt3_ 25_L	Alt3_ 25_H	AltGAC_ 0_L	AltGAC_ 0_H	AltGAC_ 15_L	AltGAC_ 15_H
Limited Entry Fixed Gear	N. Puget Sound	1.88	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.36	1.36	1.49	1.49
	S. Puget Sound	0.14	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.11	0.11
	N. WA Coast	0.61	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.43	0.43	0.48	0.48
	S. and C. WA Coast	1.12	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.80	0.80	0.87	0.87
	Astoria	0.84	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.59	0.59	0.65	0.65
	Newport	1.54	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.08	1.08	1.19	1.19
	Coos Bay	1.22	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.95	0.95
	Brookings	0.58	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.43	0.43	0.46	0.46
	Crescent City	0.22	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.17	0.18	0.18
	Eureka	0.31	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.22	0.22	0.24	0.24
	Fort Bragg	0.24	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.17	0.17	0.19	0.19
	Bodega Bay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	San Francisco	0.20	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.16	0.16
	Monterey	0.42	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.34	0.36	0.36
	Santa Barbara	0.26	0.29	0.28	0.28	0.27	0.27	0.26	0.26	0.27	0.27	0.26	0.26	0.25	0.25	0.28	0.28	0.27	0.27
	Los Angeles	0.74	0.79	0.77	0.77	0.75	0.75	0.74	0.74	0.76	0.76	0.74	0.74	0.72	0.72	0.78	0.78	0.75	0.75
	San Diego	0.32	0.35	0.34	0.34	0.33	0.33	0.32	0.32	0.33	0.33	0.32	0.32	0.31	0.31	0.34	0.34	0.33	0.33

Table 4-46. Estimated ex-vessel revenue (million $) for groundfish sectors from all groundfish species by port area under the intersector allocation alternatives (continued).

Groundfish Sector	Port Area	Intersector Allocation Alternatives																	
		2005	SQ	Alt2_ 5_L	Alt2_ 5_H	Alt2_ 15_L	Alt2_ 15_H	Alt2_ 25_L	Alt2_ 25_H	Alt3_ 5_L	Alt3_ 5_H	Alt3_ 15_L	Alt3_ 15_H	Alt3_ 25_L	Alt3_ 25_H	AltGAC_ 0_L	AltGAC_ 0_H	AltGAC_ 15_L	AltGAC_ 15_H
Directed Open Access	N. Puget Sound	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	S. Puget Sound	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	N. WA Coast	0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.10	0.10
	S. and C. WA Coast	0.52	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.37	0.37	0.40	0.40
	Astoria	0.18	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.14	0.14
	Tillamook	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Newport	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Coos Bay	0.34	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.25	0.25	0.28	0.28
	Brookings	1.21	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.07	1.07	1.10	1.10
	Crescent City	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.36	0.36	0.37	0.37
	Eureka	0.25	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.18	0.18	0.20	0.20
	Fort Bragg	0.97	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.76	0.76	0.81	0.81
	Bodega Bay	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	San Francisco	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.16	0.16
	Monterey	0.47	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.40	0.40	0.41	0.41
	Morro Bay	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
	Santa Barbara	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
	Los Angeles	0.05	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.05	0.05
	San Diego	0.18	0.23	0.22	0.22	0.20	0.20	0.18	0.18	0.20	0.20	0.19	0.19	0.17	0.17	0.23	0.23	0.20	0.20
west coast Groundfish Total		**60.78**	**62.87**	**58.82**	**59.46**	**53.54**	**53.97**	**51.96**	**52.40**	**40.69**	**41.27**	**38.28**	**38.72**	**37.68**	**38.12**	**57.67**	**58.20**	**54.50**	**55.35**

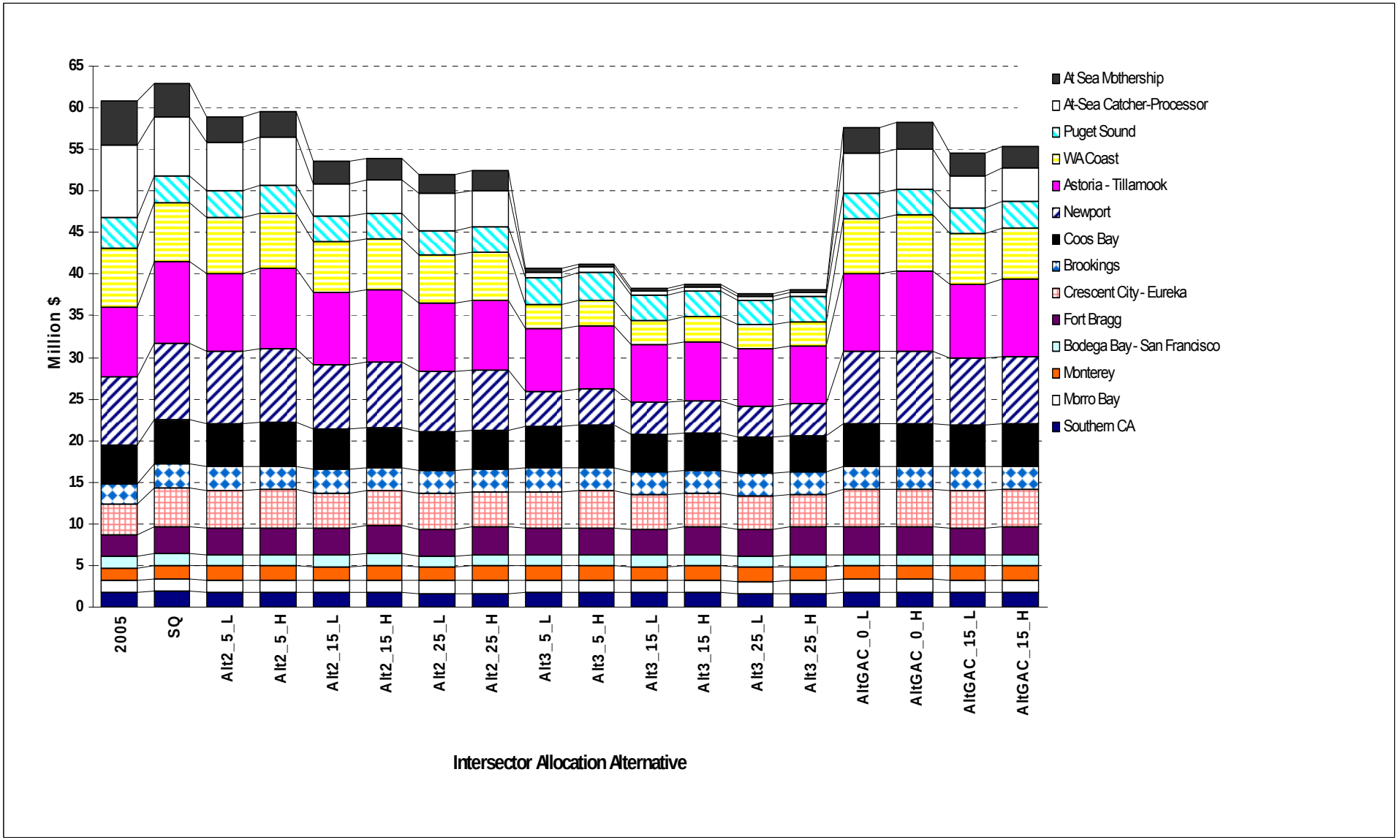

Figure 4-1. Combined groundfish sectors ex-vessel revenue by port area under the intersector allocation alternatives.

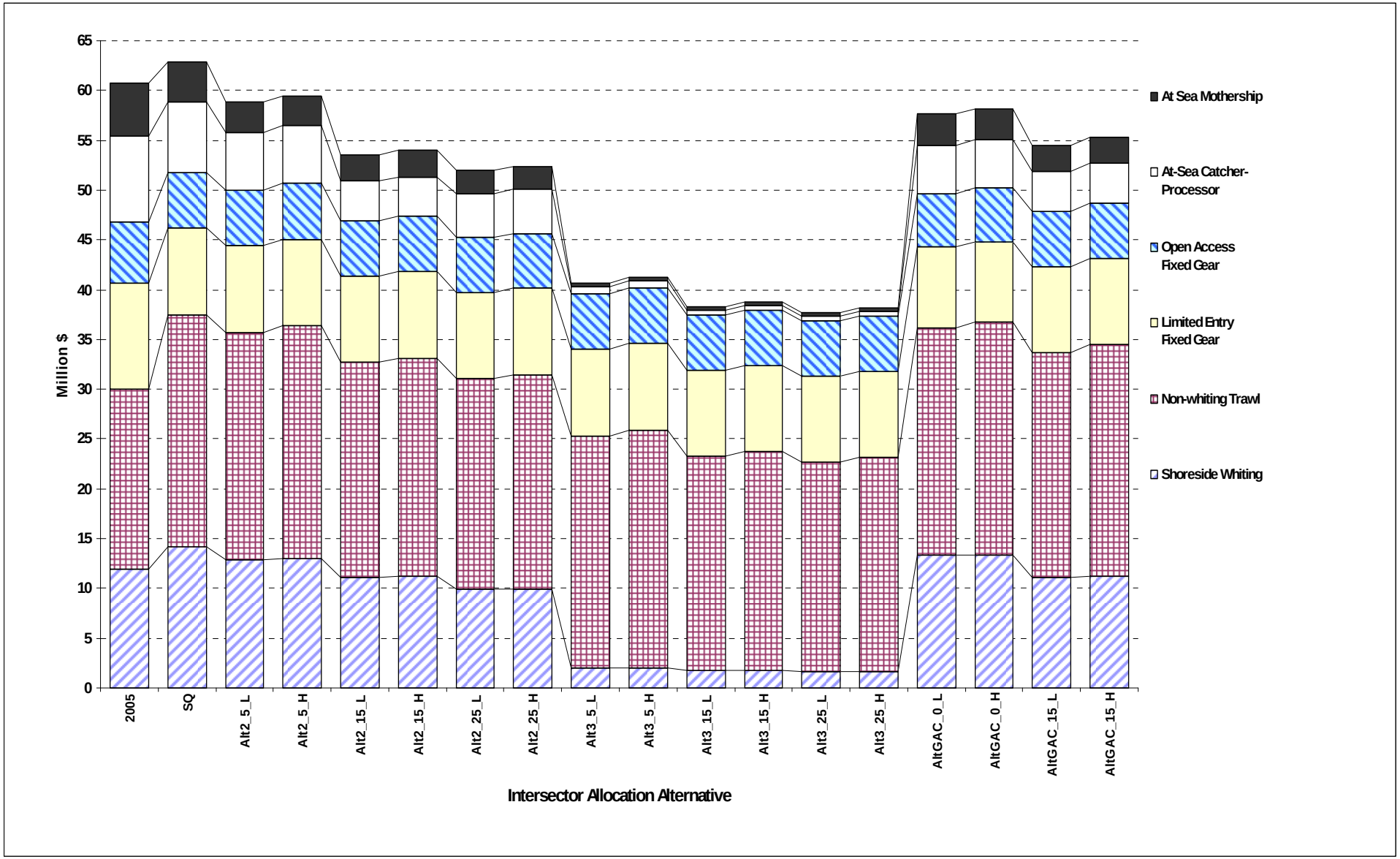

Figure 4-2. Combined groundfish sectors ex-vessel revenue under the intersector allocation alternatives.

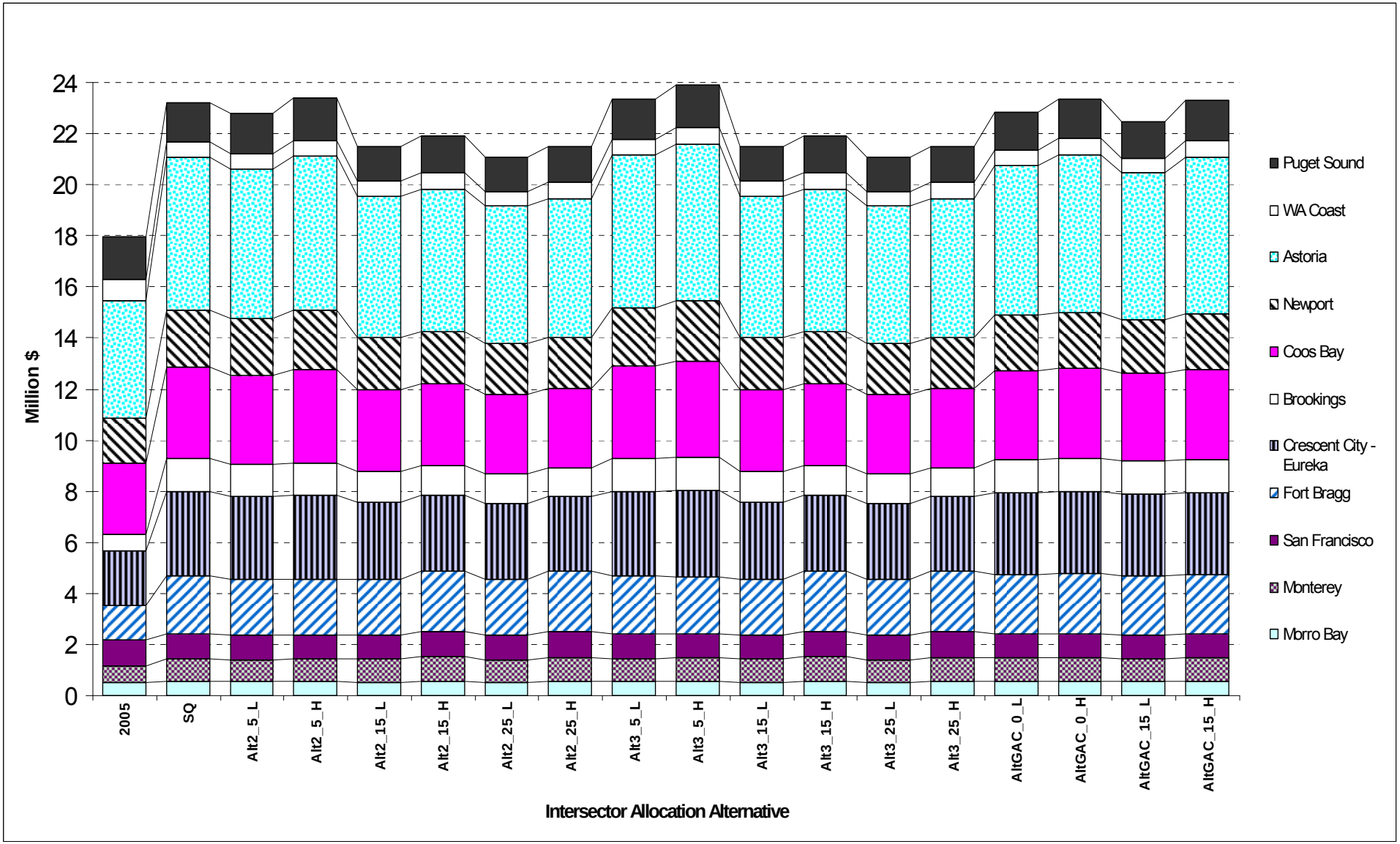

Figure 4-3. Shoreside non-whiting trawl sector ex-vessel revenue by port area under the intersector allocation alternatives.

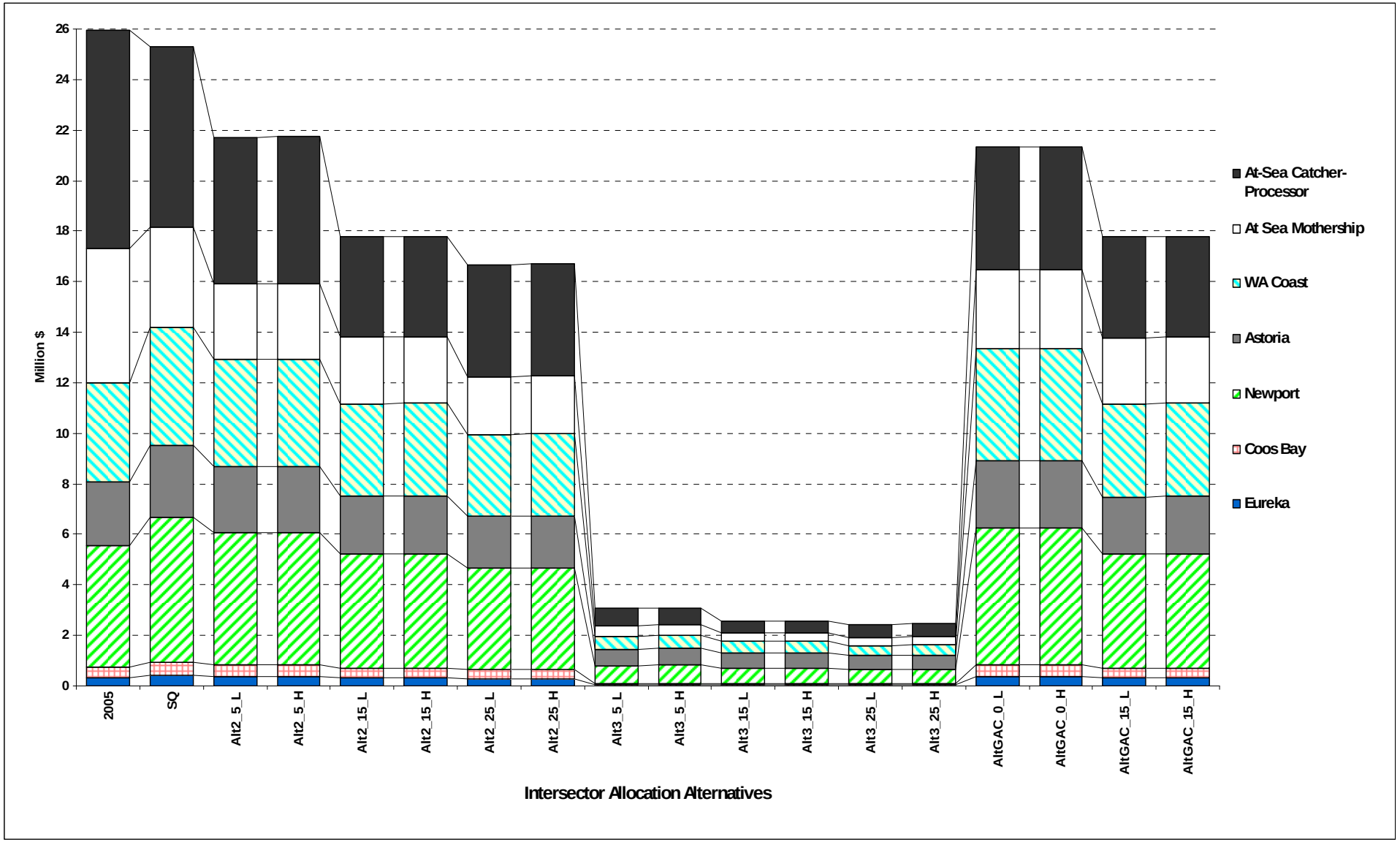

Figure 4-4. Shoreside whiting trawl sector ex-vessel revenue by port area under the intersector allocation alternatives.

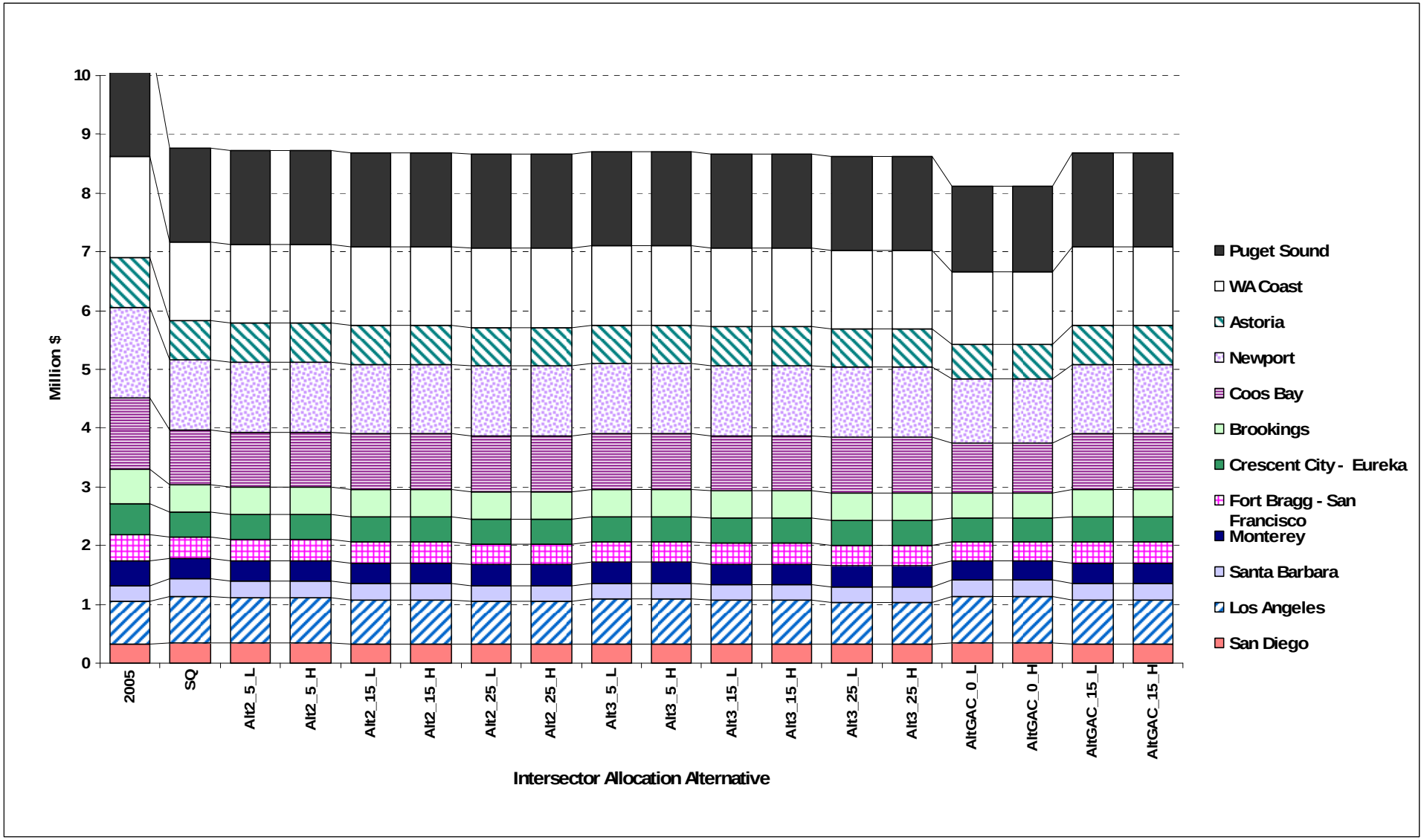

Figure 4-5. Limited entry fixed gear sector ex-vessel revenue by port area under the intersector allocation alternatives.

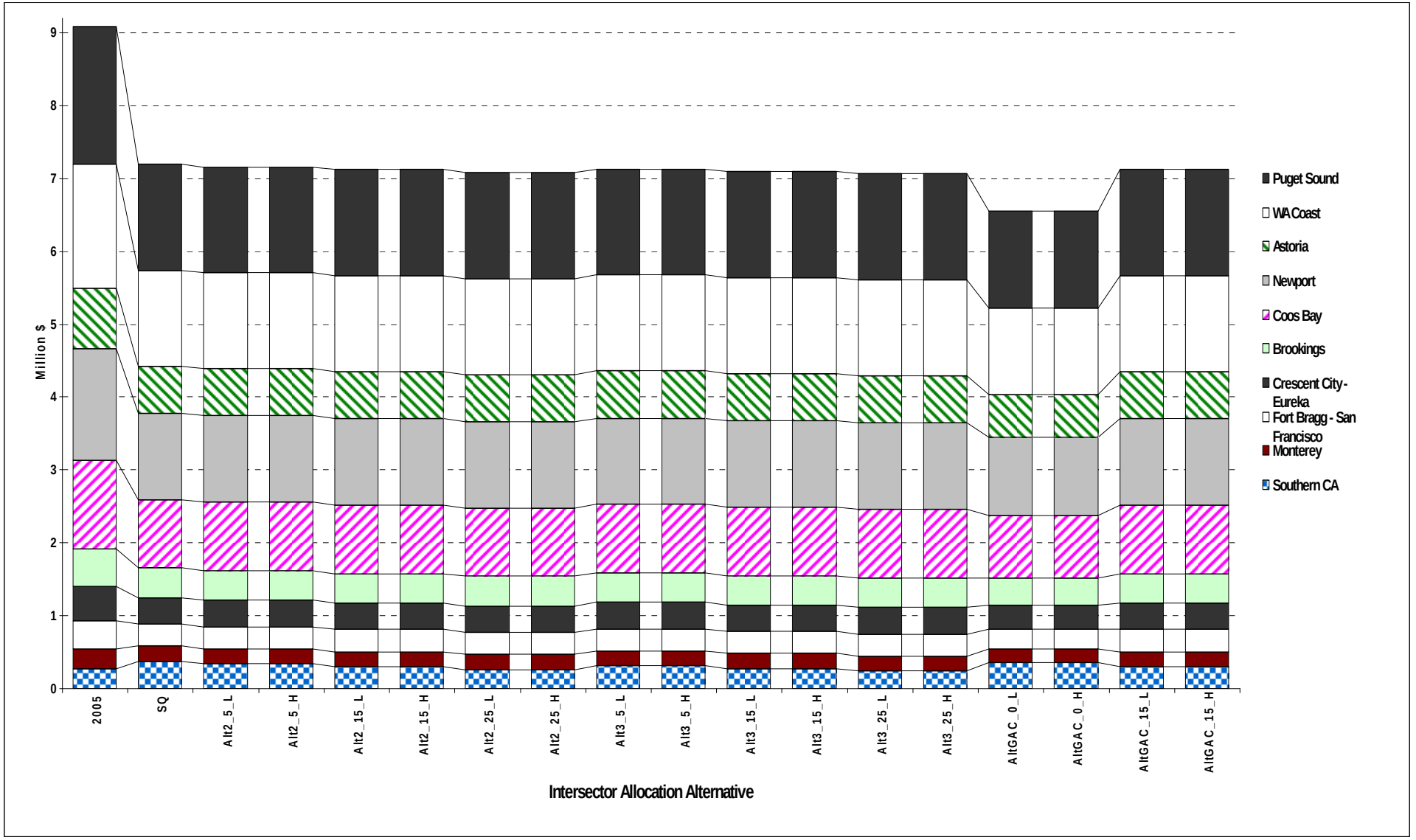

Figure 4-6. Limited entry fixed gear sablefish sector ex-vessel revenue by port area under the intersector allocation alternatives.

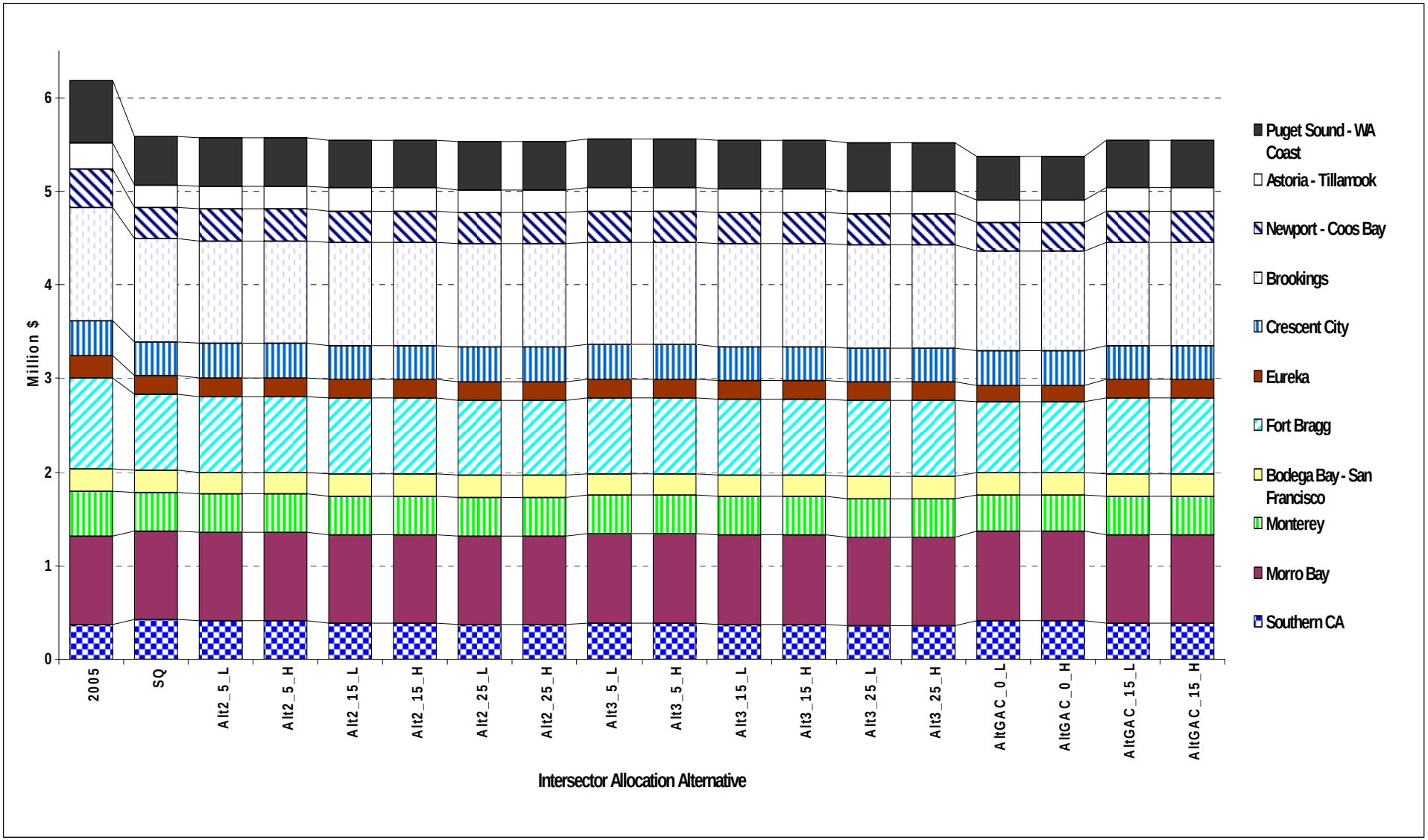

Figure 4-7. Directed open access sector ex-vessel revenue by port area under the intersector allocation alternatives.

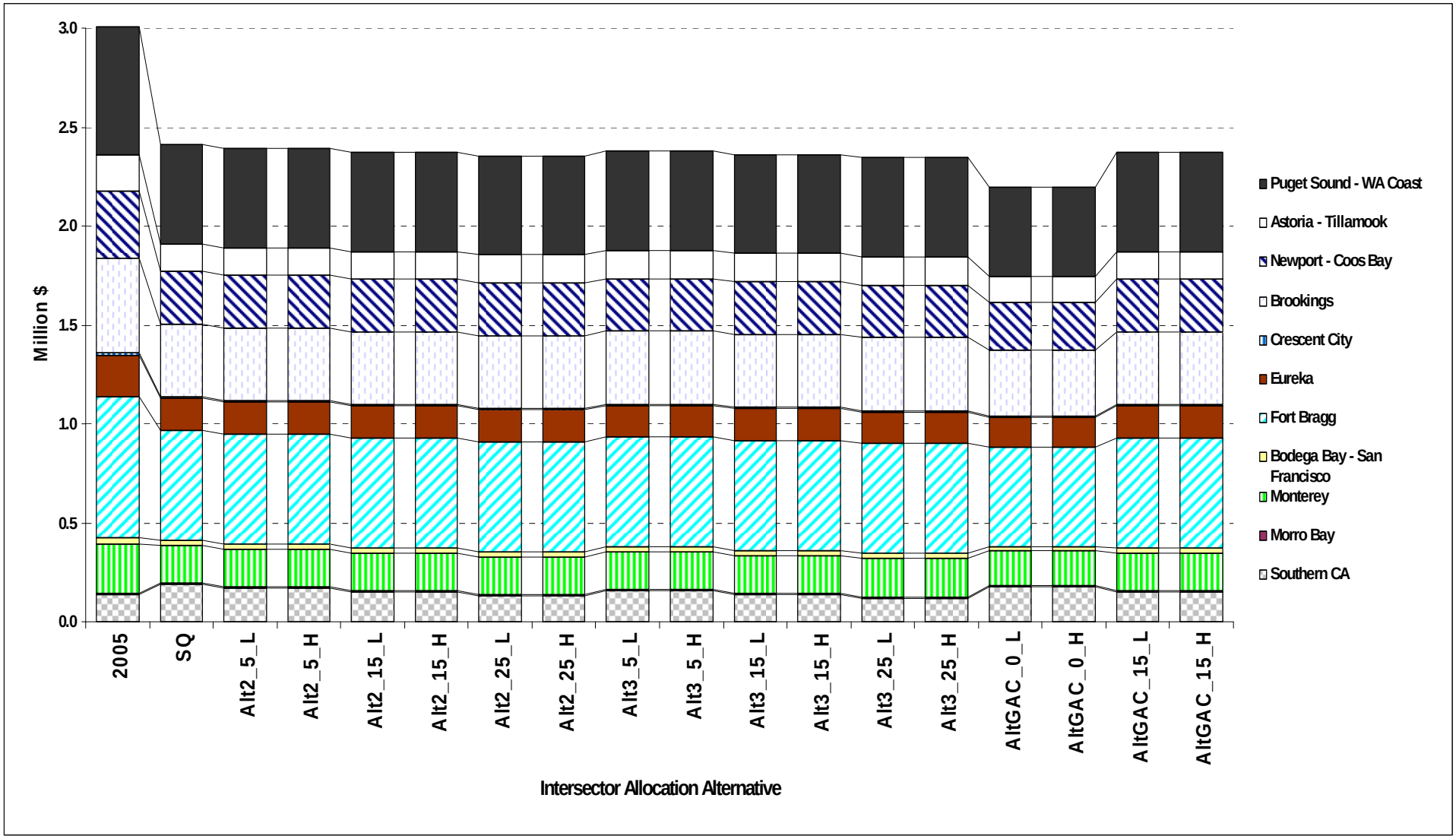

Figure 4-8. Directed open access sablefish sector ex-vessel revenue by port area under the intersector allocation alternatives.

Table 4-46 shows the estimated distribution of ex-vessel revenue by groundfish sector and port area in 2005 and under the ISA alternatives. Comparisons should generally be made with respect to the status quo alternative. 2005 revenue has been included simply for reference. In general, none of the alternatives perform as well overall as status quo. The next best alternative in terms of coastwide ex-vessel revenue is Alternative 2 with a 5% set aside, followed by the GAC Alternatives. Alternatives with lower set aside amounts and high canary rockfish OY assumptions obviously perform better.

Figures 4-1 through 4-8 display the gross revenue impacts under the alternatives. Figure 4-3 shows total non-whiting trawl revenue varying by less than $3 million from the highest to lowest case. Lowest revenues are expected under the low canary OY scenarios coupled with high set aside amounts. Whiting trawl revenue estimates are much more variable[6] (Figure 4-4). Next to status quo, the highest revenues are achieved under Alternative 2 with 5% set aside. Total revenues are about $19 million less than status quo under the Alternative 3 scenarios, chiefly due to the tiny allocations of widow rockfish available to the whiting sectors under Alternative 3. Estimated revenues in the limited entry fixed gear sector are fairly constant across the scenarios, varying by less than $1 million across the board (Figures 4-5 and 4-6). Lowest revenues are projected under the GAC Alternative with 0% set aside. This result is due to the insufficient amount of arrowtooth flounder bycatch available to the sector either as allocation or set aside. The same pattern holds for the directed open access sector, with total revenues varying by less than $0.5 million across all the scenarios (Figure 4-7). Lowest revenues are projected under the GAC Alternative with 0% set aside. This result is due to the insufficient amount of arrowtooth flounder bycatch available to the sector either as allocation or as a set-aside.

Sector Impacts by Species or Species Group Subject to Intersector Allocations

Lingcod Allocations

Lingcod allocations under the intersector allocation alternatives are provided in Table 4-47. Lingcod is a target species for every directed groundfish sector, notwithstanding the utilization criteria informing Table 4-15 that suggests that they are not significantly caught in limited entry fixed gear fisheries. Table 4-43 indicates a range of annual catches of lingcod by fishermen in the limited entry fixed gear sector of 9 to 65 mt during the 1995-2005 period. This may be because most of the limited entry fixed gear fleet targets sablefish offshore, with the second most significant target being species in the minor slope rockfish complexes. Such deeper water fishing strategies using the more selective fixed gears may catch fewer lingcod than efforts using other gears in shallower waters. Regardless, lingcod should still be considered a target in all directed groundfish fisheries due to its high commercial and recreational value.

Lingcod are the most important recreational species of those subject to intersector allocation in this action. Lingcod catches by sector have been estimated north and south of the California-Oregon border at 42° N latitude in recognition of the fact that the Council has specified a California recreational harvest guideline, as well as a combined Oregon-Washington recreational harvest guideline, due to concerns regarding lower stock abundance in the south. The GAC recommended re-stratifying recent year catches north and south of 40°10' N latitude to determine catch shares for geographic areas used in managing the limited entry trawl fishery. This task was not completed prior to submitting this draft EA in time for the Council's April briefing book deadline.

[6] Scenarios for the whiting sectors assume that constraining species yields will dictate the amount of whiting that will be caught. In actuality, whiting fleets have been operating under constraining bycatch caps for some species since 2004 and have been able to change their fishing patterns to avoid these constraining species to achieve higher proportions of their whiting allocations than the bycatch rate of constraining species would suggest.

Table 4-47. Coastwide lingcod allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.2%	0.7%	30.7%	1.9%	8.5%	57.7%
Alt 2 a/	0.0%	0.1%	0.4%	19.3%	1.4%	7.7%	71.1%
Alt 3	0.0%	0.0%	0.1%	39.3%		60.5%	
GAC b/		45.0%				55.0%	

a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.

b/ This trawl allocation may change under a scenario where catch percentages are calculated north and south of 40°10' N latitude. See section 2.1.7.1 for an explanation.

Pacific Cod Allocations

Pacific cod allocations under the intersector allocation alternatives are provided in Table 4-48. Pacific cod are targeted by the shoreside non-whiting trawl fleet on the shelf in waters off northern Washington in years when they are available. There is a large interannual variability in Pacific cod availability in the west coast EEZ since this is the southern fringe of their distribution. Trawl access to Pacific cod is also limited by the co-occurrence of canary rockfish on the shelf off northern Washington. In recent years, trawling on the shelf in waters off northern Washington has been severely restricted due to relatively high canary bycatch rates. The GAC-recommended trawl allocation of Pacific cod leaves 2% of the harvestable yield for non-trawl sectors. Given the 2007-08 Pacific cod OY of 1,600 mt, the 2% share equates to 32 mt, which is generous given the maximum catches observed by these fleets (Table 4-43).

Table 4-48. Pacific cod allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.2%	98.2%	0.5%	0.2%	1.0%
Alt 2 a/	0.0%	0.0%	0.1%	98.1%	0.6%	0.1%	1.1%
Alt 3	0.0%	0.0%	0.1%	99.0%		0.9%	
GAC		98.0%				2.0%	

a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.

Conception Area (South of 36° N Latitude) Sablefish Allocations

Conception area sablefish allocations under the intersector allocation alternatives are provided in Table 4-49. Since only the portion of the coastwide stock north of 36° N latitude has been allocated between the limited entry trawl, limited entry fixed gear and the open access sectors, the remaining harvestable surplus of Conception area sablefish needs to be allocated to implement trawl rationalization (see sections 2.1.6.1 and 4.4.2.4 for analysis of within-trawl allocations of the northern sablefish stock). None of the whiting trawl sectors fish in the Conception area, so only the shoreside non-whiting trawl

sector is considered for a trawl allocation. Conception area trawl efforts have been largely in the area north of Pt. Conception proper at 34°27' N latitude and their sablefish catches have been mostly landed in Morro Bay and Port San Luis. Of the directed non-trawl sectors, only the commercial fleets (limited entry fixed gear and directed open access) target sablefish; however, a small yield of 0.1 mt should be considered as a set-aside to accommodate potential recreational impacts (Table 4-43). Table 4-49 shows the Conception area sablefish catch shares to directed sectors under the intersector allocation alternatives. There is about a 7% variance in the shoreside non-whiting trawl share across alternatives, with the GAC-recommended trawl share equal to that under intersector allocation alternatives 1 and 2.

Table 4-49. Conception area sablefish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	40.1%	48.6%	11.3%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	41.9%	46.2%	11.9%	0.0%
Alt 3	0.0%	0.0%	0.0%	47.7%		52.3%	
GAC		42.0%				58.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Pacific Ocean Perch Allocations

Pacific ocean perch allocations under the intersector allocation alternatives are provided in Table 4-50. This is one of the trawl-dominant overfished species (Table 4-15), so the focus on deciding allocations is to set aside enough yield to prevent constraining the non-trawl sectors and then determining an allocation framework for deciding trawl sector shares under the current rebuilding regime for POP as well as a trawl sector sharing scheme after POP are rebuilt to a healthy spawning stock biomass.

Table 4-50. Pacific ocean perch allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	1.1%	1.2%	0.7%	96.2%	0.5%	0.3%	0.0%
Alt 2 a/	1.8%	0.3%	0.5%	96.9%	0.2%	0.1%	0.3%
Alt 3	1.7%	1.1%	2.1%	94.4%		0.6%	
GAC		99.0%				1.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

The GAC-recommended 1% allocation to the non-trawl sectors appears to be a reasonable one when that alternative is compared to the status quo alternative (0.8%) and the action alternatives specifying non-trawl shares of 0.6% of available yields to non-trawl sectors (Table 4-50). The maximum catches in each directed non-trawl sector during the 1995-2005 period are 9.7 mt for the limited entry fixed gear sector, 1.8 mt for the directed open access sector, and 1.0 mt for the recreational sector (Table 4-43). If that maximum catch were taken in the same year by all three non-trawl sectors, there would be 12.5 mt

of catch. Applying that impact to the 2007-08 POP OY of 150 mt indicates a 1% allocation would constrain the non-trawl sectors. However, it is unlikely that this magnitude of catch would occur in one year by the non-trawl sectors and the available yield of POP will increase progressively as the stock rebuilds and is likely to be significantly large enough once the stock is rebuilt that a 1% share should cover the future incidental non-trawl catch.

An allocation framework for the limited entry trawl sectors can be considered by reviewing the annual sector-specific catches during 1995-2005 (Table 4-51). An allocation framework for a trawl-dominant overfished species like POP should strive to provide enough yield to the whiting sectors both during rebuilding and after the stock is rebuilt to minimize the risk of not attaining whiting allocations. The objective for the shoreside non-whiting sector would be to provide enough yield to allow full access to slope target species (i.e., DTS species and petrale sole) during rebuilding. Once the stock is rebuilt, there may be enough yield to allow targeting of POP by the shoreside non-whiting sector while still allocating shares to the whiting sectors to achieve their whiting allocations. Average trawl sector catch shares during the 1995-99 period prior to the current rebuilding regime were compared to sector catch shares during the 2000-05 period when POP rebuilding constraints were much more stringent to determine catch shares under a "healthier" vs. a rebuilding regime. This view show that the percentage of total trawl catch by the shoreside non-whiting sector does not vary significantly between the two regimes, differing by only 0.2% (Table 4-51). The catch share percentages between the whiting sectors are much more variable when comparing the two regimes. Average catches by sector during both regimes as well as the entire period are provided to aid in the POP catch sharing decision.

Table 4-51. Annual non-treaty trawl sector catches of Pacific ocean perch, 1995-2005.

Year	At-sea Catcher-Processors			At-sea Motherships			Shoreside Whiting Trawl			Shoreside Non-whiting Trawl		
	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors
1995	13.4	1.5%	1.5%	28.1	3.1%	3.1%	29.9	3.3%	3.3%	824.7	90.9%	92.0%
1996	3.9	0.4%	0.5%	2.1	0.2%	0.2%	32.8	3.7%	3.8%	819.7	93.6%	95.5%
1997	2.0	0.3%	0.3%	1.6	0.2%	0.2%	6.4	0.9%	0.9%	663.0	97.3%	98.5%
1998	14.8	2.2%	2.3%	8.3	1.3%	1.3%	22.3	3.4%	3.4%	610.0	92.9%	93.1%
1999	9.4	1.7%	1.8%	4.1	0.7%	0.8%	1.9	0.3%	0.3%	520.2	95.3%	97.1%
2000	6.5	4.5%	4.5%	2.1	1.4%	1.4%	0.3	0.2%	0.2%	135.4	93.3%	93.9%
2001	19.7	9.5%	9.5%	0.1	0.0%	0.0%	0.1	0.0%	0.0%	187.3	90.4%	90.4%
2002	1.4	1.0%	1.0%	2.2	1.4%	1.4%	0.2	0.1%	0.1%	147.3	96.9%	97.5%
2003	5.0	3.3%	3.4%	0.1	0.1%	0.1%	0.3	0.2%	0.2%	143.8	95.5%	96.4%
2004	1.0	0.6%	0.6%	0.1	0.1%	0.1%	1.0	0.6%	0.6%	154.2	98.7%	98.7%
2005	0.8	1.1%	1.1%	0.9	1.2%	1.2%	0.5	0.7%	0.7%	69.9	96.2%	97.0%
Average catch shares (95-05 avg)	7.1	1.7%	1.7%	4.5	1.1%	1.1%	8.7	2.1%	2.1%	388.7	94.0%	95.0%
Catch shares under healthier POP (95-99 avg)	8.7	1.2%	1.2%	8.9	1.2%	1.2%	18.6	2.5%	2.6%	687.5	93.8%	95.0%
Catch shares under POP rebuilding (00-05 avg)	5.7	3.9%	3.9%	0.9	0.6%	0.6%	0.4	0.3%	0.3%	139.6	94.8%	95.2%

Widow and Yellowtail Rockfish Allocations

Widow and yellowtail rockfish are co-occurring species and were taken in association in past midwater trawl targeting efforts. They also tend to be taken in association with each other incidentally in whiting trawls and in non-trawl efforts. Therefore, allocation options for these two species are addressed together in this section. Tables 4-52 and 4-53 depict the catch shares to directed groundfish sectors under the intersector allocation alternatives for widow rockfish and yellowtail rockfish, respectively.

Table 4-52. Widow rockfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	25.9%	21.3%	46.2%	3.8%	0.4%	0.4%	1.9%
Alt 2 a/	22.3%	16.8%	43.7%	8.6%	0.8%	0.8%	7.0%
Alt 3	2.6%	2.3%	5.1%	88.0%		2.0%	
GAC		91.0%				9.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Table 4-53. Yellowtail rockfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	13.9%	7.5%	50.8%	17.3%	0.2%	0.7%	9.5%
Alt 2 a/	6.3%	4.3%	39.2%	38.6%	0.4%	0.7%	10.4%
Alt 3	5.3%	8.2%	10.7%	72.1%		3.7%	
GAC		88.0%				12.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Widow rockfish and yellowtail rockfish are considered trawl-dominant species according to the criteria specified in Table 4-15. However, widow rockfish is currently an overfished stock and the widow rebuilding plan does not allow the midwater trawl targeting on widow and yellowtail rockfish that did occur prior to implementation of stringent rebuilding measures. This accounts for the significant disparity in the shoreside non-whiting trawl sector shares in recent years (i.e., shares under the status quo and intersector allocation alternatives 1 and 2) vs. the older year catch history (i.e., shares under intersector allocation alternative 3). Both species are also important species for the non-trawl sectors and are caught in both the commercial and recreational fisheries. The variation across alternatives for the non-trawl sectors is also significant with catch shares under intersector allocation alternative 3, which is based on older catch histories, much different than the shares informed with more recent catches. This is due to the more recent area management strategies, such as implementation of the non-trawl RCA and depth-based restrictions for recreational fisheries that have reduced efforts on the shelf to minimize the bycatch of overfished species, most notably canary and yelloweye rockfish.

Widow rockfish yields under rebuilding can be constraining to the whiting fisheries and, in the past, yellowtail bycatch has also constrained whiting efforts. Under rebuilding, widow is directly constraining to the non-treaty whiting fisheries. The widow rebuilding plan calls for setting aside enough yield for the non-whiting fisheries so as not to constrain their fishing opportunities in areas they can currently fish. Much of the remaining widow yield under rebuilding OYs is then specified as a bycatch cap that limits the bycatch by the non-treaty whiting sectors. As evidenced in 2007, whiting management and fleet distributions are strongly influenced by bycatch caps for widow, as well as canary and darkblotched rockfish. Therefore, the challenge under widow rebuilding is allocating the small available yields to not constrain the non-whiting fisheries and to minimize bycatch in the non-treaty whiting fisheries. Yellowtail rockfish harvestable surplus for this healthy stock has far exceeded the available OYs in recent years due to constraints imposed by shelf rockfish rebuilding plans. Allocating yields under this more conservative management regime is therefore not a difficult challenge.

Once the widow stock is rebuilt[7], a different allocation scenario should be considered. Table 4-54 shows the 1995-2005 catches of widow rockfish by trawl sector and compares catch histories in times when the widow stock abundance was "healthier" and under the current rebuilding regime. Catch shares of widow rockfish as a percent of average annual non-treaty trawl catch for the shoreside non-whiting trawl sector is more than an order of magnitude greater under the "healthy" rebuilding regime, reflecting the effect of the midwater target fishery that occurred then. The reverse pattern is true for the whiting sectors. Under rebuilding, these sectors need a greater share of the smaller available yield to effectively target whiting. Once the stock is rebuilt, the non-treaty whiting sectors may need about 500 mt of widow to target whiting without being constrained by widow (Tables 4-42 and 4-54). An otherwise unconstrained whiting fishery may also need from 500-1,400 mt of yellowtail to keep from being constrained by that stock (Table 4-42). However, this scenario is far from reality given constraints imposed by canary rockfish rebuilding.

[7] The current widow assessment (He, *et al.* 2008a) and rebuilding analysis (He, *et al.* 2008b) predict the stock will be rebuilt by 2009.

Table 4-54. Annual non-treaty trawl sector catches of widow rockfish, 1995-2005.

Year	At-Sea Catcher-Processors			At Sea Motherships			Shoreside Whiting Trawl			Shoreside Non-whiting Trawl		
	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors
1995	87.0	1.3%	1.3%	95.3	1.4%	1.4%	236.1	3.5%	3.6%	6,165.3	92.0%	93.6%
1996	119.9	1.9%	1.9%	117.3	1.9%	1.9%	571.5	9.1%	9.2%	5,403.2	85.7%	87.0%
1997	72.6	1.1%	1.1%	122.0	1.8%	1.9%	163.3	2.4%	2.5%	6,213.3	92.8%	94.6%
1998	120.9	2.9%	3.0%	173.7	4.1%	4.4%	349.6	8.3%	8.8%	3,346.7	79.3%	83.9%
1999	104.1	2.5%	2.6%	58.1	1.4%	1.4%	194.4	4.7%	4.8%	3,691.1	89.0%	91.2%
2000	69.8	1.7%	1.7%	141.2	3.5%	3.5%	83.3	2.1%	2.1%	3,718.5	91.8%	92.7%
2001	139.7	7.1%	7.2%	27.7	1.4%	1.4%	44.3	2.2%	2.3%	1,729.6	87.8%	89.1%
2002	114.8	28.8%	29.0%	20.4	5.1%	5.2%	5.1	1.3%	1.3%	254.9	63.9%	64.5%
2003	11.6	36.2%	40.0%	0.7	2.1%	2.4%	12.5	39.3%	43.4%	4.1	12.9%	14.3%
2004	8.2	9.7%	12.1%	11.4	13.5%	16.9%	34.3	40.5%	50.6%	13.8	16.3%	20.4%
2005	43.1	26.4%	27.2%	35.5	21.7%	22.4%	76.8	47.0%	48.5%	3.0	1.9%	1.9%
Average catch shares (95-05 avg)	81.1	2.6%	2.6%	73.0	2.3%	2.4%	161.0	5.1%	5.2%	2776.7	87.8%	89.8%
Catch shares under healthy widow (95-00 avg)	95.7	1.8%	1.8%	117.9	2.2%	2.3%	266.3	5.0%	5.1%	4756.4	88.8%	90.8%
Catch shares under widow rebuilding (03-05 avg)	21.0	22.5%	24.7%	15.9	17.0%	18.7%	41.2	44.2%	48.5%	7.0	7.5%	8.2%

Once rebuilt, a reapportionment of the widow allocation within the trawl sectors will need to simultaneously consider the yellowtail allocation among trawl sectors. If targeted, both species are subject to the same prosecution strategy and are often harvested in concert. The ability to prosecute this widow/yellowtail fishery will depend, on large part, on the amount of canary rockfish available and the fleets' ability to selectively target the two species by successfully avoiding canary.

Under a status quo management regime, it is highly unlikely that a widow/yellowtail target fishery could be developed without an increase in the canary rockfish OY. Under a rationalized fishery the situation may be different. Because both status quo and rationalization have the potential to be used in the future, this analysis takes into account the effect of prosecuting a widow/yellowtail fishery under status quo, and the effect of prosecuting a widow/yellowtail fishery under rationalization conditions.

Under status quo management it is difficult to estimate the amount of canary rockfish that would be taken if vessels were targeting widow and yellowtail. However, several pieces of information exist which suggest the potential order of magnitude (in terms of canary bycatch) that may occur if vessels were prosecuting a widow/yellowtail fishery. The first piece of information relies on historic landings data where that data is filtered in a manner that captures trips where vessels appear to have been targeting either widow rockfish or yellowtail rockfish. This identification is based on the criteria that A) the vessels were using midwater trawl gear, and B) that at least 50 percent of the revenue from that trip is attributed to either widow or yellowtail rockfish. By using this information, we can show the historic relative landings of the species types and the rate of canary rockfish landings that were associated with those yellowtail and widow landings. The following figure shows this information over the 1995-1999 time period.

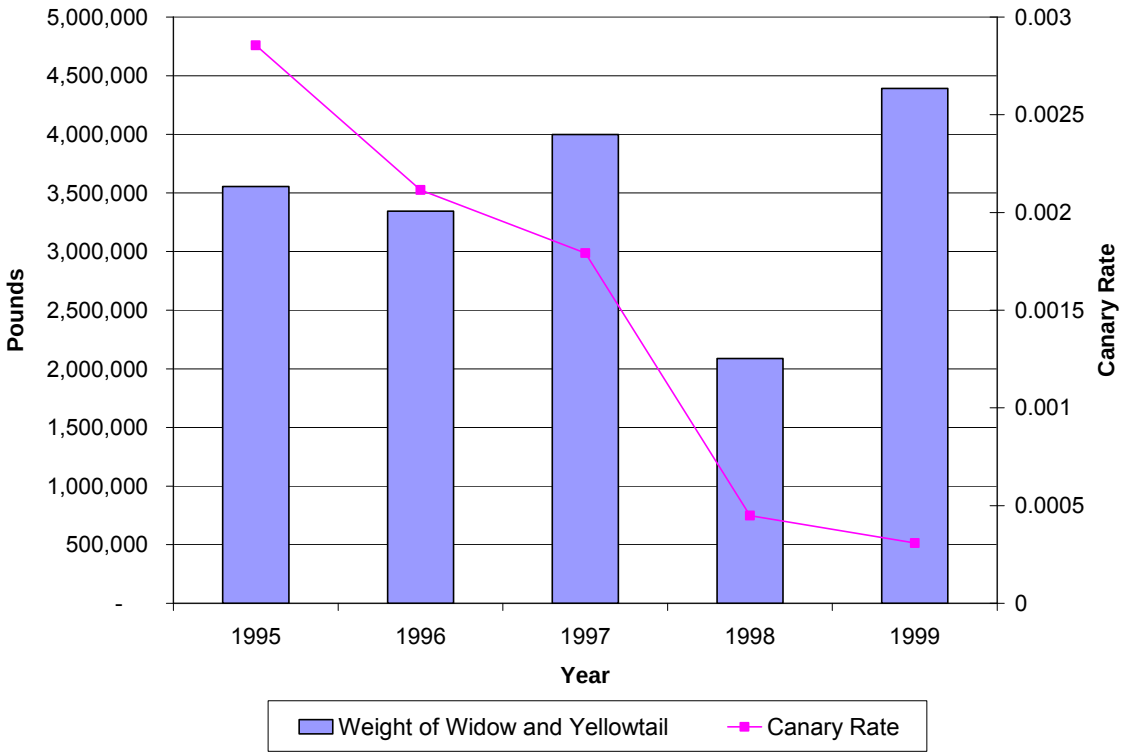

Figure 4-9. Weight of widow and yellowtail landings and canary rockfish rate with midwater trawl gear, 1995-1999.

While the above information suggests a trend of decreasing canary rockfish bycatch rate, it is difficult to determine whether total catch was decreasing as well, or if discard was increasing while landings were decreasing. The most recent stock assessment suggests an increase in the biomass of canary rockfish since 1999, preceded by a decline in the stock biomass (Figure 4-9). This change in the canary biomass may partially explain the decreasing rate of canary landed in the widow/yellowtail fishery during the mid to late 1990s.

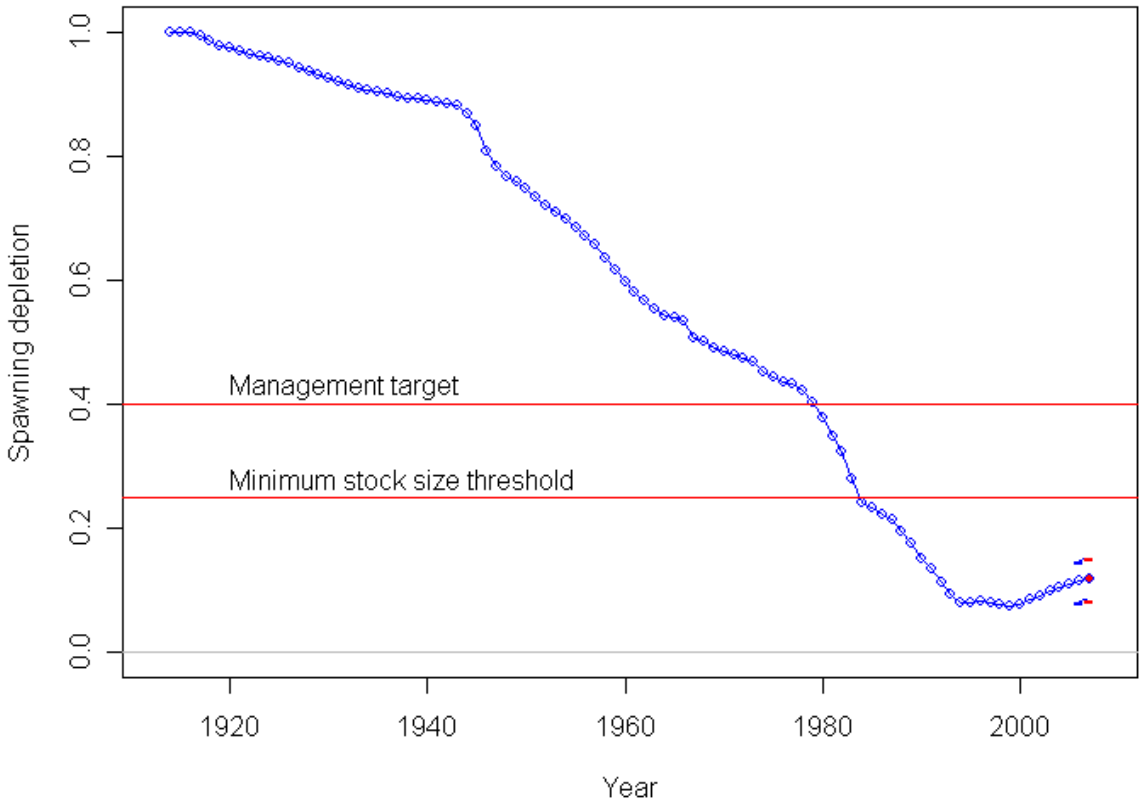

Figure 4-10. Estimated depletion of canary rockfish (taken from the base case model in the 2007 assessment).

The fact that the canary stock appears to have been increasing over the past several years suggests that the high-end of the canary rates in Figure 4-10 is likely to be more reflective of expected canary encounters in the near future if there were to be a targeted widow/yellowtail rockfish opportunity. Using the high-end rates, we developed the following order of magnitude canary rockfish catch estimates for a combined widow/yellowtail rockfish fishery by trawl vessels using midwater trawl gear (Table 4-55).

Table 4-55. The estimated bycatch of canary rockfish associated with a target midwater trawl fishery for widow and yellowtail rockfish assuming high canary rockfish bycatch rates.

Widow/Yellowtail Rockfish Catch (mt)	Corresponding Order-of-Magnitude Canary Rockfish Bycatch (mt)
250	0.7
500	1.4
750	2.1
1,000	2.9
2,000	5.7

The information above suggests that some widow/yellowtail opportunities could be prosecuted while taking less than 10 mt of canary. However, a large degree of uncertainty is associated with the above estimates. Therefore, the above estimates should only be treated as a very rough order of magnitude estimate of canary rockfish impacts under a status quo management regime. Given that the canary

rockfish OY is nearly fully attributed, a widow/yellowtail fishery under the status quo regime would require an increase in the canary rockfish OY.

Under rationalized fishery conditions the analytical framework is substantially different. This is because the incentives posed by rationalization will tend to alter behavior and change bycatch rates. The amount of canary rockfish taken in a rationalized trawl fishery is a function of the specified allocation of canary granted to that sector. The amount of yellowtail/widow that is taken by harvesters depends on the ability of the fleet to decrease their canary bycatch rate, and in turn access the available widow and yellowtail rockfish. Information is available that suggests individual accountability will alter behavior in a way that decreases bycatch. The Washington Arrowtooth Flounder EFP provided a framework for harvesters to operate in that was nearly identical to the framework envisioned for a rationalized fishery: harvesters carried at-sea observers that monitored for total catch; vessels had individual limits specified for overfished stocks; and the fleet had an overall limit specified for overfished stocks. These accountability measures changed behavior in a way that reduced bycatch – substantially in some cases – relative to harvesters operating under status quo conditions.

While this EFP information shows that a reduction in bycatch should be expected, it is difficult to extend this information to harvesting activities that occur on a coastwide basis. Therefore, there is uncertainty about how much the fleet overall will reduce bycatch under rationalized fishery conditions, and this means that there is uncertainty about how much additional target species (yellowtail and widow in this case) could be harvested under rationalization conditions. Given this uncertainty, a range of yellowtail/widow harvest amounts was developed that assume A) status quo OYs of canary rockfish, and B) a range of potential canary bycatch rates that would be realized in a widow/yellowtail fishery. These rates imply the amount of widow and yellowtail harvested in the fishery.

Figure 4-11 provides estimates of widow and yellowtail rockfish harvested under rationalized fishery conditions. The range is based on uncertainty associated with the assumed bycatch rate of canary rockfish that will be realized by the fleet under rationalization conditions. This information shows that, under status quo, the fleet catches approximately 60 metric tons of yellowtail and widow combined. Under rationalization, the fleet may harvest between 500 – 1,300 metric tons of widow and yellowtail rockfish, if the canary rockfish OY remains constant. If the OY is increased, the amount of widow and yellowtail harvested would also be expected to increase.

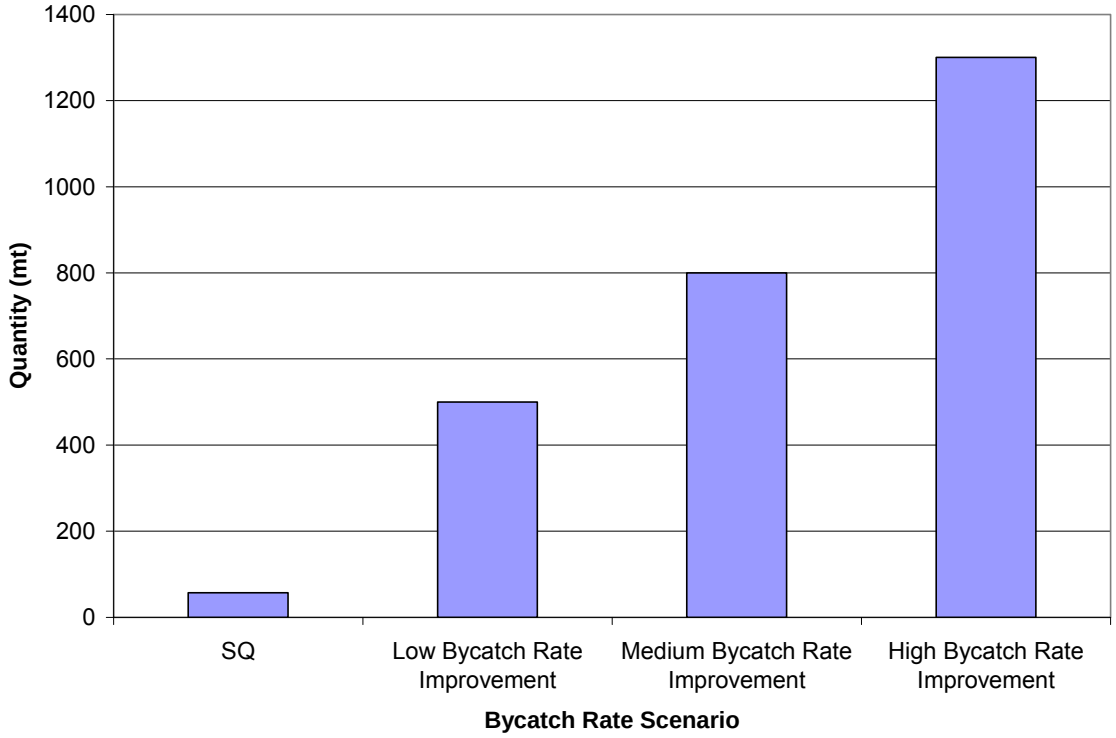

Figure 4-11. Range of yellowtail and widow rockfish harvested under rationalized fishery conditions with status quo canary OY (range depends on assumed canary bycatch rate).

Chilipepper Rockfish Allocations

Chilipepper rockfish allocations concern only those fisheries south of 40°10' N latitude since chilipepper rockfish are managed as part of the Minor Shelf Rockfish complex in the north (this complex is not subject to intersector allocations under Amendment 21). Table 4-56 shows the chilipepper catch shares to the directed groundfish sectors under the intersector allocation alternatives.

Table 4-56. Chilipepper rockfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.1%	92.1%	3.2%	0.5%	4.0%
Alt 2 a/	0.0%	0.0%	0.0%	94.0%	1.9%	0.7%	3.4%
Alt 3	0.0%	0.0%	0.0%	79.5%		20.5%	
GAC		80.0%				20.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

The historical catch shares between the trawl and non-trawl sectors (i.e., intersector allocation alternative 3) than in more recent years. Access to the southern shelf areas where chilipepper are most abundant is severely restricted to the non-trawl sectors to protect canary and yelloweye rockfish. In

recent years, the shoreside non-whiting trawl fishery has been able to land more chilipepper and accrue a larger sector share than the non-trawl sectors while prosecuting a shelf trawl effort targeting flatfish using small footrope trawls. These trawls are more selective at avoiding yelloweye rockfish than line gears since they cannot be effectively deployed in the high relief habitats where yelloweye reside. As more spatial information is gathered on canary and yelloweye rockfish, there may be more non-trawl shelf opportunities to target species like chilipepper in areas of low canary and yelloweye abundance. The GAC-preferred alternative of an 80% trawl share is more consistent with historical fishing patterns on the shelf as reflected in the intersector allocation alternative 3 catch shares. Like yellowtail, current catch of chilipepper is well below the available harvestable surplus for this healthy stock due to shelf fishing constraints.

Splitnose Rockfish

Splitnose rockfish are a trawl-dominant slope species taken in non-whiting bottom trawls (Table 4-15). There is not much variation in catch shares to the directed groundfish sectors across the range of intersector allocation alternatives (Table 4-57). The GAC-preferred trawl share is slightly less than under any of the other intersector allocation alternatives and almost identical to alternative 3. The 3% non-trawl share under the GAC alternative, when applied to the 461 mt OY in 2007-08, is slightly less (13.8 mt) than the average 1995-05 catch by the directed non-trawl sectors (18.4 mt; Table 4-43).

Table 4-57. Splitnose rockfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	99.7%	0.3%	0.0%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	99.8%	0.2%	0.1%	0.0%
Alt 3	0.0%	0.0%	0.0%	97.2%		2.8%	
GAC		97.0%				3.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Shortspine Thornyhead (North of 34°27' N Latitude)

Shortspine thornyhead north of Pt. Conception at 34°27' N latitude are considered trawl-dominant (Table 4-15). Table 4-58 depicts the directed sector shares of the northern shortspine OY under the intersector allocation alternatives. There is very little variation of catch shares across all alternatives. The 2% non-trawl share recommended by the GAC, when applied to the 2007-08 northern shortspine OY of 1,634 mt (32.7 mt), is well within the sum of highest catches observed for the directed non-trawl sectors during 1995-05 (27.9 mt; Table 4-43).

Table 4-58. Shortspine thornyhead (north of 34°27' N latitude) allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	1.7%	0.2%	0.1%	96.1%	1.9%	0.1%	0.0%
Alt 2 a/	2.1%	0.1%	0.1%	96.2%	1.5%	0.0%	0.0%
Alt 3	1.1%	0.0%	0.1%	96.7%		2.1%	
GAC		98.0%				2.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Shortspine Thornyhead (South of 34°27' N Latitude)

Unlike the historical catch shares for the northern shortspine stock, catch shares for the southern stock are much higher for the non-trawl sectors (Table 4-59), which is not surprising given the minimal trawl effort south of Pt. Conception. Trawl effort in the southern California bight, south of Pt. Conception, was higher in the distant past than in recent years, which is reflected in the higher trawl share under intersector allocation alternative 3. The GAC recommended the Alternative 1 and 2 trawl share, recognizing that this stock is significantly utilized by the limited entry fixed gear sector (Table 4-15).

Table 4-59. Shortspine thornyhead (south of 34°27' N latitude) allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	51.6%	48.2%	0.1%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	58.0%	41.7%	0.3%	0.0%
Alt 3	0.0%	0.0%	0.0%	78.8%		21.2%	
GAC		58.0%				42.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Longspine Thornyhead (North of 34°27' N Latitude)

Longspine thornyhead north of Pt. Conception are considered trawl-dominant (Tables 4-15 and 4-60), but are not considered heavily utilized. Longspine thornyheads have a much deeper distribution than any of the commercial fleet efforts. Much of the biomass exists deeper than the 700 fm limit for the limited entry trawl fleet, so it is likely that the stock will continue to be under-utilized. All the intersector allocation alternatives indicate a trawl share around 99%, which is the share recommended by the GAC (Table 4-60).

Table 4-60. Longspine thornyhead (north of 34°27' N latitude) allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	98.9%	1.1%	0.0%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	99.4%	0.6%	0.0%	0.0%
Alt 3	0.0%	0.0%	0.0%	98.8%		1.1%	
GAC		99.0%				1.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Longspine Thornyhead (South of 34°27' N Latitude)

Longspine thornyhead south of Pt. Conception are dominant to the limited entry fixed gear sector (Table 4-15). The GAC is recommending a higher trawl share (5%) than available under any of the other alternatives (Table 4-61). However, this is an under-utilized stock with a harvestable surplus that will likely meet all sector needs far into the future across a wider range of sector sharing alternatives than analyzed. Given this, a 95% non-trawl share is likely to meet the needs of commercial fishermen in the fixed gear sectors.

Table 4-61. Longspine thornyhead (south of 34°27' N latitude) allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	0.0%	99.2%	0.8%	0.0%
Alt 3	0.0%	0.0%	0.0%	0.3%		99.7%	
GAC		5.0%				95.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Darkblotched Rockfish

Darkblotched rockfish are a trawl-dominant overfished species (Table 4-15) that are caught in both whiting and non-whiting trawls. Table 4-62 shows the directed sector shares under the intersector allocation alternatives. The GAC is recommending a trawl share of 98.7%, which is identical to the trawl share under alternatives 1 and 2 (Table 4-62). The 1.3% non-trawl share recommended by the GAC, when applied to the 2007 darkblotched OY of 290 mt (3.8 mt) is less than the average 1995-05 bycatch non-trawl fisheries (4.9 mt; Table 4-43). However, that share may be less constraining to non-trawl sectors when the darkblotched rockfish OY exceeds about 380 mt under an average catch assumption.

Table 4-62. Darkblotched rockfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	4.9%	4.2%	4.5%	82.5%	2.0%	1.9%	0.0%
Alt 2 a/	2.7%	1.6%	1.5%	93.0%	0.7%	0.6%	0.0%
Alt 3	2.3%	0.8%	0.6%	95.3%		1.0%	
GAC		98.7%				1.3%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

A more challenging allocation decision is posed when considering the trawl sector needs. Table 4-63 depicts the 1995-2005 catches of darkblotched rockfish by trawl sector and compares catch histories in times when the darkblotched stock abundance was "healthier" and under the current rebuilding regime. In years when the stock was above the overfished threshold, larger yields were available and the whiting fishery was not constrained by darkblotched bycatch. However, under the small rebuilding yields currently available, darkblotched bycatch is a significant constraint to the whiting and non-whiting trawl fisheries. The non-treaty whiting sectors currently operate under a darkblotched rockfish bycatch cap, which reduces their flexibility when trying to avoid canary and widow rockfish by moving further offshore. This year, the Council raised the darkblotched bycatch cap from 25 mt, as was specified in 2007, to 40 mt as an incentive for the fleets to move offshore and reduce their impacts on canary and widow. This trade-off comes at a direct cost to the shoreside non-whiting fleet, constraining the ability to harvest available yields of DTS species, petrale sole, and healthy slope rockfish.

Table 4-63. Annual non-treaty trawl sector catches of darkblotched rockfish, 1995-2005.

Year	At-Sea Catcher-Processors			At Sea Motherships			Shoreside Whiting Trawl			Shoreside Non-whiting Trawl		
	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors	mt	% Non-treaty sectors	% Non-treaty trawl sectors
1995	48.9	6.4%	6.4%	3.3	0.4%	0.4%	0.5	0.1%	0.1%	709.9	92.3%	93.1%
1996	6.2	0.8%	0.8%	0.7	0.1%	0.1%	5.9	0.8%	0.8%	721.6	97.6%	98.3%
1997	1.8	0.2%	0.2%	0.9	0.1%	0.1%	0.5	0.1%	0.1%	810.4	98.8%	99.6%
1998	6.9	0.7%	0.7%	12.9	1.3%	1.4%	5.1	0.5%	0.5%	901.8	94.5%	97.3%
1999	6.9	1.9%	1.9%	4.2	1.2%	1.2%	0.6	0.2%	0.2%	345.7	94.4%	96.7%
2000	3.8	1.4%	1.5%	4.7	1.8%	1.9%	3.7	1.4%	1.5%	239.0	90.9%	95.2%
2001	11.5	6.7%	6.8%	0.6	0.3%	0.3%	4.7	2.7%	2.8%	152.5	88.6%	90.1%
2002	2.2	2.0%	2.0%	0.9	0.8%	0.8%	0.0	0.0%	0.0%	107.0	96.1%	97.2%
2003	4.2	2.4%	2.4%	0.1	0.1%	0.1%	0.3	0.2%	0.2%	167.2	96.9%	97.3%
2004	4.4	1.9%	1.9%	3.0	1.3%	1.3%	1.9	0.8%	0.8%	224.6	95.5%	96.0%
2005	5.9	4.9%	5.1%	5.1	4.2%	4.3%	5.5	4.5%	4.7%	100.8	82.5%	85.9%
Average catch shares (95-05 avg)	9.3	2.2%	2.2%	3.3	0.8%	0.8%	2.6	0.6%	0.6%	407.3	94.8%	96.4%
Catch shares under healthy darkblotched (95-00 avg)	12.4	1.9%	1.9%	4.4	0.7%	0.7%	2.7	0.4%	0.4%	621.4	95.3%	96.9%
Catch shares under darkblotched rebuilding (01-05 avg)	5.6	3.5%	3.5%	1.9	1.2%	1.2%	2.5	1.5%	1.5%	150.4	92.5%	93.7%

The percentage difference in the shoreside non-whiting sector between the "healthy" darkblotched regime and the rebuilding regime may seem insignificant, but small differences in allowable catch of darkblotched can leverage significant quantities of target species on the slope. The whiting sectors are equally vulnerable under a rebuilding regime, with the at-sea fleet more at risk of being constrained by darkblotched under a scenario of sector-specific bycatch caps[8], since those fleets tend to fish further offshore than the shoreside whiting fleet. The catch shares and average catches by trawl sector may aid the Council in deciding the trawl sector allocations of darkblotched.

Minor Slope Rockfish

The minor slope rockfish complexes are slope rockfish species that have not been assessed. These species are significantly utilized by the trawl and limited entry fixed gear sectors in the north and all the directed commercial sectors in the south (Table 4-15). These complexes are managed north and south of 40°10' N latitude with separate OYs for each complex. The sector catch shares for each complex vary north and south, reflecting a greater trawl effort in the north (Tables 4-64 and 4-65). The GAC essentially recommended the intersector allocation alternative 1 and 2 trawl share for both minor slope rockfish complexes (Tables 4-64 and 4-65). This is lower than the trawl share under alternative 3, which reflects a greater distribution of trawl effort on the slope than is seen today.

Table 4-64. Northern Minor Slope Rockfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	15.4%	4.5%	1.5%	46.8%	26.0%	5.8%	0.0%
Alt 2 a/	9.0%	1.4%	0.9%	69.7%	16.3%	2.6%	0.0%
Alt 3	6.7%	1.2%	1.1%	78.5%		12.5%	
GAC		81.0%				19.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Table 4-65. Southern Minor Slope Rockfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	67.2%	15.2%	17.3%	0.2%
Alt 2 a/	0.0%	0.0%	0.0%	63.3%	17.7%	18.8%	0.2%
Alt 3	0.0%	0.0%	0.0%	69.9%		30.1%	
GAC		63.0%				37.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

[8] Bycatch caps are currently used to manage the non-treaty whiting sectors with all three whiting sectors managed under a single cap. However, the Council is contemplating sector-specific bycatch caps for 2009 and 2010 whiting fisheries.

Dover Sole

Dover sole are trawl-dominant (Table 4-15) and a significant target species for the shoreside non-whiting sector both on the shelf and on the slope. The status quo and intersector allocation action alternative 1-3 all show 99.9% of the Dover sole catch occurring in the shoreside non-whiting sector (Table 4-66). Small amounts of Dover sole are taken in the whiting trawl fisheries and by the non-trawl sectors (Tables 4-42 and 4-43); however, this is all incidental catch requiring small Dover sole yield set-asides to keep from constraining target opportunities for these sectors. The very small allocations of Dover sole to the limited entry and directed open access sectors under most of the intersector allocation alternatives can constrain these sectors when targeting sablefish. The GAC-recommended trawl share of 100% would be deleterious to the non-trawl sectors since some yield is needed to accommodate their bycatch of Dover. However, the GAC is recommending a 15% yield buffer to accommodate these fisheries. A 15% buffer is far more than is needed to accommodate bycatch. The buffer was recommended in response to some fixed gear fishermen hoping to employ new trap configurations to target soles and flatfishes. Experimental efforts have been tried in waters off Alaska and Oregon with limited success. The cost in foregone ex-vessel revenue to the shoreside non-whiting sector of this 15% buffer is $2,073,445 at current prices (this is the cost of foregoing 2,475 mt of Dover sole, which is 15% of the current OY). The GAC discussed this and envisioned a mechanism where the buffer yield could be re-distributed back to the shoreside non-whiting fishery later in the year if it is not used. Late re-distribution of the buffer might still result in foregone revenue since fishing efforts and strategies may not allow higher catches later in the year. Two other possibilities come to mind for implementing emerging fisheries. The first process involves issuing an EFP to test the efficacy of new gears and strategies to determine whether they have potential for a new fishery. This is the function of the EFP and can be accommodated by the Council and NMFS since all required yields for the EFP are set aside before any intersector allocations are made. If the experimental fishery proves out and the Council desires to implement it as a new strategy, then any formal allocations can be revisited in an amendment process such as this one. Alternatively, the Council and NMFS are contemplating an adaptive hold-back option in the trawl rationalization process, where yields are "held back" and reserved for new entrants to the fishery. Coupled with the ability to use non-trawl gears, which is also being contemplated in the trawl rationalization process, the adaptive hold-back process could enable emerging fisheries.

Table 4-66. Dover sole allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	99.9%	0.1%	0.0%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	99.9%	0.1%	0.0%	0.0%
Alt 3	0.0%	0.0%	0.0%	99.9%		0.04%	
GAC		100% b/				0.0%	

a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.

b/ The GAC is recommending a 15% buffer to accommodate new fixed gear fisheries.

English Sole

English sole are trawl-dominant (Table 4-15) and are even more rare in non-trawl catches than Dover sole (Table 4-43). Table 4-67 shows the directed sector shares under the intersector allocation alternatives. The alternatives based on more the more recent time series of historical catches all show 100% of the catch occurring in the shoreside non-whiting sector. Alternative 3, which is informed with landings back to 1995, show the shoreside non-whiting sector taking 99.9% of the total non-treaty catch. Less than 2 mt have been taken as a maximum catch in non-trawl sectors (Table 4-43), so only a small yield set-aside is needed to accommodate what incidental bycatch of English sole might occur. As was done with Dover sole, the GAC is recommending a 100% trawl share with a 15% buffer for the same reasons stated above. The foregone ex-vessel revenue estimated by applying the 15% buffer to the 2007-08 OY of 6,237 mt (976 mt) is $701,261. Other mechanisms than a 15% buffer should be considered to develop new fisheries for English sole.

Table 4-67. English sole allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Alt 3	0.0%	0.0%	0.1%	99.9%		0.0%	
GAC		100.0%				0.0%	

a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.

b/ The GAC is recommending a 15% buffer to accommodate new fixed gear fisheries.

Petrale Sole

Petrale sole is another trawl-dominant flatfish species (Table 4-15) that is more readily caught in non-trawl fisheries than English sole (Table 4-43). This is a heavily utilized stock with most of the available harvestable surplus taken in bottom trawl fisheries every year. Table 4-68 shows the directed sector shares under the intersector allocation alternatives. The alternatives indicate a 99.9% to 100% trawl share of the petrale sole catch (Table 4-68). The very small allocations of petrale sole to the limited entry and directed open access sectors under most of the intersector allocation alternatives can constrain these sectors when targeting sablefish. As they did for Dover sole and English sole, the GAC is recommending a 100% trawl share with a 15% buffer to enable new emerging fisheries. The foregone ex-vessel revenue estimated by applying the 15% buffer to the 2007-08 OY of 2,499 mt (375 mt) is $826,402. Other mechanisms than a 15% buffer should be considered to develop new fisheries for petrale sole.

Table 4-68. Petrale sole allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	99.9%	0.0%	0.0%	0.0%
Alt 3	0.0%	0.0%	0.0%	99.9%		0.1%	
GAC		100.0%				0.0%	

a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.

b/ The GAC is recommending a 15% buffer to accommodate new fixed gear fisheries.

Arrowtooth Flounder

Arrowtooth flounder is a trawl-dominant species (Table 4-15) targeted primarily in northern waters when there is market demand, which tends to fluctuate more than for most target species. Unlike the sole species, there can be a significant bycatch of arrowtooth flounder in non-trawl fisheries. Under the intersector allocation alternatives analyzed, arrowtooth allocation can be constraining to the limited entry and directed open access fixed gear sectors when targeting sablefish (Table 4-69). The maximum amounts of arrowtooth seen in the fixed gear sector landings since 1995 are 5.1 mt and 20.9 mt in the limited entry fixed gear and directed open access sectors, respectively (Table 4-43). However, in 2006, almost 80 mt of arrowtooth were estimated discard mortalities in these sectors (Table 4-44). Therefore, 80-100 mt of arrowtooth should be considered as a reasonable set-aside for the fixed gear sectors. Only the status quo alternative allocates enough arrowtooth at the current OY of 5,800 mt to accommodate the estimated bycatch in 2006. Arrowtooth are also incidentally caught in recreational fisheries. It is not clear whether the maximum catches of arrowtooth estimated since 1995 (0.1 mt; Table 4-43) will accommodate the actual discard mortalities in recreational fisheries.

Table 4-69. Arrowtooth flounder allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	97.5%	1.8%	0.6%	0.0%
Alt 2 a/	0.0%	0.0%	0.0%	99.1%	0.7%	0.2%	0.0%
Alt 3	0.1%	0.0%	0.0%	99.8%		0.1%	
GAC		100.0%				0.0%	

a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.

Starry Flounder

Starry flounder are significantly utilized in the limited entry and recreational sectors (Table 4-15). The directed sector shares of starry flounder under the intersector allocation alternatives are shown in Table 4-70. There is a greater non-trawl share under intersector allocation alternative 3 than any of the other

alternatives. The 87% trawl share recommended by the GAC is consistent with the share under intersector allocation alternatives 1 and 2; however, the remaining 13% allocated to the non-trawl sectors may fall short of the recreational sector's needs. Annual recreational catch in 1995-05 has been as high as 380 mt and averages 41 mt (PFMC 2008). The GAC-recommended non-trawl share under the current OY of 890 mt would accommodate the average recreational catch, but not the maximum. It is not clear whether 87% of the available yield of starry flounder is needed for the trawl fishery. The species is not caught in whiting trawls and the maximum catch landed by the shoreside non-whiting trawl sector since 1995 is about 142 mt or about 16% of the current OY. The Council may want to re-visit the GAC recommendation to avoid constraining the recreational sector; especially given that trawl efforts have been shifting offshore to avoid species like canary rockfish.

Table 4-70. Starry flounder allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.0%	0.0%	0.0%	74.2%	0.0%	0.0%	25.5%
Alt 2 a/	0.0%	0.0%	0.0%	87.5%	0.0%	0.1%	12.5%
Alt 3	0.0%	0.0%	0.0%	48.9%		51.1%	
GAC		87.0%				13.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Other Flatfish

The species in the Other Flatfish complex have been caught primarily in bottom trawls deployed by vessels in the shoreside non-whiting sector. These species are trawl-dominant and are not significantly utilized by any other sector. The GAC-recommended trawl share of 97% is not much different than the other intersector allocation alternatives (Table 4-71) and may adequately accommodate future trawl catches without overly constraining the non-trawl sectors. The maximum combined catch of Other Flatfish species by the non-trawl sectors (~75 mt for the recreational sector, 8.2 mt for the directed open access sector, and 1.1 mt for the limited entry fixed gear sector; Table 4-43) is less than 3% of the current OY of 4,884 mt for the complex.

Table 4-71. Other Flatfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	0.1%	0.1%	0.0%	98.1%	0.0%	0.1%	1.6%
Alt 2 a/	0.2%	0.0%	0.0%	97.5%	0.0%	0.1%	2.1%
Alt 3	0.2%	0.0%	0.1%	97.0%		2.7%	
GAC		97.0%				3.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

Spiny Dogfish

Spiny dogfish are significantly utilized by the limited entry trawl and limited entry fixed gear sectors (Table 4-15) and are caught incidentally by every directed groundfish sector. The 70% trawl share recommended by the GAC is similar to that sector's share of the total catch in recent years (Table 4-72). It is unknown whether these shares would be constraining to any sector until an assessment is done for the species.

Table 4-72. Spiny dogfish allocations to directed groundfish sectors under the intersector allocation alternatives.

Intersector Allocation Alternative	LE Trawl Sectors				Non-Trawl Sectors		
	At-Sea Catcher-Processors	At-sea Motherships	Shoreside Whiting	Shoreside Non-Whiting	LE Fixed Gear	Directed OA	Rec.
SQ	2.4%	1.6%	5.3%	68.8%	19.1%	2.7%	0.2%
Alt 2 a/	8.5%	0.9%	2.9%	61.9%	20.0%	5.4%	0.5%
Alt 3	14.4%	8.8%	4.1%	45.2%		27.5%	
GAC		70.0%				30.0%	
a/ Intersector allocation alternatives 1 and 2 are the same except the non-trawl sectors are combined under alternative 1.							

4.4.2.3 *Trawl Allocations of Sablefish North of 36° N Latitude*

The purpose for considering trawl allocations of sablefish north of 36° N latitude is to more effectively implement trawl rationalization measures contemplated in a separate, but connected Council process. Within-trawl sector sablefish allocations are needed to apportion the existing formal trawl sablefish allocation since separate management systems are being considered for each of the four trawl sectors under trawl rationalization. There are two potential configurations of the overall limited entry trawl sector contemplated in the trawl rationalization process: a three-sector configuration where the shoreside whiting and shoreside non-whiting sectors are combined and managed using IFQs and a four-sector configuration where these sectors are managed separately. In both cases, the Council is also contemplating management of the at-sea whiting sectors (catcher-processors and motherships) using harvest cooperatives. With the passage of Amendment 15, the at-sea whiting trawl sectors became closed classes of vessels. The catcher-processor sector is already organized in a harvesting cooperative, while the mothership sector consists of catcher vessels delivering to factory processing ships (i.e., motherships). While there are catcher vessels in the mothership sector that also participate and have a long-standing catch history in the shoreside whiting sector, these sectors are expected to be managed separately under trawl rationalization.

Sablefish are caught in all four trawl sectors (Table 2-8), but are only a target species in the shoreside non-whiting sector. Therefore, optimal benefits would be derived by allocating the highest proportion of the trawl sablefish allocation to the shoreside non-whiting sector while providing enough sablefish to the whiting sectors to minimize the chance of constraining future opportunity to take their whiting allocations. One possibility under trawl rationalization is to allocate sablefish quota shares to individual vessels in each sector based on their catch histories as is contemplated for at least the shoreside sectors. Otherwise, the intersector sablefish allocation options in Table 2-9, using sector catch histories since 1995, may meet the optimal benefit goal for each trawl sector.

Table 4-73 depicts the sablefish harvest amounts available to each trawl sector when the sablefish allocation options in Table 2-9 are applied to the 2007-08 trawl allocation. When the harvest amounts available to the whiting sectors under this scenario are compared to the actual catches during 1995-05 (Table 2-8), probabilities of exceeding a whiting sector's sablefish allocation can be generated (Table 4-74). Under this scenario, sablefish allocation option 1 would risk exceeding the shoreside whiting sector's allocation more than half the time (54.5%), while the catcher-processor fleet would risk exceeding their allocation about 9% of the time and the mothership sector would have no risk. In fact, a 22.8 mt allocation to the mothership sector under option 1 is 13.4 mt higher than the highest catch estimated for the sector from 1995 to 2005. Allocation option 1 presents the highest risk of the shoreside whiting sector exceeding their allocation and the difference between the sablefish cap and the sector's highest 1995-05 catch is 92.1 mt. Allocation option 2 presents the highest risk of the catcher-processor sector exceeding their sablefish cap and the difference between the cap and the sector's highest 1995-05 catch is 29.7 mt. Option 2 presents a relatively modest risk for the mothership and shoreside whiting sectors with the probabilities of exceeding their respective caps of 9.1% and 18.2%. Option 3 poses the highest risk to the mothership sector with a 27.3% probability of exceeding their cap and a 7.9 mt difference between the cap and the sector's highest 1995-05 catch. A relatively high risk is posed to the catcher-processor sector as well with a 45.5% probability of exceeding their cap and a 29.1 mt difference between their cap and the sector's highest 1995-05 catch. The shoreside whiting sector has a more modest 18.2% probability of exceeding their cap under option 3. Option 4, by definition, is the least risky option for any of the whiting sectors since the highest sablefish catch observed in the 1995-05 period is allocated to each sector. Option 5 poses no risk to the catcher-processor and mothership sectors with the difference between their respective caps and each sector's highest 1995-05 catch being 8.6 mt and 29.0 mt. The shoreside whiting sector has a moderate risk of exceeding their sablefish cap of 18.2% with a 64.9 mt difference between the cap and their highest 1995-05 catch.

The risk analysis described above and presented in Table 4-74 does not take into account future sablefish OYs that may be higher or lower than that specified in 2007-08, nor does it assume a change in fleet behavior to avoid sablefish that would be likely occur if they were allocated the amounts of sablefish in Table 4-73. A better graphic presentation is provided in Figure 4-12, which shows each sector's annual sablefish bycatch rate in relation to their whiting catch during the 1995-05 period. Table 4-73 and Figure 4-12 indicate the highest interannual variability in sablefish catch occurs in the shoreside whiting sector, while the catcher-processor and mothership sectors have a relatively stable sablefish catch rate. This may be due to the fact that the shoreside whiting fleet tends to fish closer to port and in shallower water than the at-sea fleets. Fishing in shallower waters may make the shoreside whiting fleet more susceptible to a high sablefish catch rate during years when there are large sablefish recruitments, as occurred in 1999-2001 (Schirripa 2008).

If the Council ultimately decides to rationalize the trawl fishery under the three-sector option, combining the sector allocations for the shoreside whiting and shoreside non-whiting sectors can be done, allowing the shoreside sectors to manage future sablefish catch using IFQs. In that case, fishermen in the combined shoreside sector would make a choice on whether to use their sablefish quota pounds in the whiting fishery or while targeting sablefish and other species in the bottom trawl fishery. However, under the four-sector option, a higher sablefish allocation to the shoreside whiting sector may be needed since that fleet's fishing behavior may make it harder to avoid sablefish.

Table 4-73. Options for allocating the non-treaty limited entry trawl sector share of sablefish north of 36° N latitude to four trawl sectors using the 2007-08 trawl allocation as an example.

2007-08 Sablefish OY (mt)		Tribal Allocation		Non-treaty Trawl Allocation (mt)
Coastwide	North of 36° N Lat	Share	Amount (mt)	
5,934	5,723	10%	572.3	2,706.5
Allocation Option	**Non-treaty Trawl Sector Amounts (mt) Under the Alternative Allocation Options**			
	CP	**MS**	**SW**	**SNW**
Option 1 - highest combined whiting sector share in 1995-05 (remainder to shoreside non-whiting), then apportion whiting sector shares by whiting allocation percentages	32.2	22.8	39.8	2,611.7
Option 2 - average 2003-05 total catch percentages	16.0	3.8	63.2	2,623.4
Option 3 - average 1995-05 sector catch percentages relative to the annual OY (normalized)	16.6	1.5	52.0	2,636.3
Option 4 - highest catch (mt) by whiting sector in any year during 1995-05 set aside; remainder to shoreside non-whiting sector	45.7	9.4	131.9	2,519.5
Option 5 - highest catch (mt) in any one year by all whiting sectors combined set aside and apportioned to the whiting sectors according to the whiting allocation percentage; remainder to shoreside non-whiting sector	54.3	38.3	67.1	2,546.8

Table 4-74. Probability of any whiting sector exceeding a sablefish cap and the difference between the cap and the highest 1995-05 sablefish catch under the allocation options applied to the 2007-08 sablefish trawl allocation.

Allocation Option	Whiting Sectors					
	CP		MS		SW	
	P (cap < catch)	Diff. between highest 95-05 catch and cap	P (cap < catch)	Diff. between highest 95-05 catch and cap	P (cap < catch)	Diff. between highest 95-05 catch and cap
Option 1	9.1%	13.5	0.0%	-13.4	54.5%	92.1
Option 2	54.5%	29.7	9.1%	5.5	18.2%	68.7
Option 3	45.5%	29.1	27.3%	7.9	18.2%	80.0
Option 4	0.0%	0.0	0.0%	0.0	0.0%	0.0
Option 5	0.0%	-8.6	0.0%	-29.0	18.2%	64.9

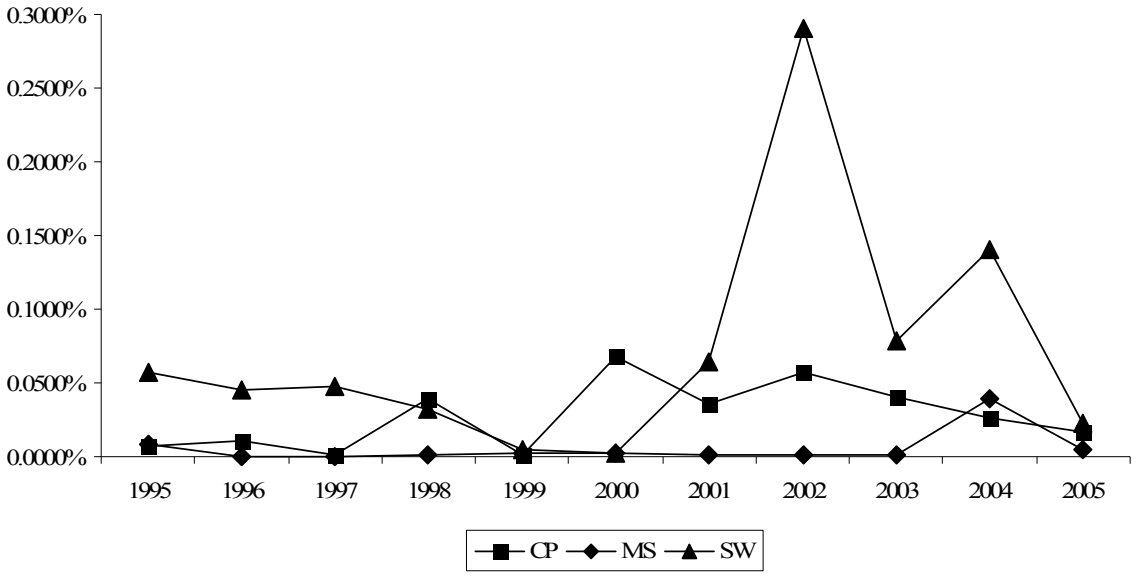

Figure 4-12. Annual sablefish catch rates in relation to whiting catch by whiting trawl sector, 1995-05.

The obvious tradeoff in the allocating trawl sablefish is the more sablefish allocated to the whiting sectors to reduce their risk of being constrained by their sablefish allocation, the less yield is available for the shoreside non-whiting sector to target. It is reasonable to expect that this would result in less sablefish-specific revenue since the whiting sectors tend to encounter more small fish than the non-whiting sector and smaller fish are less marketable. Assuming the amount of sablefish allocated to the whiting sector has no value, then the sablefish allocation options under consideration may result in approximately $170,000 to $450,000 in lost ex-vessel revenue because of the decline in sablefish available to the non-whiting sector (Table 4-75).

Table 4-75. Estimated loss of ex-vessel revenue associated with sablefish allocation options for the whiting fishery.

Sablefish Allocation Option	Lost Ex-vessel Revenue
Option 1	$230,000
Option 2	$200,000
Option 3	$170,000
Option 4	$450,000
Option 5	$390,000

In addition to the lost revenue directly attributed to sablefish, a decrease in the amount of sablefish available to the non-whiting sector may act as a constraint to other target species in that sector. For example, access to Dover sole and thornyheads may become constrained as the allocation of sablefish declines because sablefish co-occur with several other target species. Unfortunately, estimating that constraint with available data is not possible because doing so would mean estimating an encounter rate, or ratio, between sablefish and other target species. Available information indicates substantial variation in the ratios between sablefish and other target species. For example, the ratio of Dover sole to sablefish ranges from 0 to over 4,000 under the status quo regime (2003-2006). In addition, available data is reflective of a status quo management regime and behavior is expected to change under a rationalized fishery. Therefore, the degree to which sablefish may constrain access to other target species is unknown, though conceptually this factor should be kept in mind when considering allocation options.

Sablefish may also act as a constraint in the whiting sectors. If the allocation of sablefish made to the whiting fishery is too low, then harvesters may find it difficult to prosecute whiting activity. Recent catch data is available to illustrate the potential for sablefish to constrain whiting activity if fishing practices remain unchanged, however it should be kept in mind that fishing practices are expected to change under rationalized fishery conditions and therefore these figures are only intended for illustrative, order of magnitude, purposes.

In this analysis we assume that the actual bycatch rate that is occurring in the fishery is equal to the highest rate seen over the 1995 – 2005 time period, but the amount allocated to the whiting sectors is equal to each of the options. This method almost certainly results in an upper bound on the potential constraint (and potential for lost fishing opportunity), and indeed it is far more likely that the sablefish bycatch rate will be lower under rationalized fishery conditions, however these estimates may be useful as order of magnitude, upper bound estimates.

Table 4-76 shows the whiting catch that each of the sectors may be constrained to based on the assumptions described above. While these figures show that all of the options except for option 5 may constrain harvest in the directed whiting sectors, it should be kept in mind, again, that these are upper bound estimates on the potential constraint.

Table 4-76. Potential whiting sector catch by sablefish option and sector.

Option	CP	MS	SW
2007 allocation	70,751	49,942	87,398
Option 1	46K	46K	13K
Option 2	23K	8K	21K
Option 3	24K	3K	17K
Option 4	65K	19K	44K
Option 5	78K	77K	22K

By measuring the difference between the harvest expected in each of the options and the allocations applied to each sector in 2007, we can measure the potential constraint of each of these options. By applying the 2007 ex-vessel price to the difference we can illustrate a potential upper bound on revenues lost in this fishery with each of the sablefish allocation options (Table 4-77). It should be kept in mind that behavior should be expected to change under rationalized fishery conditions and therefore, these estimates are best treated as the upper bound.

Table 4-77. Potential upper bound estimate of lost ex-vessel revenues associated with the sablefish allocation options.

Sablefish Allocation Option	Lost Ex-vessel Revenues (millions of $)			
	CP	MS	SW	Total
Option 1	4	1	13	18
Option 2	8	7	12	28
Option 3	8	8	12	29
Option 4	1	5	8	14
Option 5	No Constraint	No Constraint	11	11

4.4.2.4 *Pacific Halibut Trawl Total Catch Limits*

The Council specified two alternatives for capping the total catch of Pacific halibut incidentally caught in west coast groundfish trawls: 1) apply the 2005 estimated trawl bycatch against the Area 2A CEY, and 2) apply the 2006 estimated trawl bycatch against the Area 2A CEY (Table 2-10). Pacific halibut are not allowed to be retained in any U.S. or Canadian trawl fisheries per the policy of the IPHC. The Council's intent on setting a total catch limit of Pacific halibut in Area 2A trawl fisheries is to limit the bycatch and progressively reduce the bycatch from these limits to provide more benefits to directed halibut fisheries. The Council does not intend to request legal retention of Pacific halibut in Area 2A trawl fisheries from the IPHC.

There are two constant exploitation yields (CEYs) estimated for Pacific halibut in Area 2A fisheries: a fishery CEY, which counts all sources of fishing-related mortality in directed fisheries targeting halibut and a total CEY, which counts all sources of mortality, including research catch, personal use, and wastage. Total CEY also includes some sublegal halibut mortality. Basing the total catch limit for trawl bycatch of Pacific halibut against the total CEY may be a better metric for tracking the relative abundance of halibut, while tracking the bycatch limit against the fishery CEY may be better for tracking the total allowable catch (TAC) (Gregg Williams, IPHC, personal communication). There are also annual catch limits specified by the IPHC for Area 2A fisheries, but these catch limits are specified in late January of the fishing year, which is likely too late for deciding trawl limits. The CEYs are estimated in annual assessments produced by the IPHC, which are publicly available in early December of the year preceding the season to which they apply. It is unclear whether CEY estimates are timely enough to inform trawl total catch limits.

The two options for capping the total catch of Pacific halibut against the total Area 2A CEY are almost identical: 14.6% of the Area 2A total CEY and 14.7% of the Area 2A CEY (Table 2-10). Applying both percentages to the 2006 CEY shows a difference of only 1,710 pounds of halibut. This difference may be insignificant in terms of benefits to directed halibut fisheries in Area 2A and likewise insignificant in terms of an added constraint to the Area 2A groundfish trawl sector. It is anticipated that the bycatch of Pacific halibut will decrease under trawl rationalization due to reduced active capacity and fewer trips to attain quotas.

4.4.2.5 *Mechanisms to Minimize Risk of Catch Overages*

The Council is considering a trawl individual quota (TIQ) program for rationalizing the limited entry trawl groundfish fishery. Concurrently, the Council is considering an allocation of the available harvest of managed groundfish stocks and stock complexes to each of four different non-tribal sectors of the west coast groundfish fishery: limited entry trawl, limited entry fixed gear, directed open access (i.e., vessels commercially targeting groundfish without a federal permit), and recreational . This intersector allocation process supports development of a TIQ program, where trawlers will need a set allocation of species to manage their fishery using individual transferable quotas and/or fishing cooperatives, as well as other Council objectives such as bycatch reduction and a more stable management regime.

The reauthorized Magnuson Stevens Act includes a new provision to end overfishing once it is detected. Overfishing is defined in federal regulations as a realized harvest rate in excess of that which produces maximum sustainable yield (MSY). In terms of absolute harvest of west coast groundfish stocks, this would equate to a total catch in excess of the ABC. In the Pacific Council process, precautionary management measures and frequent inseason adjustments to ongoing fisheries are used to stay within specified ABCs and OYs. While occurrences of overfishing groundfish stocks on the west coast have been rare using this process, there have been recent instances of overfishing. Significant uncertainty in current catch monitoring systems has led to unanticipated occurrences of overharvest (i.e., harvest in excess of sector catch limits and/or sector catch projections) in recent years in both commercial and recreational fisheries. These reasons and the need to protect fishing sectors from premature closures due to catch overages in other sectors compel consideration of a different management framework. Each sector has unique circumstances and limitations, which are described below in the section entitled Challenges to Managing Low Yields with Intersector Allocations.

Buffers, carry-overs, and roll-overs can have varied meanings, and must be defined for common use. For example, stock assessments generally build in safe-guards into their predictions, and these could be called buffers to compensate for unknown factors or risk. The Council may select a precautionary OY from a range of OYs, and this precautionary approach could be considered a buffer to conserve a stock. In some individual fishing quota programs, individual vessels may be allowed to carry-over (or carry-back) quota from one year to the next, and this could be considered a buffer for an individual vessel against the risk of going over (or under) the allotted amount of quota in a given year. If many individual vessels employ an individual quota carry-over provision, there could be a collective effect where a sector goes over the sector allocation. Or a non-rationalized sector could go over the sector allocation. In these two cases of sector overage, a buffer could be an amount of fish set aside to protect other sectors from being unexpectedly impacted by that overage. It is this final definition of "buffer" that is referred to in the Intersector Allocation analysis below.

In order to achieve a common vocabulary for the intersector allocation analysis, the following terms - set-aside, buffer, carry-over, and roll-over/roll-under – are described below in the section entitled Potential Mechanisms Designed to Avoid Overharvest and Optimize Sector Fishing Opportunities.

<u>Challenges to Managing Low Yields with Intersector Allocations</u>

The Council has identified the four non-tribal groundfish fishing sectors for consideration of set allocations of groundfish species and complexes. The Council proposes set-asides of needed yields to account for the unavoidable, incidental groundfish bycatch in non-groundfish and tribal fisheries and total mortalities accrued in research activities. These set-asides would be deducted from the allowable harvest before intersector allocations are made. There is a high likelihood that very low yields of the

most constraining groundfish stocks will be available after set-asides to groundfish fishing sectors once this management regime is implemented. Implicit in this process is that each sector would be responsible for maximizing their fishing opportunities while not overharvesting their sector allocation of groundfish. Each sector has unique challenges to overcome that depend on the sector's ability to avoid constraining species and the relative uncertainty of their catch monitoring systems.

Limited Entry Trawl Management Challenges

Current fishing opportunities for the limited entry non-whiting trawl sector are most constrained on the shelf by the bycatch of canary, bocaccio (south of 40°10' N latitude), and widow rockfish; and on the slope north of 38° N latitude by darkblotched rockfish and Pacific ocean perch. Gear restrictions, depth-based rockfish conservation area (RCA) and essential fish habitat area closures, and trip limits are used to target healthy species while minimizing bycatch. At-sea observers track discards in this fishery with about 25% of the trips sampled under the west coast Groundfish Observer Program (WCGOP).

The whiting-directed trawl sectors are most constrained by canary, darkblotched, and widow rockfish. Fixed allocations of whiting and hard bycatch caps for the three most constraining rockfish species are used to target whiting while minimizing bycatch. Attainment of the hard bycatch caps during the primary whiting season triggers closure of the non-tribal sectors even if sector whiting allocations have not been caught. Unlike the non-whiting trawl fleet, whiting vessels are exempt from RCA restrictions, but are subject to specific Chinook salmon conservation area closures adjacent to the mouths of the Klamath and Columbia rivers. Further depth-based area closures are implemented inseason if Chinook salmon bycatch approaches critical levels as determined in a consultation process pursuant to the Endangered Species Act. The at-sea fleets (catcher vessels delivering to motherships, and catcher-processor vessels) have 100% at-sea observation requirements. Whiting vessels delivering to shoreside plants are required to fully retain and deliver all their catch. Electronic monitoring is contemplated for the shore-based whiting sector to ensure maximum retention of catches.

Due to catch monitoring uncertainty and other facets of the current management regime, none of the trawl fleets are without risk of exceeding their harvest guidelines and/or allocations. The whiting fleets, which receive almost real time reports of their total catch, are at risk of attaining the bycatch cap for an overfished species before achieving their annual whiting quotas. The non-whiting trawl fleet is at greater risk of exceeding their allocations due to greater variance of catch estimates since only about a quarter of the fleet is sampled at any one time under the WCGOP. There is also a lag of about two months for receiving landings information from fish tickets, and an even longer lag for receiving trawl logbooks; both streams of data are needed to reconcile observer data and provide final trawl catch estimates.

While the limited entry trawl fleets are observed at-sea more frequently than any other west coast fishing sector, fishing opportunities are still compromised by random "disaster" tows, i.e., significantly large catches of a constraining species. Disaster tows are unpredictable and rare events. [Determine frequency and magnitude of disaster tows in the various trawl sectors from the WCGOP]. Depth-based management is currently the most effective strategy for reducing bycatch. Seasonally variable trip limits and selective trawl gear configurations also contribute to bycatch reduction. In spite of these measures, the fleets are still hampered by overcapacity and uncertain fishing prospects due to unpredictable disaster tows. Therefore, to achieve mandated economic and conservation objectives, the Council is considering rationalizing the limited entry trawl sector using individual transferable quotas and/or a cooperative system, enabling vessels to combine quotas, risks, and profits.

Under the contemplated trawl rationalization system, quota pounds would be allocated and could be transferred between vessels. Vessels could no longer fish once their allocation of quota pounds for a

target or bycatch species is exhausted. More quota pounds would need to be purchased to cover any deficits before that vessel could again go fishing. This mechanism should reduce bycatch given a strong economic incentive for fishermen to more carefully and selectively prosecute their fishery. However, the risk of sector catch overages (i.e., catches exceeding the sector's annual allocation of a given species) would not be entirely eliminated since a single disaster tow of a more constraining species (e.g., canary rockfish) could easily be large enough to exceed the sector's allocation and adversely affect further fishing opportunities for that sector and possibly other sectors as well. (The worst case scenario is a disaster tow or series of tows that are sufficiently large to risk exceeding the species' OY or ABC and prematurely closing the IFQ fishery). Furthermore, the availability of quota to cover catch overages may be scarce. It is also possible that the demand for quota pounds of the most constraining stocks may drive the price of this quota up to a point where it is not economically feasible to continue fishing. These inherent risks are not fully mitigated with a TIQ management system.

Limited Entry Fixed Gear Management Challenges

Current fishing opportunities for the limited entry fixed gear sector are most constrained on the shelf by canary and yelloweye coastwide, bocaccio south of 40°10' N latitude, and cowcod south of 34°27' N latitude. Depth-based RCA closures and seasonally varying trip limits are used to target healthy species while minimizing bycatch. At-sea observers track discards in this fishery, although the fleet is observed at less than a 25% rate under the WCGOP. [Determine the current WCGOP sample rate].

The primary target groundfish species for the limited entry fixed gear sector are nearshore species, which are managed using limited entry state permits in California and Oregon (there are no nearshore commercial fisheries allowed in Washington waters), sablefish, and slope rockfish. Fixed gears are particularly effective at targeting rockfish in high relief, rocky habitats. The management measures most often used to manage harvest in this sector are trip limits and specification of the non-trawl RCA. There is very little information to justify seasonally varying the boundary lines of the non-trawl RCA due to the lack of a logbook program and other area/season-specific catch information. Therefore, the non-trawl RCA has been static since its inception and its configuration is likely to remain unchanged given the very low harvest rates allowed for canary and yelloweye rockfish in their respective rebuilding plans. This fact also limits further fishing opportunities for this sector. Any liberalization of management measures in the latitudes and depths these species are distributed increases the risk of exceeding harvest guidelines and quotas allocated to this sector.

Directed Open Access Management Challenges

Current fishing opportunities for the directed open access sector are most constrained on the shelf by canary and yelloweye coastwide, bocaccio south of 40°10' N latitude, and cowcod south of 34°27' N latitude. Depth-based RCA closures and seasonally varying trip limits are used to target healthy species while minimizing bycatch. At-sea observers track discards in this fishery, although the fleet is observed at a very low rate under the WCGOP, especially south of 40°10' N latitude. [Determine the current WCGOP sample rate north and south of 40°10' N latitude].

Like the limited entry fixed gear sector, the primary target groundfish species for the directed open access sector are nearshore species, sablefish, and slope rockfish, and the same types of management measures are used for this sector. However, trip limits for the directed open access sector are typically much less than those for the limited entry fixed gear sector. Beginning sometime in 2007, any open access vessel landing groundfish species on the west coast will be required to carry a vessel monitoring system (VMS) to ensure compliance with the RCA closure.

The directed open access sector is at great risk of exceeding specified harvest guidelines and quotas primarily due to the lack of effort controls and the paucity of at-sea observations of discards in the sector. Effort is currently controlled by varying the trip limits and, most frequently, the daily or weekly limits in the daily-trip-limit (DTL) sablefish fishery. This strategy is, at best, an inexact instrument for controlling open access effort. The Council is currently contemplating a limited entry scheme for the directed open access fishery, whereby any vessel catching and retaining groundfish in federal waters would be required to have a federal permit. This process is at too early a stage to predict fleet size, qualification criteria for a federal permit, or any of the effects of implementing a limited entry system for this sector.

Recreational Management Challenges

Current fishing opportunities for recreational groundfish fisheries are most constrained by canary and yelloweye rockfish coastwide, bocaccio south of 40°10' N latitude, and cowcod south of 34°27' N latitude. Seasons, bag and size limits, and depth-based closures are used to manage recreational groundfish catch. Retention of cowcod, canary, and yelloweye rockfish is prohibited coastwide to prevent targeting. A small bocaccio bag limit is specified in California to reduce discards and accommodate unavoidable bycatch. State and federal harvest guidelines are set for many of the harvestable stocks. Federal harvest guidelines are also specified for canary and yelloweye rockfish to control the amount of discard mortality allowed for the sector. Automatic management actions, such as season and/or depth-based closures, are invoked when it is projected that these federal harvest guidelines will be prematurely attained.

Recreational catch monitoring is based on stratified, random creel surveys in each state and the resulting mortality estimates for the sector are highly variable. Discard estimates are particularly uncertain since they are primarily based on angler interviews, with unobserved estimates of the magnitude and species composition of discards. There is an at-sea observer and mandatory logbook program for Commercial Passenger Fishing Vessels (CPFVs or charterboats) in California; total mortality estimates for this fleet are therefore more precise. The precision of overall recreational catch projections is compromised by this uncertainty and the highly variable nature of effort. Angler effort is hard to predict sine it is influenced by the relative abundance of various target species, weather, and competing fishing and non-fishing activities. These factors contribute to a high risk of recreational fisheries exceeding harvest guidelines and quotas.

Tribal Management Challenges

There are four tribes that fish groundfish (Makah, Quileute, Hoh, and Quinault), all located in Washington. Current fishing opportunities are most constrained by canary and yelloweye rockfish. Of the four tribes, only the Makah Tribe fishes with trawl gear. Therefore, the Makah tribal fishing opportunities could also be constrained by darkblotched rockfish and Pacific ocean perch. The Makah Tribe requires full retention of groundfish and has an at-sea observation program to monitor compliance and provide area-specific bycatch information to the rest of the fleet. The Makah observer program targets a sample rate of 15% of all trips on a monthly and annual basis.

While tribal fishing activities are not subject to RCA restrictions, they are restricted to their usual and accustomed fishing areas, which are limited to discrete areas off the central and northern Washington coast. Two of the most constraining stocks on the west coast, canary and yelloweye rockfish, are most abundant off the northern Washington coast within the usual and accustomed fishing areas of the Makah, Quileute, and Hoh tribes. Conducting tribal fisheries in areas where the most constraining stocks occur poses a significant risk of exceeding tribal sector allocations for those species.

Potential Mechanisms Designed to Avoid Overharvest and Optimize Sector Fishing Opportunities

There are a variety of mechanisms currently used by the Council to avoid overharvest and optimize fishing opportunities, such as buffers, bycatch caps, and sideboards. Other mechanisms, such as multiyear OYs and carry-over provisions, are not currently used by the Council to achieve these objectives, but are posed for Council consideration to meet the challenges of managing harvest under a system of fixed sector allocations and trawl individual quotas.

Set-Asides

Before allocation of groundfish species and complexes to the commercial and recreational sectors may occur, fixed yields called set-asides, would be taken "off the top" of the OY for allotment to tribes, incidental open access catch, EFPs, and scientific research catch. Set-asides could be used for other purposes, such as facilitating development of emerging fisheries. If a set-aside is not used, the remainder could be allocated during the season to another sector or would remain unused. Set-asides do not necessarily ensure that the four groups would not go over their set aside amounts. In other words, set-aside amounts are thresholds based on previous years' amounts, and act as guideposts. After set-asides are apportioned out, there is a high likelihood that there would be a very small amount of the most constrained species remaining for allocation to the commercial and recreational groundfish sectors.

Buffers

Buffers are residual yields at the beginning of a season not anticipated to be caught by any directed fishery. The Council often specifies management measures that are not expected to catch the entire OY of a given species. Any left over yield is reserved as a buffer to be used by any sector or dedicated to a given sector if catch is higher than anticipated. Buffers are particularly useful for managing total catch in a sector when catch accountability is highly uncertain. In theory, the higher the catch uncertainty of a given stock, the larger the buffer should be. As catch data is collected inseason, reducing annual catch uncertainty over the course of a season, fishing opportunities may be enhanced by reducing the buffer to allow higher mortality that is still within a specified annual catch limit or OY. This management strategy tends to break down when catch uncertainty is very high and time runs out in the season before management measures can be adjusted to achieve but not exceed OYs. Therefore, the risks and benefits of buffer management need to be constantly weighed to achieve mandated conservation and economic objectives.

Buffers would be beneficial in a management system where overages can be anticipated but not exactly predicted, estimated without under-estimating, and where catch overages would have negative intersector implications. An estimation of a buffer should be based on past sector needs and past overages. A buffer should be large enough to encompass the anticipated sector overage, in order to protect other sectors from an unanticipated, mid-season decrease in allocation amounts. If an overage is larger than the buffer amount for a given sector, then the buffer would not serve its purpose. The other sectors would still be at risk of losing a portion or all of their allocation through inseason decisions that force compensation or coverage of one sector's overages by another sector that fishes later in the year.

Bycatch Caps

Bycatch caps are yield set-asides of species specified for a sector that, when attained, would trigger closure of a fishery. Bycatch caps are currently used on the west coast to manage groundfish bycatch in whiting-directed trawl fisheries and, in most cases, approved exempted fishing permit (EFP) activities. The non-tribal whiting sectors are currently managed with bycatch caps for canary, darkblotched, and widow rockfish. When these caps are projected to be attained, the non-tribal whiting fishery

automatically closes even if whiting quotas have not yet been attained. Bycatch caps specified for approved EFPs are used to close fishing activities by a participating vessel or vessels when they are attained. (EFP bycatch caps are often specified for individual vessels and all participating vessels on a monthly and/or annual basis). Bycatch caps are allowed under the groundfish FMP, but they have not yet been used more extensively.

Bycatch caps are often very small yield set-asides that require almost real-time reporting of total catch to be effective. Therefore, management using bycatch caps is compromised when sector catch accountability is poor. In such cases of poor catch accounting, there is an increased probability of a sector's catch overage co-opting fishing opportunities for other sectors, especially when the stock's OY is low.

Bycatch caps can provide the incentive for individual fishermen in a sector to more openly communicate about bycatch levels in time and space. For example, bycatch caps in the North Pacific drove the pollock fishery to establish a third-party privately-funded organization which collects almost real-time bycatch information, looks for high bycatch areas, and re-distributes that information to the fishery to facilitate bycatch avoidance. Such a mechanism is currently used by the west coast at-sea whiting trawl sectors to avoid areas of high bycatch.

Sideboards

Sideboards are very much like bycatch caps, but with perhaps more flexibility. A sideboard is a catch threshold that, when attained, would trigger an automatic action to reduce or eliminate mortality of that species. Such automatic actions include adjustment of RCAs, implementation of new regulations seaward or shoreward of the RCA, and/or trip limits. For instance, if a canary rockfish sideboard was specified and attained inseason in the non-whiting trawl fishery, the automatic action could be closure of all areas shoreward of the trawl RCA. Such an action would eliminate further catch of canary rockfish while still allowing opportunities to fish on the slope for flatfish and species in the Dover sole-thornyheads-sablefish (DTS) complex. While such an action may adversely affect vessels incapable of fishing in deep water, other vessels in the fleet would retain some fishing opportunity.

Carry-over Provisions and Multi-year Optimum Yields

The use of buffers, bycatch caps, and sideboards are all effective strategies for reducing bycatch, but they alone may not eliminate the risk of exceeding sector quotas and OYs for some species. If each sector is ultimately responsible for limiting its bycatch, there would be less risk of one sector's overharvest compromising fishing opportunities for other sectors. An incentive/disincentive mechanism may be needed to change fishing behaviors to more selectively harvest healthy target species, while avoiding species of concern. Such a mechanism could include managing constraining stocks with carry-over provisions and multiyear OYs.

Carry-over provisions would allow a transfer of yield surpluses or deficits of some species at the sector level (or permit/co-op level under a TIQ program) from one year to the next. Sector accounts would be settled by the end of the prescribed multiyear OY period. The Canadian groundfish fishery allows carry-over from one year to the next, but not beyond the second year. In other words, unharvested pounds that are carried over to the following year must be caught in that second year and would not be carried over to a third year. Management risk of exceeding a sector bycatch limit in any one year could then be spread over a longer period. Any one sector could consider a management strategy in the first year of a multiyear OY period and, if the annual bycatch target was exceeded, could adopt more conservative management measures in following year(s). This reduces the risk that management miscues (that occur

early in the management cycle) might pre-empt future fishing opportunities for that or other sectors, and promotes more precautionary and selective fishing practices.

Carry-over may help provide flexibility with regard to the rebuilding paradox, which is as a species rebuilds fishermen encounter it more frequently and due to an information lag, the higher encounter rates precede any upward adjustments to stock assessments and management targets. As a result the fishery is more constrained than would be necessary given actual stock conditions and more vessels may tend to limit out on the same species, resulting in one year fleet overages for the species. The overage would be with respect to the modeled stock biomass and productivity and the associated regulatory standards, but would not necessarily be an overage with respect to the actual biomass and productivity. With a carry-over, that overharvest in one year would be taken off the following year's harvest (achieving the management objective on average). The potential for carry-over to severely constrain harvest in a subsequent year is a concern. This potential for a substantial constraint on harvest in a subsequent year due to overharvest in a previous year is one reason why the Council adopted discrete annual OYs for each year under the current biennial system.

While carry-over deals with the overage (or underage) of a sector from one year to the next, a multiyear OY could spread out the harvest over a number of years while also providing flexibility in any given year (as long as the harvest totaled and balance at the end of the multi-year cycle). Stock life history characteristics should be considered when determining an appropriate multiyear OY period. Faster growing stocks with shorter mean generation times and fewer age classes should probably be managed with shorter OY periods. The most constraining rockfish stocks on the west coast (i.e., cowcod, canary, and yelloweye rockfish) have many age classes in their populations and might be better managed with longer OY periods. Factors such as mean generation time and recruitment variability may be important considerations in selecting a risk-averse multiyear OY period.

Another consideration in determining the length of a multiyear OY period and implementing a carry-over of sector yield surpluses and deficits is how this strategy could be managed across a period when new assessments are being approved for management use. Currently, all the overfished species are assessed every other year (i.e., as frequently as possible under the biennial management regime) to understand whether progress has been made in rebuilding these species. Other stocks may also potentially be assessed during a multiyear OY period. This begs the question of whether a carry-over mechanism can work when an OY changes as a result of a new assessment partway through a multiyear OY management period. One solution may be to time the OY management period specifically with the assessment period. Another possible solution may be to carry over yield surpluses and deficits based on the proportion of the OY this surplus or deficit represents. For instance, if a sector exceeds its previous year's quota by 10% and a new assessment of that stock resulted in a change to the OY, the new quota for that sector would be reduced by the proportion of the sector's previous catch overage (i.e., 10% of the OY) applied to the new OY.

Managing OYs over a longer period may also be more responsive to new mandates in the Magnuson-Stevens Act to end overfishing. While current Council practices have led to few incidents of overfishing in recent years, spreading overfishing risk over a longer period may reduce the frequency of overfishing. On the other hand, for species where the OY is set to the ABC or where the OY is considered a hard cap (e.g., rebuilding species), an overage in a single year may constitute overfishing, even if the OY is not exceeded on average during a multiyear management period. Such instances would need to be accounted for in rebuilding plans and the groundfish FMP. For healthier stocks for which OY is set below ABC, there may be more ability to allow OY overages so long as the system is designed to achieve the OY on average over the long-term. Overfishing (exceeding ABC) is based on a one year criteria, not a long-term average. Therefore, whatever system is developed should not result in harvest in excess of the ABC in any one year. Thus, different rules for rollover may be appropriate for

different stocks, depending on whether or not the OY is set below the ABC, and on whether a stock is overfished.

The Council and NMFS may need to pose these considerations when developing new National Standard 1 Guidelines interpreting the re-authorized Magnuson-Stevens Act. The groundfish FMP and current groundfish rebuilding plans would need to be amended to accommodate multiyear OYs.

4.5 Tourism and Recreation

Only those species subject to long term trawl allocations as part of the proposed action that are also caught in recreational fisheries may have an influence on tourism and recreation. Intersector allocation alternative 2 contemplates long term allocations to recreational fisheries based on the average 2003-05 total catch in recreational fisheries (Table 2-6), while the other action alternatives contemplate only trawl sector allocations with remaining yields shared by all non-treaty directed groundfish sectors combined, including the recreational groundfish sector. Groundfish bycatch in non-groundfish recreational fisheries would be included in yield set-asides before any apportionment of the available groundfish harvest is made to directed groundfish fisheries, which are the only fisheries that are considered in the intersector allocation process.

Those groundfish species that are part of the proposed action that are targeted in recreational west coast groundfish fisheries are lingcod, Pacific cod, chilipepper rockfish, yellowtail rockfish, widow rockfish, starry flounder, and some species in the Other Flatfish complex (e.g., Pacific sanddabs), but only lingcod and starry flounder are significantly utilized by the recreational sector according to criteria informing Table 4-15.

CHAPTER 5 CUMULATIVE EFFECTS

5.1 Introduction

Federal regulations (40 CFR 1508.7) describe cumulative impact as follows:

"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Guidance from the Council on Environmental Quality (CEQ 1997) describes eight principals for cumulative effects analysis. The key points contained in these principals are:

- Cumulative effects result from the aggregate of the direct and indirect effects of the action when combined with the effects of other actions that have occurred in the past, are ongoing, or may occur in the future.
- Cumulative effects should be analyzed with respect to the environmental components affected by the proposed action and the capacity for these components to accommodate the combined effect. Based on scoping, agency staff has determined that marine ecosystems, essential fish habitat, groundfish, and elements of the socioeconomic environment are likely to be appreciably affected by the action, so the cumulative effects analysis focuses on these components.
- The analysis must focus on meaningful effects. The scope of the analysis should be narrowed to noticeable or likely effects and those that are of concern to affected parties.

This chapter first enumerates those past, present, and reasonably foreseeable future actions whose effects likely combine with the effects of the proposed action to result in a cumulative effect. Then the cumulative effects on each of the environmental components subject to the direct and indirect effects are described.

5.2 Past, Present, and Reasonably Foreseeable Future Actions

The following actions have been implemented and are expected to have continuing effects that combine with the effects of the proposed action:

Groundfish Harvest Specifications and Management Measures. The Council periodically specifies OYs, which function as intended harvest limits, for groundfish stocks and stock complexes.

Management measures are then developed to constrain catches to these limits. NMFS implements the management measures through Federal regulations, effective January 1 of each year in the management cycle. From the implementation of the Groundfish FMP through 2004 OYs and related management measures were developed annually. Groundfish FMP Amendment 17 implemented a 2-year, or biennial, cycle, beginning in 2005. OYs continue to be specified for each year in the 2-year period. The Council may recommend changes to management measures during the management cycle, referred to as inseason actions. These adjustments are based on the receipt of new information about past catches.

The Council and NMFS employ various types of management measures for different fishery sectors. For commercial fisheries the main type of measure is a 2-month cumulative landing limit applicable to each vessel. Beginning in 2002 closed areas, referred to as Groundfish Conservation Areas, have been imposed to reduce catches of overfished groundfish. Various gear restrictions have been imposed on the groundfish limited entry trawl sector to prevent fishing in areas with high-relief benthic habitat to further discourage catches of those overfished species more commonly found in those areas. The Council also recommends recreational fishery management measures, which are implemented through state regulations. The main tool for limiting recreational catch is the bag limit, which specifies the number of fish of a given type an angler may possess and land on each trip.

Overfished Species Rebuilding Plans. The Council currently manages seven groundfish species under rebuilding plans because these stocks have been declared overfished pursuant to MSA section 304(e). The Council developed a rebuilding plan for an eighth species, lingcod, and the stock has been successfully rebuilt and is no longer considered overfished. Section 304(e) directs the Secretary of Commerce to notify the appropriate Council when a stock has been determined to be overfished and requires the Council to respond by develop an FMP, FMP amendment, or proposed regulations to end overfishing and rebuild the stocks to a target level (MSY or related proxy). The Council implemented FMP Amendments 16-1, 16-2, and 16-3 to address this requirement.[9] The Council's rebuilding plans establish a rebuilding target, expressed as the year in which the current stock assessment (with an associated rebuilding analysis) indicates the stock has a 50 percent chance of rebuilding to the target biomass level. The target year then determines the level of fishing mortality needed to achieve stock rebuilding within the time period. This can be translated into an annual OY as part of the harvest specifications process. The rebuilding plans also describe the types of management measures being used to rebuild the stock according to established targets. As noted above, many of the current management measures applied to groundfish fisheries have a stock rebuilding objective.

Groundfish monitoring and management was historically based on monitoring and management of landings through the cumulative limits referenced above. Low landing limits or a prohibition on retention was required for overfished species, leading to relatively high levels of regulatory discard (bycatch), frustrating stock rebuilding efforts. As a result the management framework has moved to managing total catch by estimating and accounting for bycatch. An important tool in this regard is the west coast Groundfish Observer Program, implemented by NMFS in 2002. This program has a target of at-sea monitoring that accords to 20 percent of total landings by weight. A statistical sampling frame allows the development of generalized bycatch rates, stratified by fishery sector, time, and area, which can be applied to monitored landings to estimate total catch. The bycatch rates are periodically revised upon receipt of new information from the observer program.

[9] The Council originally addressed overfished stocks through Amendment 12 through an FMP framework. However, much of the content of this amendment was remanded by the Federal Court because it did not address the MSA requirement to develop an FMP, FMP amendment, or proposed regulations. The Amendment 16 series of amendments addressed this remand.

Measures to Mitigate Adverse Impacts to EFH. In 2005 the Council adopted Groundfish FMP Amendment 19, which revised the description of groundfish EFH in the FMP and also supported implementation of various measures to mitigate adverse impacts to EFH from fishing. Mitigation measures included establishing a series of areas closed to bottom trawling or closed to all types of bottom-contacting gear. These measures are intended to protect sensitive habitat important to groundfish and prevent the expansion of bottom trawling into previously unexploited areas. Regulations implementing the closed areas and other mitigation measures became effective in 2006.

The following actions have not yet been implemented but are reasonably foreseeable:

Trawl Rationalization. The Council has been working on a management framework that would provide incentives for a more economically efficient groundfish limited entry trawl sector. The principal mechanism to achieve this end is to establish individual fishing quotas (IFQ) for groundfish stocks and stock complexes caught in the limited entry trawl sector. A system of enforced cooperative is also being considered for catcher vessels in the whiting sector. IFQs would be fully tradable and represent a fraction of the OY for each stock or stock complex. Each year the IFQs would be converted to quota pounds based on this fraction. Total catch would have to be covered by an equivalent amount of quota pounds. Cooperatives are also based on a system where each vessel is accountable for total catch, but their quotas (which would be based on catch history) would be pooled in a cooperative of several vessels. Although the cooperatives would be governed by a Federal regulatory framework to enforce participation, within cooperatives vessels could make private agreements on how to allocate fishing opportunity within the constraints of the overall quota assigned to the co-op. An IFQ system is expected to favor more efficient firms, which would accumulate quota through purchases from those willing to sell. Less efficient firms would have an incentive to exit the fishery through the financial incentive of such sales. This would tend to result in some level of consolidation, further reducing fleet capacity to better match the most efficient (or profitable) configuration for harvesting the available resource. The program is expected to have a conservation benefit because individual vessels would be accountable for total catch; there would thus be a bigger cost to discarding fish based on the cost of the quota pounds expended to cover the discarded fish. Individual accountability would also provide an incentive for quota holders to ensure that everybody was sufficiently monitored to account for total catch. This would likely require 100 percent at-sea observer coverage, which would be partly funded by fishery participants.

The proposed action, as described in chapter 1, is closely connected to the trawl rationalization program. Trawl rationalization will require managing the trawl sector as a whole according to specified quotas, which are subdivided and assigned to vessels according to IFQ holdings or to cooperative based on participants' catch histories. Establishing allocations between the limited entry trawl sector and other groundfish fishery sectors is expected to make trawl rationalization more effective because IFQ holders and co-op members will have more certainty about the actual harvest opportunity associated with a given amount of IFQ (or assigned to a co-op). This will make long-term business decisions easier to make and support the desired outcomes of rationalization.

The Council is scheduled to adopt a preferred alternative for the trawl rationalization program in November 2008. The program is scheduled for implementation in either 2010 or 2011, depending on how long it takes to establish all the elements of what is likely to be a complicated program.

Conversion of the Groundfish Open Access Sector to Federal Permit Management. The current groundfish limited entry program does not cover all vessels catching groundfish. Although a limited entry permit is required to use the main the gear types (trawl and fixed gear), fishers may use other types of line gear and make landing under smaller cumulative limits. This has allowed the growth of a small boat fishery, principally in southern Oregon and California targeting groundfish in nearshore areas.

There is a need to better manage fishing capacity and better monitor catches in groundfish fisheries because of current catch limits and overfished species concerns. This action would establish limited entry licenses for vessels currently targeting groundfish and catching them incidentally.

The Council adopted a range of alternatives for this proposed action at their March 2008 meeting.

5.3 Cumulative Effects on Marine Ecosystems and Essential Fish Habitat

The Groundfish SAFE (PFMC 2008) provides information on how past actions have effected west coast marine ecosystems and EFH.

The EIS supporting Groundfish FMP Amendment 19 summarizes the information then available about the effects of fishing gear on EFH. Bottom trawl gear has the greatest adverse impact on EFH because of the mechanical properties of the gear when interacting with bottom habitat. This is a bigger problem in areas of high relief where biogenic habitat occurs that can be damaged or destroyed by gear contact. Line and pot gear contacting the bottom less adverse impact because their overall footprint is smaller. Gears deployed only in the water column (e.g., midwater trawl, troll hook-and-line) have little or no effect on habitat.

Measures implemented through Amendment 19 are intended to protect habitats that are particularly sensitive to the adverse impacts of fishing gear. These measures include closed areas and gear restrictions that discourage fishing in these areas. Amendment 19 also designated groundfish habitat areas of particular concern (HAPCs). These designations facilitate consultations NMFS may make with other Federal agencies on non-fishery action affecting EFH.

Available information and research on the effects of fishing on the California Current ecosystem are reviewed in the Groundfish SAFE. Although research is still inconclusive, groundfish harvest policies do not appear to have had a substantial effect on the structure of the food web in this ecosystem. Overfishing of some higher trophic level groundfish species may have greater localized effects.

The trawl rationalization program could contribute to increased harvest opportunity by the trawl sector because harvest of healthy target species stocks would be less constrained by harvest limits imposed on them but intended to reduce incidental catch of overfished species. (The individual accountability incentives built into the program are expected to reduce bycatch of these species while more effectively constraining overall catch to rebuilding target OYs.) There is some evidence that high turnover populations, subject to high predation, exert more control over trophic dynamics than higher trophic level species, such as overfished groundfish species. Trawl rationalization could allow higher harvests of species falling into this category, such as certain flatfish species.

5.4 Cumulative Effects on Groundfish

Harvest specifications and related management measures imposed in the 1980s and early 1990s led to the over-exploitation and depletion of the groundfish stocks currently designated as overfished. Many of these stocks are relatively unproductive and slow to rebound to MSY levels from their current depleted state. Rebuilding plans provide a framework that constrains harvests determined to rebuild the stocks in the shortest time possible while taking into account the adverse socioeconomic impacts entailed in the need to constrain harvests. These requirements are expected to affect groundfish management for the foreseeable future due to the estimated long time periods required to rebuild some stocks. In this regard canary and yelloweye rockfish impose the greatest constraints because of the very low harvest limits required and their occurrence as bycatch in several fisheries. As described above, the

trawl rationalization program could create an incentive structure and facilitate more comprehensive monitoring to allow bycatch reduction and effective management of the groundfish fisheries.

The direct and indirect effects of the proposed action on groundfish stocks are expected to be negligible because the overall quantity of fish that will be harvested is unaffected. Cumulative effects are therefore not expected to differ detectably from the effects anticipated from other past, present, and reasonably foreseeable future actions.

5.5 Cumulative Effects on the Socioeconomic Environment, Including Harvesters and Coastal Communities

The need to constrain groundfish harvests to address overfishing has had substantial socioeconomic impacts. The groundfish limited entry trawl sector has experienced a large contraction, spurred in part by a Federally-subsidized vessel and permit buyback program implemented in 2005. Follow-on effects have been felt in coastal communities where groundfish trawlers comprise a large portion of the local fleet. As the fleet size shrinks and ex-vessel revenues decline income and employment in these communities is affected. Fishery-related businesses in the community may cease operations because of lost business. This can affect non-groundfish fishery sectors that also depend on the services provided by these businesses, such as providing ice and buying fish. An objective to the trawl rationalization program is to mitigate some of these effects by increasing revenues and profits within the trawl sector. However, because further fleet consolidation is expected, the resulting benefits are likely to be unevenly distributed among coastal communities. Some communities may see further their groundfish trawler fleet shrink further as the remaining vessels concentrate in a few major ports.

Depending on the alternative ultimately chosen, the action to establish a license limitation program for the current groundfish open access sector would reduce the number participants in this sector. Those not qualifying for a permit would have to find other fisheries to participate in or other sources of income.

The proposed action affects groundfish fishery sectors depending on the harvest opportunity allocated to each sector.

CHAPTER 6 CONSISTENCY WITH THE GROUNDFISH FMP, MSA NATIONAL STANDARDS, AND THE GROUNDFISH STRATEGIC PLAN

6.1 FMP Goals and Objectives

The goals and objectives of the groundfish FMP provide guidance for decisions about the structure of the allocation alternatives. Those goals and objectives are as follows.

Management Goals

Goal 1 - Conservation. Prevent overfishing and rebuild overfished stocks by managing for appropriate harvest levels and prevent, to the extent practicable, any net loss of the habitat of living marine resources.

Goal 2 - Economics. Maximize the value of the groundfish resource as a whole.

Goal 3 - Utilization. Achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities.

Objectives

To accomplish these management goals, a number of objectives will be considered and followed as closely as practicable:

Conservation:

Objective 1. Maintain an information flow on the status of the fishery and the fishery resource which allows for informed management decisions as the fishery occurs.

Objective 2. Adopt harvest specifications and management measures consistent with resource stewardship responsibilities for each groundfish species or species group.

Objective 3. For species or species groups that are overfished, develop a plan to rebuild the stock as required by the MSA.

Objective 4. Where conservation problems have been identified for non-groundfish species and the best scientific information shows that the groundfish fishery has a direct impact on the ability of that species to maintain its long-term reproductive health, the Council may consider establishing management measures to control the impacts of groundfish fishing on those species. Management measures may be imposed on the groundfish fishery to reduce fishing mortality of a non-groundfish species for documented conservation reasons. The action will be designed to minimize disruption of the groundfish fishery, in so far as consistent with the goal to minimize the bycatch of non-groundfish species, and will not preclude achievement of a quota, harvest guideline, or allocation of groundfish, if any, unless such action is required by other applicable law.

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.

Economics:

Objective 6. Attempt to achieve the greatest possible net economic benefit to the nation from the managed fisheries.

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.

Objective 8. Gear restrictions to minimize the necessity for other management measures will be used whenever practicable.

Utilization:

Objective 9. Develop management measures and policies that foster and encourage full utilization (harvesting and processing) of the Pacific Coast groundfish resources by domestic fisheries.

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.

Objective 11. Strive to reduce the economic incentives and regulatory measures that lead to wastage of fish. 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. Promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve other information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.

Objective 12. Provide for foreign participation in the fishery, consistent with the other goals to take that portion of the optimum yield (OY) not utilized by domestic fisheries while minimizing conflict with domestic fisheries.

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 14. Minimize gear conflicts among resource users.

Objective 15. When considering alternative management measures to resolve an issue, choose the measure that best accomplishes the change with the least disruption of current domestic fishing practices, marketing procedures, and the environment.

Objective 16. Avoid unnecessary adverse impacts on small entities.

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.

Objective 18. Promote the safety of human life at sea.

6.1.1 Consistency of the Proposed Actions

The proposed actions are consistent with the goals and objectives of the groundfish FMP. Two of the three management goals (Goal 2 - Economics. Maximize the value of the groundfish resource as a whole; and Goal 3 - Utilization. Achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities.) were used as criteria in evaluating intersector allocation alternatives (Chapter 4). All of the relevant objectives under these two goals were considered in the development and analysis of these alternatives. The third management goal, conservation, was not relevant in this action since deciding harvest specifications and management measures was outside the scope of the proposed actions.

6.2 Applicable MSA National Standards

Below are the ten National Standards specified in the Magnuson Stevens Fishery Conservation and Management Act, Section 301.

1. 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.

2. Conservation and management measures shall be based upon the best scientific information available.

3. To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

4. Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

5. Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

6. Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

7. Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

8. 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.

9. Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

10. Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

6.2.1 Consistency of the Proposed Actions

The proposed actions are consistent with those MSA National Standards that apply to this action. In general, the National Standards that deal with optimum yield and preventing overfishing (National Standard 1) are not relevant to this action because deciding harvest specifications and management measures is outside the scope of the proposed actions. National Standard 2 – use of the best scientific information available – is achieved by using stock information from the most recent and updated stock assessments and rebuilding analyses. National Standard 4 – do not discriminate between residents of different states – and National Standard 8 – consider communities – are incorporated into the premise of the goals and objectives of this FMP amendment. All of the National Standards are addressed in the Fishery Management Plan, to which Intersector Allocation is an amendment.

6.3 Goals and Objectives of the Groundfish Strategic Plan

The Council adopted the Groundfish Strategic Plan, "Transition to Sustainability", in the fall of 2000. The following are the general allocation goal and principles included in the strategic plan.

Strategic Plan Goal for Allocation

To distribute the harvestable surplus among competing interests in a way that resolves allocation issues on a long-term basis.

General Allocation Principles

1. All fishing sectors and gear types will contribute to achieving conservation goals (no sector will be held harmless). The fair and equitable standard will be applied to all allocation decisions but is not interpreted to mean exactly proportional impacts or benefits.

2. Non-groundfish fisheries that take groundfish incidentally should receive only the minimal groundfish allocations needed to efficiently harvest their target (non-groundfish) species. To determine the amount of allocation required, identify the economic values and benefits associated with the non-groundfish species. Directed fishery harvest of some groundfish may need to be restricted to incidental levels to maintain the non-groundfish fishery. Consider gear modification in the non-groundfish fishery to minimize its incidental harvest.

3. Modify directed rockfish gears, as needed, to improve their ability to target healthy groundfish species and avoid or reduce mortality of weak groundfish species.

4. When information on total removals by gear type becomes available, consider discards in all allocations between sectors and/or gear types. Each sector will then receive adjustments for discard before allocation shares are distributed.

5. Fairly distribute community economic impacts and the benefits and costs of allocation coast-wide. Allocations should attempt to avoid concentration and assure reasonable access to nearby resources. Consider the diversity of local and regional fisheries, community dependency on marine resources and processing capacity, and infrastructure in allocation decisions.

6. Consider impacts to habitat and recovery of overfished stocks or endangered species (dependent on affected habitats) when making allocation changes.

7. Allocation decisions should consider and attempt to minimize transfer of effort into other fishery sectors, particularly for state managed fisheries (crab and shrimp).

8. Allocation decisions will:

   a. consider the ability to meet increased administrative or management costs; and
   b. be made if reasonably accurate in-season quota monitoring or annual catch accounting has been established or can be assured to be established and be effective.

9. As the tribes expand their participation in groundfish fisheries, allocations of certain groundfish species may have to be specified for tribal use. In such cases, the Council should ask the affected parties to U.S. v. Washington to convene and develop an allocation recommendation.

Area Management as Related to Allocation

10. Structure allocations considering both of the north-south geographic and nearshore, shelf and slope distributions of species and their accessibility by various sectors and gears.

11. In addressing recreational/commercial rockfish allocation issues, use the following fishery priorities by species group: for nearshore rockfish, states may recommend a recreational preference, with any excess to be made available for commercial use; for shelf rockfish, the Council may set a recreational preference only on a species-by-species basis; and for slope rockfish, commercial allocation.

12. Licenses, endorsements or quotas established through management or capacity reduction measures may be limited to specific areas through exclusive area registrations and consider port landing requirements.

6.3.1 Consistency of the Proposed Actions

The proposed actions are consistent with the goals and principals of the groundfish strategic plan, and specifically addresses the strategic plan goal of resolving allocation issues on a long-term basis .

CHAPTER 7 CROSS-CUTTING MANDATES

7.1 Other Federal Laws

7.1.1 Coastal Zone Management Act

Section 307(c)(1) of the Federal Coastal Zone Management Act (CZMA) of 1972 requires all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. The *Council-preferred Alternative* would be implemented in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved coastal zone management programs of Washington, Oregon, and California. This determination has been submitted to the responsible state agencies for review under Section 307(c)(1) of the CZMA. The relationship of the groundfish FMP with the CZMA is discussed in Section 11.7.3 of the Groundfish FMP. The Groundfish FMP has been found to be consistent with the Washington, Oregon, and California coastal zone management programs. The recommended action is consistent and within the scope of the actions contemplated under the framework FMP.

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. Establishing harvest allocations is not expected to affect any state's coastal management program.

7.1.2 Endangered Species Act

NMFS issued biological opinions (BOs) under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, December 15, 1999, and a supplemental BO on March, 11, 2006, 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 spring, California coastal), coho salmon (Central California coastal, southern Oregon/northern California coastal), chum salmon (Hood Canal summer, Columbia River), sockeye salmon (Snake River, Ozette Lake), and steelhead (upper, middle and lower Columbia River, Snake River Basin, upper Willamette River, central California coast, California Central Valley, south-central California, northern California, southern California). During the 2000 Pacific whiting season, the whiting fisheries exceeded the Chinook bycatch amount specified in the Pacific whiting fishery BO (December 15, 1999) incidental take statement estimate of 11,000 fish, by approximately 500 fish. In the 2001 whiting season, however, the whiting fishery's Chinook bycatch was about 7,000 fish, which approximates the long-term average. The whiting fishery again exceeded

the incidental take statement level of 11,000 fish in 2005 when almost 12,000 Chinook salmon were caught. In addition, new information became available about the bycatch of salmon in the groundfish bottom trawl sector. The March 11, 2006, supplemental BO evaluated this information and proposes measures to mitigate this bycatch. NMFS has 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. The proposed action is within the scope of these consultations.

7.1.3 Marine Mammal Protection Act

The MMPA of 1972 is the principle Federal legislation that guides marine mammal species protection and conservation policy in the United States. Under the MMPA, NMFS is responsible for the management and conservation of 153 stocks of whales, dolphins, porpoise, as well as seals, sea lions, and fur seals; while the U.S. Fish and Wildlife Service is responsible for walrus, sea otters, and the West Indian manatee.

Off the west coast, the Steller sea lion (*Eumetopias jubatus*) eastern stock, Guadalupe fur seal (*Arctocephalus townsendi*), and Southern sea otter (*Enhydra lutris*) California stock are listed as threatened under the ESA. The sperm whale (*Physeter macrocephalus*) Washington, Oregon, and California stock, humpback whale (*Megaptera novaeangliae*) Washington, Oregon, and California - Mexico Stock, blue whale (*Balaenoptera musculus*) eastern north Pacific stock, and Fin whale (*Balaenoptera physalus*) Washington, Oregon, and California stock are listed as depleted under the MMPA. Any species listed as endangered or threatened under the ESA is automatically considered depleted under the MMPA.

The west coast groundfish fisheries are considered a Category III fishery, indicating a remote likelihood of or no known serious injuries or mortalities to marine mammals, in the annual list of fisheries published in the *Federal Register*. Based on its Category III status, the incidental take of marine mammals in the west coast groundfish fisheries does not significantly impact marine mammal stocks. The proposed action is not expected to affect the way in which groundfish fisheries interact with marine mammals.

7.1.4 Migratory Bird Treaty Act

The MBTA of 1918 was designed to end the commercial trade of migratory birds and their feathers that, by the early years of the 20th century, had diminished the populations of many native bird species. The MBTA states that it is unlawful to take, kill, or possess migratory birds and their parts (including eggs, nests, and feathers) and is a shared agreement between the United States, Canada, Japan, Mexico, and Russia to protect a common migratory bird resource. The MBTA prohibits the directed take of seabirds, but the incidental take of seabirds does occur. The proposed action is unlikely to affect the incidental take of seabirds protected by the MBTA.

7.1.5 Paperwork Reduction Act

The proposed action does not require collection-of-information subject to the Paperwork Reduction Act.

7.1.6 Regulatory Flexibility Act

The purpose of the RFA is to relieve small businesses, small organizations, and small governmental entities of burdensome regulations and record-keeping requirements. Major goals of the RFA are; (1) to

increase agency awareness and understanding of the impact of their regulations on small business, (2) to require agencies communicate and explain their findings to the public, and (3) to encourage agencies to use flexibility and to provide regulatory relief to small entities. The RFA emphasizes predicting impacts on small entities as a group distinct from other entities and the consideration of alternatives that may minimize the impacts while still achieving the stated objective of the action. An IRFA is conducted unless it is determined that an action will not have a "significant economic impact on a substantial number of small entities." The RFA requires that an IRFA include elements that are similar to those required by EO 12866 and NEPA. Therefore, the IRFA has been combined with the RIR and NEPA analyses. Section 7.3 (below) summarizes the analytical conclusions specific to the RFA and EO 12866.

7.2 Executive Orders

7.2.1 EO 12866 (Regulatory Impact Review)

EO 12866, Regulatory Planning and Review, was signed on September 30, 1993, and established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety of regulatory policy considerations and establishes procedural requirements for analysis of the benefits and costs of regulatory actions. Section 1 of the EO deals with the regulatory philosophy and principles that are to guide agency development of regulations. It stresses that in deciding whether and how to regulate, agencies should assess all of the costs and benefits across all regulatory alternatives. Based on this analysis, NMFS should choose those approaches that maximize net benefits to society, unless a statute requires another regulatory approach.

The RIR and IRFA determinations are part of the combined summary analysis in Section 7.3 of this document.

7.2.2 EO 12898 (Environmental Justice)

EO 12898 obligates Federal agencies to identify and address "disproportionately high adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations in the United States" as part of any overall environmental impact analysis associated with an action. NOAA guidance, NAO 216-6, at §7.02, states that "consideration of EO 12898 should be specifically included in the NEPA documentation for decision-making purposes." Agencies should also encourage public participation—especially by affected communities—during scoping, as part of a broader strategy to address environmental justice issues.

The environmental justice analysis must first identify minority and low-income groups that live in the project area and may be affected by the action. Typically, census data are used to document the occurrence and distribution of these groups. Agencies should be cognizant of distinct cultural, social, economic, or occupational factors that could amplify the adverse effects of the proposed action. (For example, if a particular kind of fish is an important dietary component, fishery management actions affecting the availability, or price of that fish, could have a disproportionate effect.) In the case of Indian tribes, pertinent treaty or other special rights should be considered. Once communities have been identified and characterized, and potential adverse impacts of the alternatives are identified, the analysis must determine whether these impacts are disproportionate. Because of the context in which environmental justice is developed, health effects are usually considered, and three factors may be used in an evaluation: whether the effects are deemed significant, as the term is employed by NEPA; whether the rate or risk of exposure to the effect appreciably exceeds the rate for the general population or some other comparison group; and whether the group in question may be affected by cumulative or

multiple sources of exposure. If disproportionately high adverse effects are identified, mitigation measures should be proposed. Community input into appropriate mitigation is encouraged.

Section 8.5 in Appendix A to the 2005–06 groundfish harvest specifications EIS describes a methodology, using 2000 U.S. Census data, to identify potential "communities of concern" because their populations have a lower income or a higher proportion of minorities than comparable communities in their region. Based on this information, but focusing on more isolated, rural coastal communities, Section 7.5.7 of this document discusses the potential effects of the proposed action on minority and low income populations. It should be noted that fishery participants make up a small proportion of the total population in these communities, and their demographic characteristics may be different from the community as a whole. However, information specific to fishery participants is not available. Furthermore, different segments of the fishery-involved population may differ demographically. For example, workers in fish processing plants may be more often from a minority population while deckhands may be more frequently low income in comparison to vessel owners.

Participation in decisions about the proposed action by communities that could experience disproportionately high and adverse impacts is another important principle of the EO. The Council offers a range of opportunities for participation by those affected by its actions and disseminates information to affected communities about its proposals and their effects through several channels. In addition to Council membership, which includes representatives from the fishing industries affected by Council action, the GAP, a Council advisory body, draws membership from fishing communities affected by the proposed action. While no special provisions are made for membership to include representatives from low income and minority populations, concerns about disproportionate effects to minority and low income populations could be voiced through this body or to the Council directly. Although Council meetings are not held in isolated coastal communities for logistical reasons, they are held in different places up and down the west coast to increase accessibility.

The Council disseminates information about issues and actions through several media. Although not specifically targeted at low income and minority populations, these materials are intended for consumption by affected populations. Materials include a newsletter, describing business conducted at Council meetings, notices for meetings of all Council bodies, and fact sheets intended for the general reader. The Council maintains a postal and electronic mailing list to disseminate this information. The Council also maintains a website (www.pcouncil.org) providing information about the Council, its meetings, and decisions taken. Most of the documents produced by the Council, including NEPA documents, can be downloaded from the website.

7.2.3 EO 13132 (Federalism)

EO 13132, which revoked EO 12612, an earlier federalism EO, enumerates eight "fundamental federalism principles." The first of these principles states "Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the people." In this spirit, the EO directs agencies to consider the implications of policies that may limit the scope of or preempt states' legal authority. Preemptive action having such "federalism implications" is subject to a consultation process with the states; such actions should not create unfunded mandates for the states; and any final rule published must be accompanied by a "federalism summary impact statement."

The Council process offers many opportunities for states (through their agencies, Council appointees, consultations, and meetings) to participate in the formulation of management measures. This process

encourages states to institute complementary measures to manage fisheries under their jurisdiction that may affect federally-managed stocks.

The proposed action does not have federalism implications subject to EO 13132.

7.2.4 EO 13175 (Consultation and Coordination with Indian Tribal Government)

EO 13175 is intended to ensure regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes.

The Secretary recognizes the sovereign status and co-manager role of Indian tribes over shared Federal and tribal fishery resources. At Section 302(b)(5), the MSA reserves a seat on the Council for a representative of an Indian tribe with Federally-recognized fishing rights from California, Oregon, Washington, or Idaho.

The U.S. government formally recognizes the four Washington coastal tribes (Makah, Quileute, Hoh, and Quinault) have treaty rights to fish for groundfish. In general terms, the quantification of those rights is 50 percent of the harvestable surplus of groundfish available in the tribes' U and A fishing areas (described at 50 CFR 660.324). Each of the treaty tribes has the discretion to administer their fisheries and to establish their own policies to achieve program objectives.

The allocations under consideration will not affect the way in which harvest opportunity is allocated to the tribes..

7.2.5 EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds)

EO 13186 supplements the MBTA (above) by requiring Federal agencies to work with the USFWS to develop memoranda of agreement to conserve migratory birds. NMFS is in the process of implementing a memorandum of understanding. The protocols developed by this consultation will guide agency regulatory actions and policy decisions in order to address this conservation goal. The EO also directs agencies to evaluate the effects of their actions on migratory birds in environmental documents prepared pursuant to the NEPA.

Past NEPA documents have evaluated impacts to seabirds and concluded that the proposed action will not significantly impact seabirds. There is no new information to indicate that the current proposed action would result in greater impacts to seabirds and the previous evaluation is incorporated by reference.

7.3 Regulatory Impact Review and Regulatory Flexibility Analysis

CHAPTER 8 LIST OF PREPARERS

Council Staff

Name	Participation
Ms. Heather Brandon	Contributing writer
Mr. Merrick Burden	Contributing analyst
Dr. Christopher "Kit" Dahl	Contributing writer
Mr. John DeVore	Principal writer; Project lead
Ms. Renee Dorval	Proofing and editing
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Ms. Carrie Montgomery	Proofing and editing

Other Contributors

Name	Affiliation	Participation
Dr. Edward Waters	Contracted by PFMC	Principal analyst
Ms. Eileen Cooney	NMFS, General Counsel	GAC participation/ alternative development

Groundfish Allocation Committee

The Groundfish Allocation Committee (GAC), GAC member alternates, and GAC advisors worked with the Council to develop, analyze, and recommend alternatives.

Name	Affiliation
Mr. Donald Hansen	Dana Wharf Sportfishing & Pacific Fishery Management Council Chair
Dr. David Hanson	Pacific States Marine Fish Commission

Name	Affiliation
Mr. Curt Melcher	Oregon Department of Fish and Wildlife
Mr. Stephen Williams	Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich	California Department of Fish and Game
Mr. Frank Lockhart	NMFS, Northwest Region
Mr. Phil Anderson	Washington Department of Fish and Wildlife
Ms. Michele Culver	Washington Department of Fish and Wildlife

Groundfish Allocation Committee Advisors

Name	Affiliation
Dr. Stephen Barrager	Stanford Law School; Environmental Advisor
Mr. Tom Ghio	Ghio Fish Company; Open Access Advisor
Mr. Pete Leipzig	Fisherman's Marketing Association; Limited Entry Trawl Advisor
Ms. Michele Longo-Eder	Michele Longo Eder Attorney at Law, LLC; Limited Entry Fixed Gear Advisor
Ms. Heather Mann	Munro Consulting; Shoreside Processor Advisor
Mr. Robert Osborn	United Anglers of Southern California; Recreational Advisor
Mr. Daniel Waldeck	Pacific Whiting Conservation Cooperative; At-sea Processor Advisor

CHAPTER 9 AGENCIES AND ORGANIZATIONS CONSULTED

Agency and organization consultation is facilitated through the Council process. The following agencies and organizations were consulted in the process of deciding the scope of the Amendment 21 intersector allocation action, developing the alternatives, and highlighting the key affects of the alternatives:

9.1 Agencies

- The California Department of Fish and Game
- The National Marine Fisheries Service
- The National Oceanic and Atmospheric Administration Office of Law Enforcement
- The Northwest Indian Fisheries Commission
- The Pacific States Marine Fisheries Commission
- The Oregon Department of Fish and Wildlife
- The Washington Department of Fish and Wildlife

9.2 Organizations

- Arctic Storm, Inc.
- The Coos Bay Trawlers Association
- Environment Defense

- The Fishing Vessel Owner's Association
- Midwater Trawlers Cooperative
- Ocean Gold Seafoods
- The Oregon Trawl Commission
- The Pacific Marine Conservation Council
- Pacific Seafoods
- The Pacific Whiting Conservation Cooperative
- The Natural Resources Defense Council
- The United Anglers of California
- The United Anglers of Southern California
- The West Coast Seafood Processors Association
- The Westport Charter Association

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APPENDIX A MINUTES OF THE GROUNDFISH ALLOCATION COMMITTEE: EXCERPTS PERTAINING TO DEVELOPMENT OF INTERSECTOR ALLOCATION ALTERNATIVES

THURSDAY, JANUARY 27, 2005 - 8:30 A.M.

Members Present:
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Dr. Steve Freese, National Marine Fisheries Service Northwest Region
Mr. Don Hansen, Dana Wharf Sportfishing, Pacific Fishery Management Council Chairman
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game

Advisors Present:
Ms. Eileen Cooney, National Oceanic and Atmospheric Administration Northwest Regional Counsel
Ms. Kathy Fosmark, Groundfish Advisory Subpanel (GAP), Open Access Representative
Mr. Pete Leipzig, Fishermen's Marketing Association, Limited Entry Trawl Representative
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Rod Moore, West Coast Seafood Processors Association, GAP Chair, Processor/Buyer Representative
Mr. Bob Osborn, United Anglers of Southern California, Recreational Representative

Others Present:
Mr. Steve Bodnar, Coos Bay Trawlers Association, Bandon Submarine Cable Committee
Mr. Mark Cedergreen, Westport Charterboat Association, Pacific Fishery Management Council

Dr. Elizabeth Clarke, National Marine Fisheries Service Northwest Fisheries Science Center
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT
Ms. Michele Culver, Washington Department of Fish and Wildlife, Chair, GMT
Dr. Kit Dahl, Pacific Fishery Management Council, Staff
Mr. John DeVore, Pacific Fishery Management Council, Staff
Mr. Chris Dorsett, The Ocean Conservancy
Mr. Kenyon Hensel, GAP
Mr. Peter Huhtula, Pacific Marine Conservation Council (PMCC)
Mr. Bill James, Kaizer, Oregon
Mr. Steve Joner, Makah Fisheries Management
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Ms. Dorothy Lowman, Environmental Defense
Dr. Don McIsaac, Executive Director, Pacific Fishery Management Council
Mr. Dale Myer, Arctic Storm, Inc., GAP
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Mark Saelens, Oregon Department of Fish and Wildlife
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. Dan Waldeck, Pacific Whiting Conservation Cooperative
Dr. Ed Waters, Pacific Fishery Management Council, Staff
Mr. Dan Wolford, Coastside Fishing Club

E. Consideration of Intersector Allocations

1. The Needs for Intersector Allocations
2. How Should the Advisors to the Allocation Committee Conduct Their Work?
3. Should Council Staff Initiate Development of an Intersector Allocation Environmental Impact Statement?
4. Which Species and Areas Are Intersector Allocations Needed to Support a TIQ Program?
5. Which Species and Areas Are Intersector Allocations Needed to Support Other Management Aspects (Non-TIQ)?
6. In What Order Should Intersector Allocations Be Resolved?

Mr. Anderson said part of this decision is to recommend whether there is a need for Intersector Allocation. If the answer is no, is it necessary to continue this agenda? There was a deliberative decision that allocation decisions would be undertaken by the Allocation Committee. We need to simultaneously initiate the TIQ and Intersector Allocation processes. He believes an intersector allocation process is needed regardless of whether the TIQ initiative is forwarded or not. This will benefit the biennial specifications decision-making process. This will be helpful to the Council in the long term. Mr. Leipzig agrees given the contentious nature of biennial allocation decisions. This will add stability to the Council process. The TIQ process is also important. The intersector allocation decision-making process is needed to make progress in the TIQ process. However, the TIQ process also requires allocation of trawl target species. The GMT bycatch scorecard only addresses overfished species. Ms. Longo-Eder agreed with the need for an intersector allocation. Members of the limited entry fixed gear fleet were polled and agree this intersector allocation process is needed for stability. For instance, thornyheads are a major trawl target; however, this is an important target for the non-

sablefish-endorsed limited entry fixed gear fleet. The fleet believes this Committee is the key body for making these allocation decisions. She also presented a request that the current trawl/fixed gear sablefish allocation be revisited as part of this process. Mr. Osborn said recreational fishermen strongly support intersector allocation, but questioned whether a fixed allocation would contribute to stability of the management system. He believes strong harvest control rules are needed to achieve stability. Dr. McIsaac asked Mr. Osborn if he was opposed to long-term allocations for the recreational fishery. Mr. Osborn said no. He wants to examine allocation guidelines and processes, but not necessarily end up with long-term hard allocations. He said fishery rationalization also needs to occur between sectors with available mechanisms to deal with such issues as increasing demand for fish and cultural change such that these risks are not merely transferred from one sector to another. He wants to examine allocation guidelines, but not necessarily long-term allocations. Mr. Moore partially disagreed and stated intersector allocation is the key to stability. The whiting allocation process was contentious, but it brought stability to that sector. Fishermen and processors are better able to develop business plans with a hard allocation. Mr. Hensel was concerned with intersector allocations. He believes hard allocations create a loss of flexibility to a management system in flux. New stock assessments can change the balance, and allocation may need to be changed. Mr. Cedergreen agreed that we need to maintain flexibility given the changes in stock status and to weather the effect of court decisions in a litigious atmosphere. Dr. McIsaac concluded from the discussion the Committee agrees with the need to proceed with an intersector allocation process. The Committee agreed. Mr. Joner remarked the tribes may in the future seek more formal allocations for other groundfish species (there is already a hard tribal allocation for whiting and sablefish). Such tribal allocation decisions involve intertribal negotiations and biological constraints such as stock structure and regional distribution. Mr. Anderson said he has been thinking about tribal allocation issues and how to proceed on that front. There are some species where there are specific tribal allocations. Other species have become more prevalent in tribal fisheries, and we need to keep this in mind. The tribal fishery has grown a lot in the last five years which changes the fishery allocation landscape. This creates the impetus for more regional OYs than the current practice of specifying coastwide OYs for many of the FMP species. Dr. McIsaac said it would be helpful to identify the sectors and species that should be considered in an intersector allocation process. Mr. Moore was not sure the sectors identified yesterday during the Amendment 18 discussion for consideration of total catch limits of overfished species would be the same for intersector allocation of more traditional target species. Mr. Anderson said, as we discuss all the fishery sectors, the species which require an intersector allocation decision should fall out. We will find some species do not need to be allocated and others will, but perhaps not across all sectors. Mr. Leipzig agreed and pointed out some species are caught only in trawl fisheries while others are caught across many or all sectors. Ms. Longo-Eder said we should focus on landings for many years, not just 2002 landings (the handout identified 2002 landings by sector) given the annual variability in fisheries. Ms. Vojkovich recommended we keep in mind that trawl gear may not be the most desirable way to harvest some species that have been trawl targets. Mr. Saelens agreed and recommended we take a forward look and try to reach a common vision on how we want the fishery to look like in the future. It would be wrong to perpetuate all elements of the current management regime. He stated that attention needs to be given to the degree to which groups might be able to change gears over time. Dr. Freese recommended we look forward five years. Looking too far forward will complicate the process and analyses. Mr. Anderson said another

way to proceed is to look at annual trawl trip limits and the acceptable biological catch (ABC)/OY table as a place to start. The first step for advancing the TIQ initiative would be to focus on the species assemblages and allocations we currently have. We could go down the trawl trip limit table to determine the species we need to focus on to do intersector allocation. Mr. Leipzig said we also need to look at the fishery itself.

Mr. Anderson said the first sector cut for allocation is limited entry trawl, limited entry fixed gear, open access, and recreational. The Committee proceeded to develop Table 1 (appended to this report) of groundfish FMP species caught by these sectors. An "X" in the cell denotes a species considered for allocation to a particular sector. An "X" in the Incidental column signifies the need to allocate some yield for that species to accommodate incidental bycatch in sectors not already noted.

Mr. Anderson stated the next order of business is to decide which species need to be allocated to the limited entry trawl sector in order to develop a TIQ program. Mr. Moore said any species with trawl landings probably need IQs. Mr. Leipzig pointed out that some species, such as English sole, are probably not taken by non-trawl sectors. Ms. Culver asked if there are species that could be managed with trip limits rather than IQs. Mr. Leipzig said yes, but is that the right approach? The decision on which species get IQs has not yet been made. Ms. Vojkovich remarked the table contains the longest list of species considered for allocation. Mr. Leipzig said we need to pick some time periods to generate tables depicting catch history by sector. Dr. Freese recommended looking at a limited set of years. Mr. Moore said the 2000-2004 period includes years with and without Rockfish Conservation Areas during management under the Sustainable Fisheries Act. Ms. Culver recommended inclusion of years prior to 1999 when trawl targeting of rockfish was allowed. She thought the early- to mid-1990s would be an important period to capture the changing management structure with respect to incentives and disincentives to retain certain species. Ms. Longo-Eder recommended three periods be looked at using period averages: 1990-1995, 1996-2000, and 2001-2004. Dr. Freese recommended against using period averages and instead suggested taking annual "snapshots" of the fishery every five years (i.e., 1990, 1995, 2000, and 2004). Ms. Vojkovich pointed out there was a problem with missing Recreational Fishery Information Network data in 1990. Mr. Anderson said there was a similar problem with 1999 recreational fishery data. After some discussion, the Committee agreed the years to look at should be 1988, 1994, 1998, and 2004.

The Committee briefly discussed how advisors to the Committee should conduct their work. Ms. Vojkovich hoped the advisors could help flesh out some of the issues that will be deliberated prior to future Committee meetings. This would help committee members be more prepared to discuss ideas the advisors would be presenting. Ms. Fosmark recommended an outreach program be developed given the fragmentation of the open access sector. Mr. Moore asked if the advisors should meet independently from the Allocation Committee. Ms. Vojkovich said not necessarily. Mr. Leipzig remarked that each advisor has constituents. The advisors can take issues back to them and get their feedback. The Committee agreed that was their expectation.

The Committee then continued discussing the species and areas for allocations needed to support a TIQ program. Mr. Anderson agreed on the need to look forward when making

allocation decisions. We need to determine how we want to shape the fishery. Therefore, using catch histories and the structure of past fisheries are important considerations, but we do not need to perpetuate past problems. For instance, trawl gear may be the most efficient way to harvest many of our flatfish species like petrale sole, but, in his opinion, not the best way to harvest nearshore species. This is the kind of perspective he recommends this Committee should have. Allocation for obvious trawl target species can probably be decided in the next step. There will likely be a need to allocate overfished species to accommodate incidental take. Dr. Burke thought this was an encouraging perspective. She is concerned with the current management system and the unbalanced incentives/disincentives inherent in how allocation decisions have been made in the annual/biennial specifications decision-making process. Mr. Leipzig also urged a certain amount of flexibility be maintained in how we decide allocation in the future. He envisions sliding scale and percentage mechanisms to structure future allocations. Ms. Longo-Eder suggested there should be MSA and Strategic Plan concepts and goals in front of the Committee for how to decide future allocations. Is the goal bycatch reduction or fishery stability? We need to understand our MSA and Strategic Plan goals. Mr. Dorsett recommended habitat impacts also be on the forefront of Committee members' minds.

Ms. Vojkovich asked about the expected time frame for making allocation decisions. Mr. Seger said it depends on what is driving the process. Developing a TIQ program requires allocations, but Amendment 18 requires consideration of allocation issues if hard caps are to be used for bycatch reduction. A TIQ program could be implemented by 2008 or 2009. Ms. Vojkovich asked if we need to make intersector allocation decisions as part of the 2007-2008 management decision-making process. Mr. DeVore said the formal process of developing an intersector allocation EIS will take too long to be implemented by 2007, but progress can be made in the interim. He recommended that allocations made for the 2007-2008 management cycle should accommodate or be consistent with the longer-term processes of intersector allocation and development of a TIQ program to the extent practicable. Dr. Burke encouraged the use of sustainable, incentive-based management measures for the 2007-2008 management cycle.

The Committee then discussed the species and areas for allocations needed to support other management aspects (non-TIQ). Ms. Fosmark said open access fishermen who direct their efforts on groundfish are concerned with the lack of permitting in their sector. They feel they are losing control of their fishery. Ms. Vojkovich agreed and said this is a priority with the State of California. The nearshore fisheries within the state's jurisdiction are limited entry now. The lack of a federal permitting system for open access has severely hampered fishery rationalization. Mr. Moore remarked that the Amendment 18 discussion covered part of this agenda item. He asked if there are interactions between the recreational and open access fisheries in California that ought to be looked at by this committee. Mr. Osborn said hard allocations may make those types of issues more difficult. Ms. Vojkovich asked if communities could buy IQ. There are some California ports that are losing income by the change in fishery management in the last five years. A TIQ program could further erode their economic base. Ms. Cooney said this is possible and there are some community IQs in Alaska. Mr. Anderson said the California recreational species need allocations, especially for the overfished species. However, not all species caught in recreational fisheries need to be allocated to that sector. For example, sablefish, widow rockfish, and other shelf rockfish

species may simply need a set-aside to accommodate incidental bycatch. Ms. Vojkovich said the future needs of fisheries are uncertain, so she was reluctant to conclude that certain fisheries do not need an allocation of certain species. Mr. Anderson said the Committee should consider a five-year future time frame, not an indefinite future.

F. Elements of an Allocation Decision

1. Frequency (Biennial, Limited Duration, Until Changed, Other)
2. Structure (Percentages, Sliding Scales, Tables, Rules for Suspension)
3. Criteria

Mr. Leipzig recommended a more permanent allocation for the trawl fishery (i.e., allocation maintained until changed) would provide stability for the industry. He thought a percentage of the total yield would be a reasonable way to go in structuring allocation of target species. A sliding scale makes sense for many of the overfished species. By sliding scale, he means that, as biomass changes, the allocation percentage changes according to the needs of the affected fishing sectors. This sliding scale would probably need to be specific to each species. Ms. Vojkovich asked for some examples of sliding scale allocation formulae for the next Committee meeting. Mr. DeVore explained the tribal whiting allocation formula uses a sliding scale structure. Mr. Seger added that allocation guidelines could be used to resolve some of the allocation issues while preserving some of the flexibility of the current biennial allocation system. Ms. Vojkovich remarked long-term allocations vs. biennial allocations are in conflict in terms of the stated goals (stability vs. flexibility). She likes the idea of allocation decisions lasting for two to three biennial management cycles. Mr. Moore said imposing a five-year checkpoint on the allocation decision may be a good compromise. Mr. Leipzig said allocations of the trawl-dominant species could be of longer duration than for the other species. This is another example of how to reach a compromise relative to the goals of stability and flexibility. Ms. Longo-Eder also stated there was general agreement in the limited entry fixed gear fleet that they want the ability to buy trawl quota share and use it in their fishery. The TIQ process could allocate a portion of their overall quota for the limited entry fixed gear fleet. Dr. Freese said five years seems to be a consensus recommendation as a checkpoint for some allocated species. This is also the checkpoint for evaluating the strategic plan.

Summary of Recommendations from the January 2005 GAC Meeting

Consideration of Intersector Allocations

- An intersector allocation process should proceed regardless of the progress in developing a TIQ program.
- Initial analyses of intersector allocations should be done using the following sectors: limited entry trawl, limited entry fixed gear, open access, recreational, and tribal.
- The groundfish FMP species noted in Table 1 should be the focus of intersector allocations. Some yield should be set aside to accommodate incidental bycatch in sectors not noted in Table 1.
- Landings by sector in the years 1988, 1994, 1998, and 2004 should be reviewed to analyze intersector allocations needed to support a TIQ program.

- TIQ advisors to the Allocation Committee should solicit feedback from their constituents on relevant intersector allocation and TIQ program issues.
- The processes to decide intersector allocations and develop a TIQ program should maintain a five-year outlook when shaping the future of the groundfish fishery.

Elements of an Allocation Decision

- Allocations based on a percentage of the OY make the most sense for target species, while a sliding scale structure (the allocation percentage by sector varies with biomass) for allocating overfished species is recommended.
- Allocations of some target species, especially target species that are predominant in a single sector, should be of longer duration than allocations of more constraining species, such as the overfished species.
- Allocation decisions should be reviewed at least every five years.

Interactions Between Limited Entry Trawl and Open Access

- An Allocation Committee recommendation is needed by the June Council meeting.

Effects of Overages or Underages in One Sector on Other Sectors

A matrix indicating MSA constraints on allowing overages by species should be developed for the next Allocation Committee meeting.

TUESDAY, MAY 3, 2005

Members Present:
Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Dr. Stephen Freese, Northwest Region National Marine Fisheries Service
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game

Advisors Present:
Ms. Mariam McCall, National Oceanic and Atmospheric Administration General Counsel
Mr. Rod Moore, West Coast Seafood Processors Association, Processor Representative
Mr. Pete Leipzig, Fishermen's Marketing Association, Limited Entry Trawl Representative
Ms. Michele Longo Eder, Limited Entry Fixed Gear Representative
Ms. Kathy Fosmark, Open Access Representative
Mr. Bob Osborn, Recreational Representative

Others Present:
Mr. Steve Joner, Makah Tribe
Mr. Brian Culver, Washington Department of Fish and Wildlife
Ms. Michele Culver, Washington Department of Fish and Wildlife
Mr. Mark Saelens, Oregon Department of Fish and Wildlife
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Steve Bodnar, Coos Bay Trawlers Association
Mr. Chris Dorsett, The Ocean Conservancy
Ms. Dorothy Lowman, Consultant- Environmental Defense
Mr. Dan Waldeck, Pacific Whiting Conservation Cooperative
Mr. Dayna Matthews, National Marine Fisheries Service Office of Law Enforcement
Ms. Kate Quigley, Northwest Region National Marine Fisheries Service
Ms. Yvonne de Reynier, Northwest Region National Marine Fisheries Service
Mr. Mark Cedergreen, Westport Charterboat Association
Mr. Allen Chan, Government Accounting Office
Ms. Susan Malone, Government Accounting Office
Mr. Richard Carroll, Ocean Gold Seafoods
Dr. Kit Dahl, Pacific Fishery Management Council staff
Dr. Don McIsaac, Pacific Fishery Management Council Executive Director
Dr. Ed Waters, Pacific Fishery Management Council staff
Mr. Jim Seger, Pacific Fishery Management Council staff
Mr. John DeVore, Pacific Fishery Management Council staff

D. Review of Historical Landings by Sector

Dr. Waters reviewed the historical landings by sector for the years 1988, 1994, 1998, and 2002. There was a glitch in the 2004 landings data that could not be resolved in time for the meeting so those data were not displayed. The sectors depicted in these tables were: shoreside limited entry trawl (whiting and non-whiting sectors combined), whiting catcher-processors, whiting motherships, limited entry fixed gear- line gears, limited entry fixed gear- pot/trap gears, open access- directed groundfish, open access- incidental groundfish, shoreside tribal, at-sea tribal (whiting-directed), and recreational. It was noted that there was not enough time prior to the meeting to analyze catch data at the fish ticket level to stratify the shoreside limited entry trawl catches into the whiting-directed and non-whiting sectors. The criterion used to stratify open access catches into directed groundfish and incidental groundfish sectors was if >5% of annual ex-vessel revenues on a per vessel basis came from groundfish, those catches were assigned to the directed groundfish sector of the open access fishery. Otherwise, open access catches were assigned to the incidental groundfish sector. It was also noted that one would want to add the catches for shoreside tribal and at-sea tribal to determine total tribal groundfish catches, which is the sector aggregation the Committee originally recommended for management. The left-hand column of the dataset denoted (with a "#" symbol) a species or species' complex where no one sector had 90% or more of total reported landings and deliveries and the total landings for all sectors was at least 1 mt. The Committee was told these species or species' groups should be considered candidates for intersector allocation according to the criterion used.

Ms. Longo Eder requested a future display of landings by sector as a percentage of the total. She also thought the 1998 landings of sablefish in the limited entry fixed gear- pot/trap gears sector were low at 58.3 mt. Mr. Joner remarked the total landings estimated for 1998 seemed correct and recalled the OY set in 1998 was low due to the more pessimistic sablefish stock assessment conducted in 1997. Ms. Vojkovich remarked the limited market sampling of landings in southern California (south of Pt. Conception) confounds our understanding of species composition in those fisheries. The Committee agreed with Ms. Longo Eder's data request and added their desire to see footnotes describing major events affect the management regime in future versions of these landings tables. This will help provide the context for some of the catch history depicted in these tables.

E. Intersector Allocation Options

Mr. DeVore provided a more in-depth overview of this agenda item and reviewed the minutes of the last Committee meeting in January. The Committee had discussed in conceptual terms the duration and frequency of future allocation decisions and the potential structure of species' allocation formulae in January. Of the three primary objectives of the intersector allocation process (Amendment 18 bycatch reduction, biennial management decision-making, and development of a TIQ program), a more permanent allocation is desirable for developing the TIQ program since it would provide stability for the industry. It was thought allocations of trawl-dominant (or any sector-dominant) species or species' complexes could occur using a fixed percentage of OY, while allocations for more constraining species, such as those overfished species managed under rebuilding plans, could be managed using a sliding scale formula. A sliding scale allocation structure would vary the sector allocation percentages

according to changes in biomass or OY. This allocation structure is inherently more flexible and responsive to the needs of the fishery. The Committee had also discussed a five-year review of future allocation decisions and the desire to consider intersector allocation decisions with a view of how the fishery should be shaped five years from now.

Mr. Moore asked for which species a sliding scale allocation formula might apply? Species already declared overfished? Species recently found to be overfished? Mr. DeVore said those species that constrain fishing opportunities for multiple sectors should be considered for such an allocation structure. Some overfished species such as Pacific ocean perch may not be the binding constraint and are dominant in one sector. An allocation of POP using a straight percentage of the OY may make the most sense. But a species such as canary rockfish might be a good candidate for a sliding scale allocation formula since it is a binding constraint for many sectors. As the canary rockfish OY varies, a different percentage of the OY might be considered for setting sector total catch limits to allow an economically optimal mix of fishing opportunities.

Ms. Vojkovich asked if there exists a document that portrays what OYs are needed to prosecute certain fisheries. Mr. DeVore said the annual/biennial specifications EISs may be the best documents to find analyses of west coast fisheries interactions. Mr. Leipzig said the IQ concept makes it unnecessary to completely anticipate the mix of species caught in prosecuting a certain fishery. Tradable quotas provide an economic strategy for reducing/minimizing bycatch.

Ms. Vojkovich said she would like to see the current geographic distribution of the west coast trawl fleet. Mr. DeVore stated the 2005-2006 specifications EIS shows trawl landings by west coast port. However, the best analysis of trawl fleet distribution would probably come from trawl logbooks since the areas (ports) where landings are made do not necessarily reflect the areas where fishing occurred. This is an analysis that could be assigned to the GMT.

Mr. Anderson said he has been thinking about the inherent, yet confounding values of flexibility vs. stability in the intersector allocation decision-making process. The timeline is important in deciding what the allocation framework should be. Since the long term is much less certain than the short term, he recommends we design allocations to last for 2-3 biennial management cycles with a determination of desirable fishing strategies for that period. Mr. Osborn agreed and stated new data may emerge that would affect an allocation decision. The lack of economic data makes it difficult to plan beyond the next few management cycles. Mr. Leipzig asked what criteria would trigger a re-allocation. It was thought a new understanding of a critical stock's status or a better understanding of a sector's bycatch might trigger reconsideration of an allocation.

The Committee discussed other elements of intersector allocation. Ms. Fosmark thought the open access fishery should be more thoroughly analyzed. She wanted to see open access landings and revenues by gear type to better understand the economic needs of that sector. Ms. Longo Eder recommended allocating some future yields or set asides for experimental or emerging fisheries. As an example, she said the fixed gear fleet has recently experimented with flatfish traps. Mr. Leipzig thought the Committee should assume the existing Rockfish

Conservation Areas (RCAs) will remain in place for the next 2 or 3 management cycles. Mr. Dorsett recommended the Committee focus on creating incentives in an allocation scheme to minimize bycatch. Any intersector allocation analysis should pay attention to the bycatch taken by various gear types and include a rationale for this bycatch. He thought any allocation scheme should also consider the habitat impacts of that fishing strategy.

Mr. DeVore recommended the Committee consider intersector allocation requirements for developing the TIQ program and develop alternatives for trawl/non-trawl allocations. Mr. Anderson raised the question of the timeframe (i.e., duration) of this allocation and thought 2-3 management cycles might be appropriate for this allocation as well. Mr. Moore thought of two alternatives for the duration of a trawl/non-trawl allocation: 1) allocation decisions sunset after a set time, or 2) Council reviews an allocation decision at the end of a biennial management period, but the allocation endures in lieu of a review. Mr. Anderson preferred the second option with criteria set for what would trigger a review. Mr. DeVore thought alternatives analyzing strawman scenarios that mix and match different species' OYs might be informative. For instance, analyze fishing opportunities by sector when one target or constraining species has a relatively high OY and another one has a low OY. Different strategically decided scenarios might effectively tease out the types of fishery interactions the Committee and Council would need to understand to make these allocation decisions.

Mr. Moore thought the Committee could identify the trawl-dominant species and easily structure allocation alternatives for those species. He identified longspine thornyheads, shortbelly rockfish, arrowtooth flounder, Dover sole, English sole, petrale sole, and Pacific cod as species in our FMP that are not overfished and dominant to the trawl sector. He recognized the tribal fishery does harvest some of these species, but thought allocation could be more easily reconciled for these species than for others. Ms. Longo Eder said some of these species are caught by fixed gears in some years and questioned whether they were truly dominant to the trawl sector. She was not ready to agree some of these species shouldn't have a non-trawl allocation beyond an incidental set-aside. Ms. Vojkovich stated constraining species' allocations will determine what can be caught. Such allocations will also provide the incentives for reducing bycatch and creating cleaner fishing strategies. She recommended a sensitivity analysis of a species like canary rockfish with a range of trawl/non-trawl allocations. Mr. Moore said the issue is how much of a target species can be caught given the allowable harvest (i.e., sector total catch limit) of weak stocks. Allocation of weak stocks will establish the values of IQs. Mr. Leipzig mentioned IQs for only the trawl target species is one of the alternatives in the TIQ program. Allocating trawl target species is essential for developing the TIQ program. Mr. Moore said allocating the trawl-dominant species first will make the other allocation decisions easier. He recommended the first step should be deciding the set-asides of these trawl-dominant species to accommodate incidental catches in other sectors. Mr. Anderson agreed and said the initial allocation of trawl-dominant species will provide the incentive to reduce bycatch.

Ms. Vojkovich asked about set-asides for research and experimental fisheries. Mr. Anderson thought, as a starting point, analyze an 80% allocation of these seven trawl-dominant species to the trawl sector and a 20% allocation to accommodate incidental catch, research, and experimental fisheries. Mr. Moore said another alternative would be to range the percent of

OY allocated for these incidental catch purposes (i.e., 2%, 5%, 10%, etc.) and allocate the remaining yield to the trawl sector. Ms. Longo Eder said arrowtooth flounder, Dover sole, and petrale sole were caught by line gears in the past (e.g., 10% of the 1998 petrale sole catch was by limited entry line gears). Don't assume these are just incidental catches.

Mr. Moore recommended the analysis assume the management regime won't change dramatically in the next six years. It is unlikely that we will have the same management regime we did in 1998. Mr. Leipzig said he would agree to any alternative that would get this analysis started. Why not structure alternatives for analysis that would allocate the lowest proportion of any species' OY observed in the last ten years for the trawl sector? Mr. Moore recommended the alternative should analyze the lowest proportion for all sectors in that time frame. Perhaps the analysis should assume a 10% set-aside for incidental catches. Ms. Vojkovich said such an analysis won't capture the growth of the recreational fishery. Mr. Leipzig remarked the inflated MRFSS estimates are problematic in the analysis. Mr. Osborn liked the approach of analyzing yield buffers as well.

Ms. de Reynier recommended an alternative approach for structuring alternatives for analysis. Be mindful of fishing philosophies and the tenets of the Council Groundfish Strategic Plan. She also thought the Committee should consider different allocations for nearshore, shelf, and slope species, since there is a different array of fishing sectors targeting these assemblages. Mr. Moore agreed and remarked the Council has tended to design nearshore fishing opportunities for the recreational sector and slope fishing opportunities for commercial sectors.

Ms. Vojkovich returned to the topic of allocating the trawl-dominant species as an alternative for analysis. She thought the alternative could be structured as outlined by Mr. Moore, but the other species could be allocated 50% to the trawl sector. Mr. Leipzig said this will not be realistic for some species since the trawl fishery has traditionally taken more than 50% of the harvestable yield of some species and taken a very small proportion, if any, of other species such as nearshore rockfish. Ms. Longo Eder asked if we need another allocation option for the seven trawl-dominant species discussed earlier. Mr. DeVore said a reasonable range of allocation options could be structured by analyzing the maximum and minimum proportions of the annual harvest for each sector within the last ten years. Mr. Anderson said a range of allocation options for the seven trawl dominant species could be determined by analyzing ± 10% of the lowest trawl harvest percentage within the last ten years. Mr. Leipzig thought analyzing that range of options, coupled with the high and low harvest percentages by sector, would be informative. He recommended the Committee also consider some "set-aside" options. Mr. DeVore said harvest trends of some key indicator species and complexes by sector in the last ten years would also inform folks of how the fishery has changed. Ms. Vojkovich wanted these data extracts aggregated to the list of species and complexes we currently manage with OYs. She also wanted a display of all the open access/limited entry allocations currently used in the management regime. Ms. de Reynier said the specifications table from the Federal Register notice of annual/biennial regulations would be helpful to the Committee because it depicts the hard sector allocations by species and complexes. Mr. DeVore asked what sectors the Committee wanted to see in these data extracts. They agreed the catch data should be stratified to the ten sectors discussed at the last meeting, but the annual catch proportions by sector should be in terms of percentage of non-tribal catch. This was

because of the legal opinion that it would be harder for the Council to impose sector catch limits on the tribal fishery.

Mr. DeVore asked if there were additional data requests or analyses the Committee would like to see. He also asked about the timing of these requests. Ms. Longo Eder requested economic analyses and made the point some fisheries have a higher value than others. Ms. McCall said economic analyses are part of any NEPA analysis of alternatives. Mr. Leipzig said recreational catches also have a value that is not currently captured. Ms. Fosmark requested a Marine Protected Areas/ Marine Life Protection Act timeline as part of the background material for the analysis. Mr. Moore said the alternatives should be developed at the next meeting after looking at these data runs and analyses. The Committee agreed. Dr. Burke asked for a summary or footnotes in these data tables denoting state management constraints. Mr. Anderson requested a regional stratification of catch data for those species with regional OYs. He also wanted to shape the management system such that discards are converted to landed catch. In that spirit, he wanted an analysis of the amount of yield necessary to accommodate some retention of prohibited catch (e.g., compare the yields needed to go from no retention to a 1-fish bag limit).

Mr. Osborn noted that the California process for allocating the nearshore rockfish species was very difficult. Ms. Vojkovich said CDFG currently uses these allocations to structure recreational harvest guidelines geographically within the state. Two sets of data were used because the commercial live fish fishery has recently become more important.

Mr. DeVore reviewed the data/analysis requests. (These data extracts and analyses are outlined in "Summary of Allocation Committee Recommendations" appended to this document.)

Ms. Vojkovich wondered if we need to include discard rates for commercial fisheries. Mr. DeVore made the point that we currently manage with discard rates determined through the Observer Program for some sectors, assumed discard rates for other sectors, and reported discards in the recreational sector. There has been a mix of assumed and deterministic discard rates used to manage fisheries in the last yen years. It was also noted that commercial discard rates were assumed prior to the implementation of the Observer Program. The Committee debated the need for discard estimates for developing intersector allocation alternatives. They agreed that the most comparable catch data for developing intersector allocation alternatives is landings given the variable estimates of discards by sector. Therefore, they refined their requests to only include landed catch data. Ms. Vojkovich further requested footnotes in these data tables indicating when a precautionary reduction of an OY was implemented.

F. Scoping For Intersector Allocation Analyses

The Committee discussed the next steps in the intersector allocation process. Mr. DeVore said the requested analyses cannot be completed prior to the June Council meeting. He thought he, and perhaps other staff, could work on these analyses during the summer or fall. Dr. Freese said he would like to see these tables in the Groundfish Stock Assessment and Fishery Evaluation (SAFE) document. He thought these tables would be more useful than the current tables in the SAFE document. Mr. DeVore said he was concerned with the current plan to update the SAFE since some of the historical commercial and recreational catch data differs

from more recent data extracts. He agreed with Dr. Freese that production of the SAFE document should be delayed until this next data run is completed. This plan will lead to less confusion regarding historical catches.

Mr. DeVore asked if the Committee members would like to reconvene this summer or fall. He explained the GMT will meet later this month and he can ask them what time they might have to help with these analyses. Mr. Seger asked when scoping for the intersector allocation process should commence. Mr. DeVore recommended a delay in the scoping process until preliminary intersector allocation alternatives are developed. This will give the public some information they can react to and is a better way to engage in constructive scoping of alternatives. Dr. Burke asked when staff can have the data runs and analyses prepared. She noted the importance of having these data complete prior to the next Committee meeting. Ms. Vojkovich asked about the Amendment 18 timeline. Mr. DeVore agreed the next Committee meeting will be more constructive if the analyses are complete. He stated the Amendment 18 work plan calls for implementation of some sector total catch limits at the start of the 2007-2008 management period. He added that if the next Committee meeting occurred after the November Council meeting, when a range of 2007-2008 harvest specifications and management measures is decided, the Committee could begin work in allocating available harvest by sector, thus accomplishing initial Amendment 18 and 2007-2008 management objectives. The Committee agreed and tentatively scheduled the next Committee meeting for November 14-15.

Mr. Seger explained the importance of providing Committee TIQ recommendations at the June Council meeting. Mr. DeVore said he would prepare Committee minutes for this meeting, distribute draft minutes to Committee members for their review and edit, and incorporate the minutes in the June briefing book under the TIQ agenda item. He reminded Committee members of the May 25 briefing book deadline. The Committee agreed with this plan.

Summary of Allocation Committee Recommendations

Intersector Allocation

- Committee members requested the following data runs and analyses prior to developing preliminary intersector allocation alternatives:
  - Provide annual catch data for 10 management sectors during 1995-2004.
  - Footnote key management events affecting sector catches in these data extracts.
  - Stratify species/catch data by the species and complexes currently managed with OYs.
  - Provide the proportion of non-tribal catches by sector by year during 1995-2004.
  - Summarize maximum and minimum catch proportions for each sector during 1995-2004.
  - Identify ±10% of the lowest trawl catch proportions during 1995-2004.
  - Identify all open access/limited entry allocations in the current management regime.
  - Regionally stratify catches by state or region for fisheries with regional OYs/harvest guidelines.
  - Provide an MPA/MLPA timeline of events.
  - Provide the specifications table from the recent FR notice of biennial regulations.
  - Provide landed catch trends for key species and complexes important for intersector allocation.
- Scoping for an intersector allocation environmental impact statement should be delayed until preliminary alternatives are developed at the next Committee meeting.

MONDAY, NOVEMBER 14, 2005 - 1 P.M.

Members Present:
Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council, Acting Chair
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Susan Ashcraft, California Department of Fish and Game (designee for Ms. Marija Vojkovich)
Mr. Frank Lockhart, National Marine Fisheries Service Northwest Regional Office

Advisors Present:
Ms. Eileen Cooney, National Oceanic and Atmospheric Administration General Counsel
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Brad Pettinger, Limited Entry Non-Whiting Representative (designee for Mr. Pete Leipzig)
Mr. Dale Myer, Limited Entry Whiting Trawl Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative

Others Present:
Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dan Waldeck, Executive Director Pacific Whiting Conservation Cooperative
Mr. Steve Bodnar, Coos Bay Trawlers Association
Mr. Dave Jincks, Midwater Trawlers Cooperative
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Alan Hightower, Washington Trawler
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife, GMT member
Mr. Dayna Mathews, National Oceanic and Atmospheric Administration Office of Law Enforcement
Ms. Yvonne de Reynier, National Marine Fisheries Service Northwest Regional Office
Dr. Ed Waters, PFMC Consultant
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

B. Intersector Allocation Options

1. Review of Historical Landings by Sector

Dr. Ed Waters reviewed the data and analyses indicating how groundfish landings analyses were structured and the source of these data (see "Notes" in Guide to Data Handouts). These data summaries were annually stratified for the years 1995-2004.

Dr. Waters reviewed a table on page 5 of the Guide packet, which depicted total non-tribal landings assigned to non-tribal fishery sectors. He was asked to distinguish the difference between assigned and non-assigned landings. In many cases the fishing sector was not identified in the PacFIN or RecFIN databases. These data were categorized as non-assigned landings. Therefore, when reviewing landings by sector for intersector allocation, it was decided to depict landings assigned to sectors. Page 6 of the Guide packet depicts landings not assigned to fishing sectors. Page 7 of the Guide packet depicts the percent of non-tribal landings not assigned to a non-tribal fishing sector. In many cases, especially in the older data, the percent of non-assigned landings were quite high. Mr. Anderson asked if these data were representative of how the data is stratified in the other packets (packets A-E) and Dr. Waters said yes. Each packet structures the same data using other criteria.

Dr. Waters then reviewed packet A, which depicts landings in mt by year and sector. Each table is year-specific and stratified by 11 sectors (tribal landings were stratified by shoreside and at-sea landings). Mr. Waldeck thought the yelloweye landings estimate in the whiting catcher-processor sector in 2000 of 4.1 mt was too high.

Packet B presents the same data as in packet A, but in terms of percent of total non-tribal landings that were assigned to a sector. Mr. Seger reviewed packet C. Packet C provides minimum, maximum and average percentages of landings by sector. Each table is sector-specific. Packet D depicts the maximum, minimum, and average landings in mt by sector during 1995-2004. Packet E depicts landings by subregion by year for directed open access and recreational sectors. Mr. Anderson raised the concern that the recreational landings data by subregion seemed fraught with errors. He cited canary catch in 1995-97 and yelloweye landings in 1999 and 2000. As all these tables were reviewed, the Committee members wanted to double-check PacFIN and RecFIN estimates to verify or correct these data. Mr. DeVore will be the clearinghouse of data problems to be further reviewed and resolved by the Committee at a subsequent meeting. Mr. Pettinger recommended further analysis to assign unassigned landings to a particular sector. This will involve more stringent analysis using fish tickets and other data sources. The Committee was advised they should first consider which data they will ultimately want to use for intersector allocation decision-making before going through this step. However, rectifying historical data mistakes is beneficial for other uses beyond this process. Dr. Waters explained that as you review older data, there was less sorting and rockfish, for example, were landed as part of a larger complex than used in current management.

In recent years, the at-sea data from NorPAC are total catch estimates, while shoreside landings are landed catch. Recreational data uses A (landings) + B1 (dead discards) data from RecFIN. In some cases, there were no B1 estimates for recent Oregon and Washington catches. In those cases, Dr. Waters used preliminary estimates provided by the GMT at their May 2005 meeting. Mr. Culver said it appears some of the Washington estimates are MRFSS estimates not direct estimates from the Washington Ocean Sampling Program (OSP). The RecFIN Technical Committee has agreed to use estimates from the Washington OSP program. He will work with Dr. Waters to provide the correct estimates. Mr. Myer asked about the shoreside whiting estimates- are these all landed catch? Mr. Seger said yes and explained that the shoreside whiting landings were under full retention regulations under the Exempted Fishing Permit (in place since 1994).

Dr. McIsaac proposed that all these historical data have problems of one sort or another and the Committee should decide how to use these data. Outliers exist (i.e., the aberrantly high recreational lingcod catch in 2003) and should be noted by the Committee during the course of their deliberations.

2. Review of Historical Harvest Specifications

Mr. DeVore and Dr. Waters reviewed the "Guide" packet tables depicting harvest guidelines (HGs) and optimum yields (OYs) by year. It was noted that harvest targets were called HGs prior to 1998 and OYs thereafter. Also, HGs/OYs were landed catch targets prior to 2002 and total catch targets thereafter.

3. Review of Established Allocations — John DeVore
   a. Long Term Allocations in the FMP
   b. Short Term Allocations for 2005-2006

4. Proposed Options for Within-Trawl Allocations

Mr. Seger reviewed the proposed within-trawl allocations recommended by the Trawl Individual Quota Committee (TIQC). The proposal would be to use the same base period of catch history to divide shares between shoreside whiting, shoreside non-whiting, whiting-catcher/processors, and whiting- motherships. This formulaic approach would apply to all groundfish species (except whiting) which are ultimately decided to be allocated to limited entry trawl under a TIQ program. Alternative base periods recommended by the TIQC: 1994-2003, 1998-2003, 1999-2004 (IFQ for processors).

5. Intersector Allocation Alternatives for Analysis

Mr. Anderson thought the next steps should be to decide which species need to be allocated and then which sectors this should be allocated. He asked about trawl-dominant species and Mr. DeVore explained the Committee identified seven trawl-dominant species: longspine thornyheads, shortbelly rockfish, Dover sole, English sole, petrale sole, arrowtooth flounder, and Pacific cod. The allocation alternatives for these species may be determined by using the maximum or minimum percent of landings relative to total non-tribal landings in 1995-2004.

TUESDAY, NOVEMBER 15, 2005

B. Intersector Allocation Options (continued)

5. Intersector Allocation Alternatives for Analysis

The Committee requested a correction of the erroneous Washington recreational catch estimates. Mr. Culver pointed out that Washington did not estimate discard mortality in their recreational fishery prior to 2002. It may be useful to apply assumed discard rates to the historical landings using current data.

The Committee also debated the need for a more regional stratification of limited entry and open access commercial landings. This may come out in the analysis after preliminary alternatives are decided.

One concept presented would be to start with the trawl-dominant species and using the minimum percent of landings by sector with specified percent thresholds to develop alternatives for analysis. The concept was further developed to use a minimum 90% of total non-tribal landings in the trawl sector and excluding overfished species as an alternative for analysis. These species would be characterized as trawl-dominant species. Fourteen species were identified from the table on page 10 of 10 in packet C using those criteria. Including sanddabs and Other Flatfish in the trawl-dominant category was also discussed. These species would be allocated to the limited entry trawl sector at a minimum of 90%. The analysis would also focus on the incidental catch needs in other sectors.

Another alternative is to use the table on page 6 of 6 in packet D depicting average percent of total non-tribal landings during 1995-2004 by sector to develop an alternative for analysis.

Preliminary alternatives for analysis:

Use the allocation guidelines in the groundfish strategic plan as a guide in the analysis.

- status quo
- manage the trawl-dominant species for limited entry trawl sectors with a minimum allocation of 90% of the OY to the limited entry trawl sector. Use the 1995-2004 minimum percent estimates as an index for determining the species (page 10 of 10 in packet C). Include the maximum incidental catch to non-trawl sectors in the analysis and ramp up the trawl allocation from 90% accordingly. Trawl-dominant species (excluding overfished species) include: include Pacific cod, Pacific whiting, splitnose rockfish (Monterey and Conception), shortbelly rockfish, longspine thornyheads (north of Pt. Conception), yellowtail rockfish (Eureka and north), redstripe rockfish, sharpchin rockfish (north), splitnose rockfish (north of Monterey), yellowmouth rockfish, bank rockfish, sharpchin rockfish (south), Dover sole, English sole, petrale sole, arrowtooth flounder, and Other Flatfish. Remaining Rockfish north complex needs to be a focus in the analysis. Does it make sense to allocate species within the complex with sector allocations? The initial analysis should assume status quo management at the complex and also address the allocation needs at the individual species level within the complex. As part of the analysis, focus on percent of landings across years when determining incidental catch needs for non-trawl sectors. Intent is to set aside enough incidental catch to protect non-trawl sectors.

WEDNESDAY, OCTOBER 18, 2006 – 8:30 A.M.

Members Present:
Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Mr. Curt Melcher, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game
Mr. Frank Lockhart, National Marine Fisheries Service Northwest Regional Office

Advisors Present:
Ms. Eileen Cooney, National Oceanic and Atmospheric Administration General Counsel
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Pete Leipzig, Limited Entry Non-Whiting Representative
Mr. Jan Jacobs, Limited Entry Whiting Trawl Representative
Mr. Tom Ghio, Open Access Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative

Others Present:
Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Bob Alverson, Fishing Vessel Owner's Association
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Kenyon Hensel, GAP member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Ms. Megan Mackey, Pacific Marine Conservation Council
Mr. Bill James, California nearshore commercial fisherman
Mr. Richard Carroll, Ocean Gold Seafoods
Mr. Craig Cross, Aleutian Spray Fisheries
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Mr. Bill Herber, Oregon Department of Fish and Wildlife
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Ms. Susan Ashcraft, California Department of Fish and Game, GMT member
Ms. Vicki Nomura, National Oceanic and Atmospheric Administration Office of Law Enforcement
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council
Ms. Laura Bozzi, Pacific Fishery Management Council Staff

Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

B. Review of Past Intersector Allocation Actions

Mr. DeVore provided a document entitled, "Summary Points Concerning Intersector Allocation From Past Groundfish Allocation Committee Meetings". These past meetings were convened in January, May, and November 2005. He briefly reviewed the key points from these meetings.

C. Review of Historical Catches by Fishing Sector

Dr. Waters provided summary tables of historical catches by fishing sector. Similar to tables presented at the November 2005 Committee meeting, these tables depicted 1995-2004 landings of species and complexes currently managed with optimum yields (OYs) by fishing sector (Table 1); percent of landed 1995-2004 catch by species and complex by fishing sector relative to annual total non-treaty landings (Table 2); the maximum, minimum, and average percent of annual landings in 1995-2004 by fishing sector (Table 3); 1995-2004 recreational groundfish catches by state and California regions north and south of Pt. Conception by species and complex (Table 4); and a compilation of notes of processes used and assumptions made to extract these data. He noted the data errors discovered at the November 2005 Committee meeting were corrected as follows: 1) incorrectly reported Marine Recreational Fishery Statistical Survey (MRFSS) catches for the Washington recreational fishery were updated using WDFW Ocean Sampling Program estimates (all recreational catches in these tables were reviewed and approved by the GMT), and 2) unassigned sector catches that were apparently made under historical limited entry trawl limits by vessels not associated with a limited entry trawl permit were largely assigned to appropriate sectors. On this last correction, about 25,000 mt of groundfish landings in 1995-1999 could not originally be assigned to a sector. It was discovered that about 20,000 mt of these landings were made by Canadian vessels in Canadian waters and landed in the Washington ports of Blaine and Bellingham, but misassigned in PacFIN to Washington catch areas. These records were corrected in PacFIN and were removed from the tables presented by Dr. Waters. An additional 4,000 mt were assigned to sectors based on a closer examination of the historical permits database. The remaining 4% of uncertain sector landings were not resolved and therefore not assigned to any one sector. He noted that all catches using open access gears made by vessels with a limited entry trawl permit were assigned to the limited entry trawl sector. Otherwise, these open access landings were assigned to either the directed or incidental open access sectors depending whether the majority of fish in the landings were groundfish or non-groundfish species.

Ms. Longo-Eder asked about the confidence in species composition in these landings, particularly in the earlier years. She noted the earlier landings were not sorted to the species level but landed in broader mixed species market categories. She particularly wanted to know how one could then determine trawl-dominant species in these earlier landings. Dr. Waters replied that PacFIN uses annual port sampling data to determine the species composition in broader market category landings. These landings are reported in PacFIN as "nominal" landings by species and assumed to be correct in these tables. Otherwise, landings were reported only to the species complex level.

Mr. Saelens asked how groundfish landings in the pink shrimp fishery were assigned to a sector. Dr. Waters replied if the pink shrimp landings were made by vessels with a limited entry trawl permit, they were assigned to the limited entry trawl sector. Otherwise, these landings were assigned to the shoreside incidental open access sector. Mr. DeVore further explained this was consistent with the allocation rules specified in the FMP where catches made using open access gears by vessels with limited entry permits count against the limited entry allocations associated with that permit.

Mr. Anderson referred to Table 2 and noted there has been a significant change in the treaty/non-treaty shares for certain species since 1995. He requested and Dr. Waters agreed to provide an analysis of the proportion of treaty/non-treaty species' shares by year since 1995. The Committee then discussed the issue of harvest set-asides for tribal fisheries. This has been an annual decision-making process for all shared groundfish species except sablefish and Pacific whiting, where formal treaty/non-treaty allocations are in place. The Committee thought reviewing the change in treaty/non-treaty shares of species' catch over time would help inform future treaty fishery needs and what the set-aside should be.

Ms. Mann referred to Table 3 asked why widow rockfish was not characterized as a trawl-dominant species. Mr. DeVore explained the time series of widow rockfish landings failed to meet the Committee's criterion of at least 90% of non-treaty landings in the limited entry trawl sector every year in the time series to be considered a trawl-dominant species.

Ms. Vojkovich referred to Table 4 and asked if California recreational catches of bocaccio can be stratified north and south of 40º10' N latitude given that the stock is only considered overfished south of 40º10' N latitude. Dr. Waters said that post-stratifying California recreational catches north and south of 40º10' N latitude is problematic given that RecFIN only reports catches north and south of 34º27' N latitude. Mr. DeVore explained it was safe to assume all California recreational catches of bocaccio occurred south of 40º10' N latitude. Survey and catch data indicate there is a non-continuous distribution of bocaccio coastwide with concentrations south of 40°10' N latitude and in waters off northern Washington. Given that, the Committee requested future landings data be labeled north and south of 40°10' N latitude to avoid confusion.

Mr. Hensel suggested the uncertainty of California recreational MRFSS estimates in 2003, especially for black rockfish, should compel the Committee to avoid using 2003 data in the analysis.

Ms. Longo-Eder requested the inclusion of recent discard mortality estimates in the analysis. She further requested these data be updated with 2005 total catch estimates. Mr. DeVore explained the 2005 discard mortality estimates were not yet available, but anticipated they would be available in time for the analysis.

D. Develop Intersector Allocation Alternatives for Analysis

Mr. DeVore recommended that intersector allocation alternatives should be structured such that there is appropriate contrast in the analysis. At this stage, Committee members should not necessarily reject alternatives they do not like. It is more appropriate to analyze a broad enough range of alternatives to understand why some alternatives should be rejected after the analysis is done. He also provided a draft scoping document for this process that gives background information on existing allocations and other elements that should be considered when developing alternatives. Council staff intends to release the scoping document after the November Council meeting to better solicit focused public comment on intersector allocation alternatives and analysis. The scoping document will contain the preliminary intersector allocation alternatives for analysis decided at the November Council meeting as well as the relevant catch histories and other data tables provided at this stage in the process (i.e., Tables 1-4 presented at this meeting).

1. Key Questions for Framing Alternatives

Mr. DeVore explained the following key questions were posed to better enable the Committee and ultimately the Council to develop intersector allocation alternatives for analysis. The answers to these questions could potentially limit the range of species recommended for formal allocations in this process and better direct the analytical and decision-making process.

   a. Should Sablefish Allocations Be Revisited?
   b. Should Pacific Whiting Allocations Be Revisited?
   c. Should Nearshore Species' Allocation Decisions Be Deferred to the States?
   d. Should Flatfish Species, Other Than Pacific Sanddabs and Starry Flounder, Be Allocated Primarily to the Trawl Sector?
   e. Should There Be Set-Asides Allocated to Buffer Against Sector Catch Overages?
   f. Should the Intersector Allocation Process Be A Multi-Stage One Starting With a Trawl/Non-Trawl Allocation Decision?

2. Consider Trawl/Non-Trawl Allocations
3. Consider Set-Asides for Tribal, Research, and Incidental Non-Groundfish Fisheries
4. Consider Commercial Non-Trawl/Recreational Allocations

The Committee first considered the question regarding sablefish allocations. Ms. Longo-Eder expressed the belief that FMP Amendment 18 goals (to minimize bycatch) almost mandate revisiting sablefish allocations. She said it was important to look at the bycatch implications to develop a non-status quo alternative for sablefish allocation. Ms. Vojkovich said her first thought was not to revisit sablefish allocation if it is already done. She thought it might be more efficient to explore the gear switching issue in the TIQ process. Mr. Melcher agreed and said revisiting sablefish allocation would not let the intersector allocation process proceed as expeditiously as we want. Mr. Anderson also did not support revisiting sablefish or Pacific whiting allocations and agreed with Ms. Vojkovich that sablefish bycatch dynamics should be explored in the TIQ process. Ms. Mann agreed with Mr. Anderson and Mr. Melcher and stated she did not want to see this process delayed since that would lead to a delay in other processes as well, such as TIQ program development. Mr. Jacobs agreed with Mr. Anderson's comment recommending against revisiting whiting allocation. He hasn't heard from any trawl sector

asking to revisit whiting allocations. There is an existing rollover mechanism in place that addresses inseason re-allocation of quota if one sector doesn't reach its whiting allocation. Mr. Lockhart agreed with Committee members' comments regarding sablefish and whiting allocation. He could not think of a reason or an alternative that would require revisiting either of these allocations. Mr. Leipzig stated the TIQ program will better address the sablefish bycatch issue. Mr. Ghio, speaking on behalf of the open access sector, argued for revisiting sablefish allocations. Ms. Longo-Eder agreed and believed there was a possibility the TIQ program may not be implemented and therefore, another alternative should be considered. She did not believe current sablefish management was meeting the national standard for bycatch reduction. The Council should not avoid this allocation issue simply because it was a difficult topic. Mr. Alverson put the current sablefish allocation in a historical context. Originally, the Council had decided a limited entry trawl:limited entry fixed gear allocation of 52:48. However, due to the important Dover sole/thornyheads/sablefish fishery and the co-occurrence rates of Dover sole and sablefish, the Council ultimately decided a 58:42 allocation. Currently, bycatch rates by gear type in the west coast Groundfish Observer Program do not support this allocation. Mr. Pettinger countered the higher sablefish allocation to limited entry trawl may be even more important in the upcoming 2007-2008 management period with the higher Dover sole OY. Finally, returning to the whiting allocation issue, Mr. Myer said revisiting that allocation would destabilize the whiting fishery. **The Committee decided not to revisit either sablefish or Pacific whiting allocations in the intersector allocation process.**

The committee then discussed whether to consider allocations of nearshore groundfish species. Mr. DeVore explained the current management process has the Council deciding federal OYs for nearshore species and complexes. However, after catch sharing of black rockfish between California and Oregon is decided in the Council process, California and Oregon nearshore FMPs and management processes allocate commercial and recreational opportunities. Furthermore, nearshore commercial fisheries in California and Oregon are essentially limited entry in that opportunities are controlled through state permits. Washington policy is not to allow nearshore commercial fisheries in state waters; therefore, nearshore allocation issues are moot in Washington. Ms. Vojkovich said that the California nearshore FMP calls for the state to seek delegation of management authority for nearshore species in the Council process. However, the state is no longer pursuing this initiative so strongly due to a lack of resources. Nevertheless, CDFG still wants to use the California Fish and Game Commission process to allocate nearshore species between recreational and commercial sectors and therefore supports continuance of status management of nearshore species. Mr. Anderson and Mr. Melcher also supported status quo nearshore species management for Washington and Oregon as well. Ms. Cooney asked how status quo management might affect development of a TIQ program and used black rockfish management as an example. Committee members said if status quo management was ultimately decided for black rockfish and other nearshore species, then the Council would still need a set-aside yield of those species to account for incidental bycatch in other sectors not directly managed under a state FMP. **The Committee decided to continue status quo management of nearshore groundfish species and not pursue a federal allocation scheme for these species in the intersector allocation process.**

The Committee then discussed the question of whether to allocate flatfish species, other than Pacific sanddabs and starry flounder, primarily to the limited entry trawl sector. Mr. DeVore

reviewed recommendations and discussions from past Committee meetings where flatfish species, other than Pacific sanddabs and starry flounder, were identified as trawl-dominant species based on the criterion that ≥90% of landings were made in that sector every year during 1995-2004. The Committee generally thought that, if these species were allocated primarily to the trawl sector, a set-aside of yield to other sectors would have to be made to accommodate incidental bycatch. Committee members also discussed recent investigations by fishermen testing pot and trap gear to target flatfish species. Advocates and advisors for the open access and limited entry fixed gear sectors wanted the Committee to consider potential new target opportunities for flatfish using fixed gears. Mr. Anderson recommended against making a quick decision on these species and advocated for a systematic examination of all managed flatfish species when deciding intersector alternatives for analysis. He also recommended starry flounder catches made in west coast bays and estuaries be accounted for in EIS analyses, but not catches made in freshwater, the Straits of Juan de Fuca, or Puget Sound. Dr. Waters explained the catch data for starry flounder in Tables 1-4 provided at this meeting met those catch area criteria. Ms. Vojkovich and Mr. Melcher agreed with Mr. Anderson's comments and **the Committee decided to formally consider flatfish species' allocations in the intersector allocation process.**

The Committee then discussed the question of whether to consider set-asides to buffer against sector catch overages. Ms. Ashcraft shared the GMT perspective to consider set-asides to accommodate the incidental catch for overfished species only. There is a need to protect sector overages within the trawl sectors and between trawl and non-trawl sectors to keep one sector's overage from pre-empting fishing opportunities for other sectors. Currently, there is uncertainty in sector bycatch rates for overfished species. There will continue to be uncertainty in bycatch projections for these species caught in the limited entry trawl fishery once a TIQ program is implemented because the mandate of 100% observer coverage may cause changes in fishing behavior. Therefore, for the first few years of a TIQ program, if it is implemented, there may be a need for a bycatch buffer of overfished species within the trawl sectors. Mr. Leipzig said that reasoning made sense but recommended against a fixed percentage for all the overfished species. Some thought this mechanism presumed an allocation of overfished species is made. Ms. Ashcraft stated there are a number of ways to manage overfished species. The GMT wasn't necessarily proposing an overfished species' allocation or set-aside, but that allocations or management measures could be designed to take less than the OY for overfished species. Mr. Anderson was not particularly in favor of a buffer or set-aside for overfished species, but preferred managing for the uncertainty in bycatch through precautionary management. Mr. Melcher said he was not prepared to make a decision today on this issue. Mr. Lockhart asked if the decision today was whether to determine how overfished species' management is analyzed in this EIS. He did not want to make that decision today, but wanted to see these concepts explored in the EIS. Ms. Ashcraft stated the goal with managing overfished species is to maintain management flexibility, particularly at the beginning of a newly-implemented TIQ program. Ms. Mann said the flexibility appears to be on the side of management, not with the fishermen. There are already too many buffers and precautions in the current management regime. She asked whether buffers would come off an overfished species' OY or ABC and Mr. DeVore explained the FMP and Council rebuilding plans mandate management of total mortality to the OY. Given that, Ms. Mann thought the concept of managing overfished species using buffers could lead to a race for fish. Ms. Cooney

explained management under an IQ system is inherently different since species are parsed out with formal allocations. Current management is more flexible in that unused yield to accommodate incidental bycatch of overfished species can be used to cover fishery needs inseason. She recommended against implementing an IQ system with specified buffers for all species. Instead, use a buffer system for some species and some sectors if necessary. Mr. Leipzig said he thought buffers were used as a protection against one sector's catch overages from pre-empting another sector's fishing opportunities. This isn't an IQ issue. Ms. Longo-Eder suggested the intersector allocation EIS explore buffer management concepts for overfished species only. Some sectors may need such a system for managing take of overfished species and others may not. Mr. Hensel expressed his sector's (open access) concern that, under an IQ system, there is a danger of fishing right up to or over a sector cap on an overfished species, which could cause closure in a non-IQ fishery managed using a buffer. Mr. Moore recommended sector allocations not be dependent on buffers. Ms. Culver said the GMT has recommended including the use of a buffer in an alternative for analysis. Currently, answers are not available for all these questions and therefore buffer management needs to be further explored in an EIS analysis. Ms. Cooney said, in the current management regime, many healthy species are managed to their acceptable biological catch (ABC; i.e., the OY=ABC). The Committee may want to consider managing with buffers for these species as well. Mr. Myer said the North Pacific Fishery Management Council has established reserves for species managed in Alaska fisheries. In many cases, these reserves are localized and specified for a certain time period. They are released back to the fishery at a specified time period if they are not used. Mr. Pettinger argued that under an IQ system, personal accountability of bycatch and the market will result in responsible bycatch management. Mr. Lockhart said we want to design a management system that avoids one sector's overage affecting another sector's fishing opportunity. A buffer could be a tool to protect against this. He thought the tool should be applied to managing overfished species only. Dr. McIsaac summarized the discussion by stating there should be a mechanism explored in the EIS analysis for creating a buffer on a species by species basis, if necessary, and that this mechanism should be limited to managing overfished species only. That is, there should be no hard allocation of a buffer made at this point. For many overfished species, there are few fish to work with and parsing out this small yield by vessel in an IQ program creates a strong possibility for overages. Mr. Anderson said intersector interactions are different under an IQ program than under the current management regime. **The Committee agreed buffer management needs to be further explored in the intersector allocation EIS analysis.**

The Committee then discussed whether the intersector allocation process should be a multi-stage one starting with a trawl/non-trawl allocation decision. The process could then continue with decision steps for allocating species within non-trawl sectors without compromising implementation of a TIQ program. The discussion was extended to the other issues on today's agenda regarding trawl/non-trawl allocations, set-asides, and non-trawl/recreational allocations.

Ms. Mann asked whether there would be different EISs for these different stages in the intersector allocation process. Mr. Leipzig asked if this would also involve separate FMP amendments. The answer was not necessarily, but depending on the timing of these decision steps, separate NEPA analyses could be tiered off the first EIS. Dr. McIsaac had a different view; his perspective being that this was a decisional separation on a shorter term. He

contemplates one EIS and FMP amendment for the entire intersector allocation process. Mr. Anderson was also not confident that allocations to other sectors wouldn't come into play when deciding trawl allocations. Ms. Longo-Eder remarked that open access and tribal allocations have come off the top of the OY for some species before deciding limited entry allocations. Mr. Leipzig suggested aggregating sector allocations to four non-treaty sectors: limited entry trawl, limited entry fixed gear, open access, and recreational. At a minimum, this process needs to identify those species that should be considered in a within-trawl allocation analysis contemplated in the TIQ EIS. Ms. Longo-Eder agreed with Mr. Leipzig's comments. Mr. Anderson suggested the intersector allocation alternatives could be structured such that data and analyses are aggregated to the four sectors Mr. Leipzig recommended, with one alternative breaking down the allocation analysis into the sector components. Within these alternatives, analyze the maximum, minimum, and average shares of trawl landings in the 1995-2004 period. He is also interested in analysis of an alternative that does not allocate overfished species. Mr. Leipzig said the Council already removed the TIQ option that did not allocate overfished species within the trawl sector. (However, the Council did decide if an overfished species allocation is made to the trawl sector and a TIQ program is implemented, then TIQ shares will be decided for that species.) Ms. Cooney reminded the Committee of its past decision to consider a sliding scale allocation framework for overfished species. Mr. Anderson asked, given the idea to review allocations every five years, do we really need a more complicated sliding scale allocation framework. Dr. McIsaac requested a clarification on the maximum, minimum, and average trawl sharing alternatives and whether there was an implicit assumption that the other sectors' percentages would be proportionally modified according to how trawl shares are structured. The Committee said yes. Mr. Ghio said the alternatives need to consider a finer regional stratification than currently exists. Ms. Longo-Eder said she didn't support any alternative starting with any sector's maximum percentage. There was some general thought to structure alternatives such that a range of species options that are allocated in this process be ranged as follows: species of trawl importance, all species, all but overfished species, and just overfished species. Mr. Anderson suggested using 2004 catch data to build a base relationship in the analysis and then build a broader range from there. Using data as old as 1995 in the analysis may not make sense since the 1995 fishery does not address current management challenges. Ms. Ashcraft noted the GMT has used annual catch averages weighting recent years more heavily than older years in some analyses. In 2004, management actions were affected by sector catches. Mr. Anderson said the analysis should use the most recent year available in the data (2004) and try to understand whether using sector catch shares from that year is appropriate or not; and if not, explain in the analysis why not. Ms. Ashcraft also stated the currently available data in Tables 1-4 presents a mix of landed catch and total catch by sector. That is, with full retention requirements in the whiting fishery, it is total catch, while the other commercial sector catches are all landed catch without a discard mortality estimate provided. The recreational catch data available in these tables are also total catch. She recommended using 2003-2005 data in the analysis where discard estimates are available for all sectors. Mr. Anderson agreed with that recommendation. Mr. DeVore recommended Committee members review the draft scoping document tonight and consider the other elements/issues in that document before revisiting how to structure alternatives for analysis tomorrow. With that, Mr. Hansen adjourned the meeting for the day.

THURSDAY, OCTOBER 19, 2006

Members Present:
Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Mr. Curt Melcher, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game
Mr. Frank Lockhart, National Marine Fisheries Service Northwest Regional Office

Advisors Present:
Ms. Eileen Cooney, National Oceanic and Atmospheric Administration General Counsel
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Pete Leipzig, Limited Entry Non-Whiting Representative
Mr. Jan Jacobs, Limited Entry Whiting Trawl Representative
Mr. Tom Ghio, Open Access Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative

Others Present:
Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Kent Craford, West Coast Seafood Processors Association
Mr. Bob Alverson, Fishing Vessel Owner's Association
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Kenyon Hensel, GAP member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Bill James, California nearshore commercial fisherman
Mr. Richard Carroll, Ocean Gold Seafoods
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Ms. Susan Ashcraft, California Department of Fish and Game, GMT member
Ms. Vicki Nomura, National Oceanic and Atmospheric Administration Office of Law Enforcement
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council
Ms. Laura Bozzi, Pacific Fishery Management Council Staff
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

D. Develop Intersector Allocation Alternatives for Analysis (continued)

5. Consider Structure of Intersector Allocation Alternatives

6. Other Recommendations for the Council in November

7. Decide the Workload Priority for the Intersector Allocation Process

The Committee continued their discussion on how to structure intersector allocation alternatives for analysis. Ms. Vojkovich asked about research set-asides. Noting that set-asides for research take are not a straight percentage of the OY for each species, is this really an allocation issue. Mr. DeVore said it is not an allocation issue largely because the Council does not have authority and control over research activities. However, in the analysis, we need the best estimate/projection of research take to set aside to better understand what amount of yield remains to consider for allocation. Ms. Vojkovich asked how this process would consider tribal take and set-asides. Ms. Cooney explained tribal allocations are separately negotiated in a government to government, often court-mediated process. Only some species currently have formal tribal allocations (i.e., sablefish and Pacific whiting), but more formal allocations for other species may be needed in the future. Finally, the discussion ensued on how to treat incidental groundfish bycatch in non-groundfish fisheries in this EIS analysis. Much like research and tribal fishery set-asides, we need to use the best projection of groundfish take in non-groundfish fisheries, take that catch off the top, and analyze allocations of the remaining yield.

Mr. Osborn brought up the previously addressed problem of the mix of landed and total catch estimates in Tables 1-3. Mr. DeVore explained the 2003-04 discard mortality estimates for the other sectors can be provided to produce a table of total catch estimates for all sectors for those years. Ms. Longo-Eder remarked she liked the new table produced this morning which shows the entire time series of landings for the limited entry trawl sector on one page. She requested similar tables for the other sectors as well.

The Committee began to develop intersector allocation alternatives by discussing and deciding the features that would define an alternative. Committee members were asked to decide alternatives for: 1) species to be allocated in this process, 2) the number of fishing sectors and how they are aggregated, and 3) the variation in allocation percentages or the basis for determining allocation percentages (i.e., what base years or other criteria should be used for structuring alternatives). The table appended at the end of these minutes entitled, "List of Potential Intersector Allocation Alternative Features" depicts the product of these discussions, which are captured in the following text. Those features highlighted in that table are recommended features for constructing intersector allocation alternatives, while those features that are crossed out are not recommended by the Committee. Committee members also suggested the set-asides be explicit in the list of features. Mr. Ghio requested an option that had a finer geographic stratification than is currently used in management.

Species with Allocations

The first "species assemblage" considered for an alternative was species important to the TIQ program. This would be a mix of trawl-dominant species and the primary target species for the limited entry trawl program. There was discussion on how to treat any species not allocated to the limited entry trawl sector. Would they be treated like a prohibited species and, if so, what would happen if they are caught? There was collective agreement that allocating quota share under a TIQ program for such species that are rarely caught did not make sense. Ms. Vojkovich suggested using the list of trawl-dominant species, but Mr. Leipzig said there are other species that may be important to a TIQ program that are not trawl-dominant. Mr. Seger said the GMT has discussed how to treat such species in a TIQ program.

Mr. Anderson proposed three alternatives for analysis: 1) status quo, 2) status quo plus all other species (i.e., all FMP species other than sablefish, whiting, and nearshore species), and 3) status quo plus all but the overfished species. He remarked it was too difficult to determine which species are trawl-dominant and what species are important to the trawl fishery. Ms. Cooney asked about the alternative of status quo plus all species important to both commercial and recreational sectors. Mr. DeVore said the range between status quo and alternative 2 (status quo plus all other species) covers this. Ms. Vojkovich asked how allocation effects would be analyzed for species that comprise a complex. Mr. DeVore said the analysis will investigate impacts at the species level, but allocations would be made at the complex level.

Mr. Anderson noted that research set-asides would be taken off the top in the analysis and in any eventual allocation scheme. However, other than the formal tribal allocations for sablefish and whiting, there would be unspecific tribal set-asides for the other species. He wants to make all the status quo set-asides explicit in the list of features and in the analysis. Ms. Cooney asked if incidental open access impacts are considered a set-aside and Mr. DeVore said yes, the best projections of species impacts would be taken off the top before allocation alternatives are analyzed. Ms. Culver said the list of features and analyses should note whether EFPs are part of research or explicit allocations to any one sector.

Further discussions affirmed that selecting these species groups doesn't assume what kind of allocation scheme will be attached to the species and whether these could be different for different species. At this point, the Committee is only choosing the range of species to which some sort of allocation may be applied. The Committee opted for Mr. Anderson's proposal to **analyze: 1) status quo, 2) status quo plus all other species, and 3) status quo plus all but the overfished species.**

Sectors

The two options for sector assemblages were considered by the Committee: 1) the ten sector option (LE trawl non-whiting, LE trawl motherships, LE trawl catcher-processors, LE trawl shoreside, LEFG- line gears, LEFG- pots/traps, directed OA, incidental OA, recreational, tribal); and 2) the five sector option (LE trawl, LEFG, OA, recreational, tribal). For both options, it was noted that tribal allocations, if considered, would be considered using a separate

process. Therefore, it would be more accurate to characterize these options as the "nine sector" and "four sector" options, both of which exclude the tribal sector in analyses (except potential set-asides for tribal fisheries would be taken off the top).

Ms. Mann proposed **analyzing only the "four sector" option and the rest of the Committee agreed.**

Variation in Allocation Percentages

There were six options (plus status quo) presented to the Committee for their consideration: 1) 2004 sector catch percentages, 2) 2003-04 sector catch percentages, 3) 1995-2004 sector catch percentages, 4) 2007-08 allocations, 5) trawl best case percentages (using the 1995-2004 catch time series), and 6) non-trawl best case percentages (using the 1995-2004 catch time series). It was noted that options 1, 2, and 4 used total catch estimates, while options 3, 5, and 6 used (mostly) landed catch estimates.

Mr. Leipzig suggested deleting option 1 (2004 sector percentages) since it was not much different than option 2 (2003-04 sector percentages). He also recommended deleting options 5 and 6 (trawl and non-trawl best case percentages) since they are too extreme. He asked if option 4 (2007-08 allocations) meant the annual specifications shares in the EIS and therefore would be a mix of formal allocations (i.e., for sablefish and whiting) and projected impacts and Mr. DeVore confirmed that. Ms. Vojkovich proposed deleting option 4 and remarked she always had a problem with using the bycatch scorecard for allocation purposes. Ms. Mann expressed concern that option 2 (2003-04 sector percentages) did not capture the significant shifts in sector percentages that have occurred. Mr. Anderson proposed retaining option 4 (2007-08 allocations) because it reflects the most recent Council decisions and the current status of the resource. Mr. Melcher agreed and remarked the Council went through months of discussions to determine 2007-08 management measures, which can also be considered de facto "allocation" decisions. Mr. Jacobs supported analyzing options 2, 3, and 4. Mr. Leipzig cautioned the Committee about using option 4 since the "allocations" are estimated results of impact projection models. Ms. Longo-Eder was opposed to analyzing options that only use historical landings as a basis for allocation. If the TIQ program is not implemented with a gear-switching strategy in place, then she is concerned that discard issues will not be adequately considered. She proposed an option that relates bycatch by gear type. In that option, allocation to gear types that are more selective (i.e., less bycatch) would be favored. Mr. DeVore stated that bycatch rates over time are also a product of the regulations (i.e., there would be less discard with higher trip limits). Mr. Lockhart said he understood the concept, but was not sure how to structure alternatives to analyze this. He thought, as long as the analysis explored discard/bycatch effects by gear type, then a particular "bycatch reduction" alternative does not need to be decided right now. Mr. Anderson noted the Groundfish Strategic Plan has an objective to reward sectors/fisheries that are more selective. He proposed analyzing one option using a total catch time series and another option using a landed catch time series to investigate discard effects. Ms. Longo-Eder agreed. Ms. Vojkovich asked how one would develop an allocation scheme that provides an incentive to switch to more selective gears. Mr. Lockhart recommended adding language to the effect that the "Council intends to fully consider the role of bycatch in making its decisions". Mr. Bodnar suggested the concept of revisiting the

allocation decision after a TIQ program is implemented in order to give the trawl sector time to reduce discards through a market-based TIQ system. Mr. Anderson questioned the utility of analyzing option 3 (1995-2004 sector percentages). Sector shares in the earlier years of that time series are not meaningful now since that was an entirely different management regime. Mr. Lockhart remarked there are some constituents that believe the older management regime was better. Keeping these earlier years in the analysis allows for discussions about this. Mr. Anderson proposed analyzing option 4 (2007-08 allocations) for overfished species only. He was also supportive of an alternative that rewards bycatch reduction. Ms. Vojkovich and Mr. Melcher were in agreement with Mr. Lockhart on the recommendation to analyze an alternative with the longer catch history time series (i.e., option 3). Mr. Melcher said he was supportive of a bycatch reduction alternative, but was uncertain how to craft such an alternative. There was discussion of modifying option 3 (1995-2004 sector percentages) to only display a time series of landed catches for all sectors. Ms. Longo-Eder proposed adding 2005 catch data to options 2 and 3. Mr. DeVore said that discard mortality estimates for 2005 fisheries are not yet available, but are anticipated in time for the analysis. The Committee agreed to add 2005 catch data to those two options. Ms. Mann was opposed to using the bycatch scorecard for allocations since it punishes sectors that have worked hard to reduce bycatch.

There was some discussion on whether to analyze catch time series and allocation alternatives using weighted averages of annual catch tonnages or weighted averages of annual sector share percentages. It was generally agreed to normalize the time series of annual sector share percentages to avoid the effect of an aberrant year when one sector took a significantly high amount of any one species.

Returning to how to structure a "bycatch reduction" alternative, Mr. DeVore recommended modifying alternative 2 (2003-05 sector percentages) by analyzing sector shares using a total catch time series (option 2A) and also analyzing sector shares using a landed catch time series (option 2B). Comparing and contrasting the two results should expose the effect of differential bycatch/discard rates by sector. Mr. Jacobs noted that different sectors are observed at-sea at different rates resulting in less certainty in the discard estimate for some sectors. He assumed that would be part of the analysis and Mr. DeVore confirmed that it would be.

Mr. Ghio agreed to set aside his recommendation to structure an alternative with a finer geographic stratification than used currently.

The Committee agreed to analyze the following options: 1) option 2A (2003-05 total catch sector percentages), 2) option 2B (2003-05 landed catch sector percentages), option 3 (1995-2005 sector percentages), and option 4 (2007-08 allocations).

Hypothetical Alternatives

Mr. Lockhart said it may be possible to select among the permutations of all the option features so that there are less than eight alternatives (status quo would make nine). However, that could be decided at the November Council meeting. Mr. DeVore proposed Council staff could propose a range of strawman alternatives **(note: the alternatives appended at the end of this document represent the full range of nine alternatives, including status quo, that could be**

developed using all the recommended feature options). Dr. McIsaac said all the material presented at this meeting will be available in the November briefing book. Ms. Cooney said it needs to be pointed out that **there can be a different basis for allocating overfished and non-overfished species.** Mr. Anderson asked when selective flatfish trawls were first mandated in the north; this dramatically changed canary rockfish sector shares. Mr. DeVore said selective flatfish trawl were first implemented in 2005. Mr. Anderson also did not want to lose the concept of trawl-dominant species and the possibility of using that species grouping as a basis for allocation. Ms. Vojkovich expressed concern about how to analyze annual sector shares when some sectors exceeded their allocation or an OY in some years. Mr. DeVore said normalizing the annual sector shares over time would reduce the weight given in the analysis of an aberrantly large catch in any one sector. However, he agreed this should be considered in any allocation decision based on the use of historical catch data. Mr. Melcher pointed out that using 2007-08 allocations (option 4) is an alternative based on what the Council intended to happen versus what actually happened.

Briefing Book Requests

The Committee requested tables similar to Table 2B for the briefing book where each of the four sectors catch histories (1995-2004) are shown on one page. They also wanted a column added to these tables showing the ten-year average catch for that sector. They also requested a table showing the 1995-2004 catch history of tribal catches as a percentage of the OY for each species. When asked if the draft scoping document should be included in the briefing book, the Committee said no and that these minutes would suffice to convey the current direction and recommendations of the Committee.

Note: all of these requested tables and materials were provided in the briefing book for the November 2006 Council meeting.

List of Potential Intersector Allocation Alternative Features
(NOTE: highlighted rows recommended by the Committee; crossed-out rows eliminated)

Species w/ Allocations	
SQ	Sablefish, whiting, state alloc for NS spp.
~~1~~	~~SQ + trawl IQ spp. (trawl-dominant spp, DTS, + other important spp)~~
2	SQ + all other spp.
~~3~~	~~SQ + just overfished spp.~~
4	SQ + all but overfished spp.
~~5~~	~~SQ + spp. important to comm sectors~~
~~6~~	~~SQ + spp. important to both comm & rec sectors~~
Sectors	
~~1~~	~~9* as in Table 1~~
2	4 (LE twl, LEFG, OA, Rec)*
Variation in Alloc. Percentage	
SQ	Fixed in FMP for sablefish and whiting; State-specified for NS spp.; Determined ea. cycle for all other spp.
~~1~~	~~2004 sector total impact percentages~~
2a	2003-05 avg. sector total catch impact percentages
2b	2003-05 avg. sector landed catch impact percentages
3	1995-2005 avg. sector percentages (normalize by annual %s)
4	2007-08 total impact allocations
~~5~~	~~Trawl best case percentages~~
~~6~~	~~Non-trawl best case percentages~~
~~7~~	~~Bycatch strategic allocation?~~
Geographic Stratification	
SQ	As in Table 1 (regions depicted as used in status quo management of OYs)
~~1~~	~~Ghio To Explain~~

Set-Asides	
1	*Tribal Catches, Research, EFPs, Incidental OA

Preliminary Intersector Allocation Alternatives Recommended by the Groundfish Allocation Committee in October 2006.

Feature	Status Quo	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Species with Allocations a/	Sablefish, Pacific whiting, and all nearshore species allocated by the states	Status quo plus all other species	Status quo plus all other species	Status quo plus all other species	Status quo plus all other species	Status quo plus all but overfished species	Status quo plus all but overfished species	Status quo plus all but overfished species	Status quo plus all but overfished species
Sectors with Allocations b/	Status quo described in scoping information document	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational
Variation in Allocation Percentages (Analytical Basis for an Allocation Scheme)	Status quo described in scoping information document	2003-05 sector total catch percentages (option 2A)	2003-05 sector landed catch percentages (option 2B)	1995-2005 sector percentages (option 3)	2007-08 allocations (option 4)	2003-05 sector total catch percentages (option 2A)	2003-05 sector landed catch percentages (option 2B)	1995-2005 sector percentages (option 3)	2007-08 allocations (option 4)
Set-Asides	Set-asides will be determined for projected research catches, EFPs, incidental open access catches, and tribal catches.								

a/ Under any alternative, there may be different allocation schemes decided for overfished versus non-overfished groundfish species.
b/ Tribal allocations may be considered in a separate process (see October Groundfish Allocation Committee minutes for details). Projected tribal catches by species will be considered as set-asides in the analysis of intersector allocation alternatives.

THURSDAY, MAY 17, 2007

Members Present:
Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Mr. Curt Melcher, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game
Mr. Frank Lockhart, National Marine Fisheries Service Northwest Regional Office
Dr. Dave Hanson, Pacific States Marine Fisheries Commission

Advisors Present:
Ms. Mariam McCall, National Oceanic and Atmospheric Administration General Counsel
Mr. Bob Alverson, Limited Entry Fixed Gear Representative
Mr. Pete Leipzig, Limited Entry Non-Whiting Trawl Representative
Mr. Dan Waldeck, Limited Entry Whiting Trawl Representative
Mr. Tom Ghio, Open Access Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative
Dr. Steve Barrager, Conservation Representative

Others Present:
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff
Mr. Merrick Burden, NMFS Northwest Region, GMT member
Mr. Shems Jud, Environmental Defense
Ms. Dorothy Lowman, Environmental Defense
Ms. Laura Pagano, Natural Resources Defense Council
Mr. William Daspit
Mr. Mike Okoniewski, Pacific Seafood
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Marion Larkin, Washington trawler, GAP member
Mr. Joanna Grebel, California Department of Fish and Game, GMT member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Michael Taylor, Cascade Economics LLC, PFMC Consultant
Mr. Dayna Matthews, NOAA Office of Law Enforcement, Northwest Division
Mr. Kent Craford, West Coast Seafood Processors' Association
Mr. David Jincks, Midwater Trawlers Cooperative
Mr. Steve Bodnar, Coos Bay Trawlers Association
Ms. Michele Culver, Washington Department of Fish and Wildlife
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Ms. Laura Bozzi, Pacific Fishery Management Council Staff
Mr. Craig Urness, Pacific Seafood Group
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Bruce Buckmaster, Ilwaco Fish Company
Mr. Joe Bersch, Supreme Alaska Seafoods
Mr. Steve Joner, Makah Tribe
Mr. Mark Cedergreen, Council member
Dr. Kit Dahl, Pacific Fishery Management Council Staff

Ms. Lucia Morici, member of the public

Process for Deciding Intersector Allocations

The GAC discussed how to structure the intersector allocation process in order to implement the program by January 2009 (to align with the start of the 2009-2010 management biennium and to support implementation of the trawl rationalization program). Staff indicated that the more contentious and complicated the allocations, the less likely that the January 2009 date would be achieved. Allocation decisions that may be particularly difficult are those for some overfished species and for species that are important to both commercial and recreational sectors. In particular, canary rockfish, cowcod, bocaccio, and yelloweye rockfish were flagged as species whose allocation could cause delay in the process. The GAC considered these concerns about potential delays. Some proposed that the difficulties associated with some of allocations were more related to workload and analysis, rather than the potential that the process would be stalled by the Council decision-making. In addition, the GAC discussed the overlap between the intersector allocation process and the biennial specifications process. Addressing workload concerns for NMFS' review and implementation of these programs, it was noted that the simpler the decisions made, the better able the Agency would be in completing its legal review and analysis in time to meet the set deadlines.

Given this discussion, the GAC considered the most near-term need for an allocation, which is to support the trawl rationalization program under development. Focusing on the trawl allocation first could allow the Council to exclude some of the controversy associated with other sectors until a later point, so that the January 2009 deadline could be met. Therefore, the GAC recommends that:

The process should start with deciding a trawl allocation of groundfish species and complexes.

The GAC intends to recommend at a later point a list of species to be included in the trawl allocation. The Council had at one point during the trawl rationalization process made decisions regarding which species would be classified as "trawl dominant." However, GAC members supported compiling a more comprehensive list that would include any species that would be caught by the trawl fishery, and not only the trawl dominant species. It was further noted that a more expansive species list would assure industry that the allocations are set and so give them greater comfort in supporting the trawl rationalization program.

Decision Process for Allocating Among Trawl Sectors

The GAC considered whether the allocation among trawl sectors should be handled under the trawl rationalization EIS or the intersector allocation EIS. Staff recommended that it be included as part of the intersector allocation EIS, explaining a perspective that this would result in more efficient, less complex analytical documents. The GAC concurred and recommended that:

Allocation among trawl sectors would be decided at the same time as the overall trawl allocation.

Intersector Action Alternatives

Looking at the data provided, the GAC remarked about the dramatic differences between the alternatives using total catch (i.e., landings + discards) and the alternatives using landed catch (respectively, Alternatives 1 and 5; and Alternatives 2, 3, 6 and 7). The landed catch alternatives, however, still contain discards in the recreational fishery (A + B1, or landed catch plus discard mortality). To improve the consistency across sectors, the GAC requested:

Remove the discard mortality component from the recreational catch data informing alternatives 2, 3, 6, and 7 (the alternatives using landings histories as an analytical basis);

The GAC was concerned about the gaps in the data to construct Alternatives 1 and 5. Though the decision made by the Council is based on an amalgam of many factors in addition to catch history, having strong supporting information is important for making a defensible decision. Therefore, the GAC tasked staff to:

> *Request 2003-05 discard mortality estimates from the NWFSC to fill the data gaps in the total catch alternatives (Alternatives 1 and 5).*

The GAC then considered Alternatives 4 and 8, which use 2007-08 catch projections as an analytical basis. These were intended to use projections documented in the 2007-08 Harvest Specifications and Management Measures EIS. However, the available projections are primarily for overfished species, and some for primary target species in the trawl fishery and recreational fishery. New models would have to be developed to make similar projections for other sectors. The GAC considered using Alternative 4 for overfished species, and then using another alternative for the other species. Some considered this to create a mismatch in the allocation. The GAC deliberated over whether there was a value in analyzing Alternatives 4 and 8. These alternatives demonstrate the effect of regulations on constraining access to target species, however under a rationalized system there will be new regulations with a different suite of constraints. The GAC concluded that these alternatives would not be helpful to Council decision-making, though having current data on the projected catch of overfished species would be useful for comparison against the alternatives. Therefore,

> *Remove alternatives 4 and 8 (the alternatives using 2007-08 catch projections as an analytical basis), but provide the most recent GMT scorecard of projected 2007 overfished species' catch in November when the Council is slated to decide a preferred alternative.*

Catch Overage Risk Management

Significant uncertainty in current catch monitoring systems; the need to protect fishing sectors from premature closures due to catch overages in other sectors; and consideration of a carryover provision in the trawl rationalization program suggest the need to consider novel mechanisms to manage the risk of catch overages. Such mechanisms are proposed in an issue paper developed by Council staff ("Managing yields in a groundfish management regime of IFQs, intersector allocations, and stringent rebuilding requirements"), which also was presented to the Council in April. The GAC directed staff to incorporate analysis of these new mechanisms – multi-year OYs and carryover provisions, sideboards, buffers, and bycatch caps – into the intersector allocation EIS.

Allocating Overfished Species

The GAC acknowledged that it is difficult to discuss Intersector Allocation (IA) without also thinking about trawl rationalization. The IA and trawl rationalization processes would have to be reconciled.

In the trawl individual fishing quota (IFQ) alternative, there is an option for surplus individual quota pounds (QP) (or a deficit of QP) to carryover to the next year. The GAC was reminded of a staff paper regarding the overage/underage provision in the trawl IFQ alternative. The trawl sector would get a percentage of the total allocation for a species in a given year, and that sector allocation is further divided into QS which could then be traded amongst the players in that sector. The rules for the QP carryover mechanism would be spelled out in the IFQ alternative. There is no provision for the sector level rollover or buffers that would be needed to accommodate the individual vessel carryover without violating harvest caps, and the IA could potentially provide for that. The GAC wanted to keep the overage/underage concept alive for now and should provide more direction at the November Council meeting.

Without the Intersector Allocation process, there is no way to divide the available Optimum Yield (OY) for each of the fisheries. It seems that the IA could be simplified, and still allow the Council to accomplish their goals. The big threat of going over the OY is outside of the trawl sector, and managers cannot act quickly enough inseason to protect from the risk of non-trawl sector catch overages. If the Council is worried about another sector exceeding their allocation, then specifying a buffer for the sector from their allocation would be logical. The Council may wish to implement a multi-year OY, rather than a single-year OY, and put sector restrictions on individual sector allocations.

The GAC discussed the possibility of not making a long term allocation of non trawl-dominant overfished species (i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish). There are an infinite number of possible allocations and management regimes dependent on the relative harvestable surpluses of these species. Therefore, non trawl-dominant overfished species should be allocated using short-term (2-year) allocations developed as part of the biennial specifications process. Such an allocation framework would be more flexible and more manageable for species that tend to constrain fishing opportunities for trawl and non-trawl sectors. Longer term allocations for the trawl-dominant species (i.e., darkblotched rockfish, Pacific ocean perch, and widow rockfish) can be more readily considered since it is easier to understand the implications of alternative allocation schemes.

***Recommendation**: Move forward with analysis of modified alternatives 1, 2 and 3, which contemplate long-term allocations for the non-overfished species (except Pacific whiting, sablefish, and nearshore species) and the trawl-dominant overfished species (Pacific ocean perch, darkblotched rockfish, and widow rockfish). Remove the non-trawl-dominant overfished species from the analysis.*

Open Access Allocations

The GAC acknowledged that it should provide guidance to the working group for this issue. Understanding the future needs of the non-trawl sectors would be helpful in developing this guidance. Having this information would not change decisions to be made at the November Council meeting, but down the line it will inform decisions. Alternative 2 considers a split in the allocation to the sectors, and the GAC may need additional information to assess that alternative, although there is some information readily available. If Alternative 2 is not selected by the Council, there will be less need to have more refined information on open access. A more detailed discussion by the GAC would help guide the working group, but that GAC discussion can be deferred.

Discussion deferred to a later GAC meeting.

IFQs: Halibut Intersector Allocation (A-4)

[Note: This discussion took place during the trawl rationalization portion of the GAC meeting.]

The International Pacific Halibut Commission is proposing a new stock assessment that would dramatically reduce how much Pacific halibut is allocated to Area 2A off of Washington and Oregon. The trawl portion of the halibut catch comes off the top of the area's total halibut quota, and thus limits other halibut fishing opportunities. A mechanism to allocate halibut to the trawl fishery might help save some halibut for the other sectors.

The GAC discussed the means by which an allocation of halibut to accommodate expected trawl bycatch might be established. It was stated in the GAC meeting that the Intersector Allocation process is the appropriate venue for discussing the halibut allocation to the trawl sector, but there should be further Council discussion in November. Halibut is not on the list of species currently being considered in the current IA process.

> ***Recommendation:*** *Determine the appropriate forum for addressing an allocation of halibut bycatch for the trawl sector. Consider the Council agenda.*

Committee Members Present:
Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Dr. David Hanson, Pacific States Marine Fisheries Commission
Mr. Steve Williams, Oregon Department of Fish and Wildlife Representative
Ms. Michele Culver, Washington Department of Fish and Wildlife Representative
Ms. Marija Vojkovich, California Department of Fish and Game Representative
Mr. Frank Lockhart, National Marine Fisheries Service (NMFS) Northwest Regional Office, NMFS Representative

Non-voting Advisors Present:
Mr. Pete Leipzig, Limited Entry Trawl Representative
Ms. Heather Mann, Shoreside Processor Representative
Mr. Shems Jud, Conservation Representative
Mr. Robert Osborn, Recreational Representative
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Tom Ghio, Open Access Representative
Mr. Dan Waldeck, At-sea Processor Representative
Ms. Eileen Cooney, National Oceanic and Atmospheric Administration (NOAA) General Counsel

Others Present:
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Dr. Donald McIsaac, Pacific Fishery Management Council Executive Director
Dr. Steve Freese, National Marine Fisheries Service Northwest Regional Office
Mr. Corey Niles, Washington Department of Fish and Wildlife, GMT member
Ms. Joanna Grebel, California Department of Fish and Game, GMT member
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
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Mr. David Jincks, Midwater Trawlers Cooperative
Ms. Becky Blanchard, University of Florida
Mr. Dave Colpo, Pacific States Marine Fisheries Commission
Mr. Peter Huhtala, Pacific Marine Conservation Council
Mr. William Daspit
Ms. Lucia Morici
Mr. Bob Eder, limited entry fixed gear fisherman

GAC Recommendations to the Council on Intersector Allocation

The GAC developed the following Intersector Allocation (ISA) recommendations for Council consideration:

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The GAC identified the following issues regarding Intersector Allocation:

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- Analysis of long term allocation does not contain revenue and bycatch assumptions relating to the future paradigm of trawl rationalization. The assumption that bycatch amounts will decrease in the trawl fishery after rationalization is implemented is not an assumption that is made in the ISA analysis, but is a point of discussion in the ISA Environmental Assessment (EA).
- The method or formula for analyzing and determining intersector and within-trawl allocations do not need to be the same.
- An underlying assumption of the ISA analysis and discussion is that the amount of fish available for allocation to directed non-treaty sectors is the yield after deductions from the OY are made to accommodate treaty fisheries, research catches, EFPs, and incidental open access catches. Another underlying assumption of the ISA analysis and discussion is that the Council's vision for the future structure of the fishery shall be made clearer, equity between sectors will be addressed, and the goals and objectives in the strategic plan and the FMP will be incorporated.
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Groundfish Allocation Committee Report

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Cascade A and B Room
8235 N.E. Airport Way
Portland, Oregon 97220
503-281-2500
February 20-22, 2008

Committee Members Present:
Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Dr. David Hanson, Pacific States Marine Fisheries Commission
Mr. Steve Williams, Oregon Department of Fish and Wildlife Representative
Ms. Michele Culver, Washington Department of Fish and Wildlife Representative
Ms. Marija Vojkovich, California Department of Fish and Game Representative
Mr. Frank Lockhart, National Marine Fisheries Service (NMFS) Northwest Regional Office, NMFS Representative

Non-voting Advisors Present:
Mr. Pete Leipzig, Limited Entry Trawl Representative
Ms. Heather Mann, Shoreside Processor Representative
Mr. Shems Jud, Conservation Representative
Mr. Robert Osborn, Recreational Representative
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Tom Ghio, Open Access Representative
Mr. Dan Waldeck, At-sea Processor Representative
Ms. Eileen Cooney, National Oceanic and Atmospheric Administration (NOAA) General Counsel

Others Present:
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Dr. Donald McIsaac, Pacific Fishery Management Council Executive Director
Dr. Steve Freese, National Marine Fisheries Service Northwest Regional Office
Mr. Corey Niles, Washington Department of Fish and Wildlife, GMT member
Ms. Joanna Grebel, California Department of Fish and Game, GMT member
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Mr. Merrick Burden, Pacific Fishery Management Council Staff
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff
Ms. Heather Brandon, Pacific Fishery Management Council Staff

Dr. Ed Waters, Pacific Fishery Management Council Consultant
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Marion Larkin, Washington Trawl, GAP member
Mr. Dayna Mathews, NOAA, Office for Law Enforcement
Ms. Laura Pagano, Natural Resources Defense Council
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. David Jincks, Midwater Trawlers Cooperative
Ms. Becky Blanchard, University of Florida
Mr. Dave Colpo, Pacific States Marine Fisheries Commission
Mr. Peter Huhtala, Pacific Marine Conservation Council
Mr. William Daspit
Ms. Lucia Morici
Mr. Bob Eder, limited entry fixed gear fisherman

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Agenda Item H.3.b
Supplemental GAP Report
April 2008

GROUNDFISH ADVISORY SUBPANEL REPORT ON FISHERY MANAGEMENT PLAN AMENDMENT 21: INTERSECTOR ALLOCATION

The Groundfish Advisory Subpanel (GAP) had a several-hour discussion about Amendment 21 and the intersector allocation process and got high-centered on several issues including the proposed Groundfish Allocation Committee (GAC) recommendations for trawl /non trawl allocations. The GAP has the following comments and recommendations.

The GAP is not currently prepared to recommend a preferred alternative for final action on Amendment 21 and thus recommends delaying final action. This was a unanimous decision. The GAP has not had enough time to digest all of the information presented in the 200-plus page Environmental Assessment (EA) that was released in the last week. The GAP also has concerns that the information in the EA has not been vetted through a more thorough public process prior to this week's Council action. We realize that the process has been ongoing for some time, but the actual EA has only been available for about a week.

The GAP is recommending an Environmental Impact Statement analysis in place of the current EA analysis. This was also a unanimous decision.

PFMC
4/08/08

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON FISHERY MANAGEMENT PLAN AMENDMENT 21: INTERSECTOR ALLOCATION

Mr. John DeVore and Dr. Ed Waters briefed the Scientific and Statistical Committee (SSC) on the Draft Environmental Assessment (DEA) of intersector allocation alternatives. Considerable work has gone into this document to convey the complex implications of each alternative.

The DEA focuses largely on allocation of optimum yield (OY) for species involving significant or dominant utilization by groundfish trawl sectors. For alternatives 1 and 2, allocation is based on recent (2003-2005) catch history and reflects current fishing opportunities as constrained by groundfish rebuilding requirements. For alternative 3, allocation is based on a longer landings history (1995-2005) that is more reflective of historical regulations and fishing conditions.

Catch allocations for the directed non-tribal groundfish trawl sectors are estimated only after set-asides are made for tribal, incidental open access and research catches and – depending on the alternative – a buffer of 0 percent, 5 percent, 15 percent or 25 percent is applied. Comparisons of revenue by sector (Table 4-46, p. 83) largely reflect differences among the alternatives in the size of the buffer and the years used to characterize catch history, as well as differences in ex-vessel prices among sectors. To facilitate identification of sectors and ports most affected by each alternative, it would be helpful to include another version of Table 4-46 that describes relative differences in revenue among the alternatives, standardized to the status quo.

Allocation buffers (if adopted) are intended to reduce the risk of catch overages and to allow for emerging nontrawl fisheries, and should be distinguished from anticipated buffers on annual catch limits (ACLs), which are intended to minimize the risk of exceeding allowable biological catches (ABCs). Allocation buffers involve managing to the OY and may include provisions for in-season release of unused buffer to increase fishing opportunity. By contrast, ACL buffers are intended as precautionary reductions from ABC in computing OY that (by definition) would not be subject to in-season release. An allocation buffer that is set too high or released too late in the season to provide harvest opportunity effectively serves the function of an ACL buffer. ACL buffers may need to be evaluated when National Standard 1 guidelines become available, but are not the focus of this amendment.

Additional elaboration is needed regarding utilization of buffers, including decision rules regarding conditions for release of buffer and allocation of additional yield among fishery sectors. It is important that such decision rules be specified in the DEA to inform deliberations regarding buffer size.

The analysis of alternatives reflects the effects of key constraining stocks on catch and revenue in directed non-tribal groundfish sectors. It would be helpful to include a table in the DEA that describes unutilized portions of OYs under each alternative.

According to Section 4.2.2 (p. 28), the proposed alternatives are expected to have little or no impact on the marine ecosystem. Further elaboration on this conclusion is needed – e.g., the potential for notable changes (positive or negative) in bottom trawl effort.

Economic analysis of the alternatives would ideally include an analysis of net economic benefits and regional economic impacts. Limitations of available data and models – as well as lack of information regarding the specific management measures that would accompany each allocation alternative – preclude a complete economic analysis. Given these constraints, ex-vessel revenues (Table 4-46, Figures 4-1 through 4-8) are a reasonable way to convey the economic effects of the alternatives on commercial harvesters.

The SSC recommends that additional economic analysis be included in the DEA, as follows:

(1) To help evaluate economic effects on communities, estimates of income and employment impacts should be provided for each alternative.

(2) Table 4-41 (p. 75) describes recreational effort and catch of selected species in recent years, as well as how those catches vary among allocation alternatives. It would also be helpful to include projections of recreational effort and expenditures for each alternative. This would require converting the catch estimates to effort estimates (perhaps by assuming that catch-per-unit-effort remains unchanged under each alternative) and applying an estimate of mean expenditure per trip (e.g., from the 2000 angler expenditure survey) to the effort estimate. While simplistic, such projections may nevertheless provide some insight into the differences among the alternatives.

PFMC
04/08/08

Agenda Item H.3.c
Supplemental Public Comment
April 2008

The paradigm shift

Twenty years ago people didn't care how their fish were harvested. Now it is foremost on their minds. The allocations debate will never be an easy one to resolve, but sustainable harvest methods and handling and freshness are more important now than ever before. Hook and line caught fish have a long standing reputation for being easier on the habitat and better quality.

I fish for chillie rockfish with a fixed gear permit and have been doing so for the last thirty years. I have seen it go from abundance to scarcity and back to abundance. My current allocation allows me to fish one day a month. 1250 lbs, This is not really a fishery anymore, it is a hobby I enjoy.

I have nothing against trawl boats making a living. I would just like to make one myself again before I am too old. Buyers are fighting over the few fish I am allowed. Please keep the hook and line fishermen alive and give us enough of the allocations to live and fish along with the trawl vessels. Long before there was trawling there was a fisherman with a hook and a line.

Josh Churchman
Box 5 op
Bolinas Ca

Hello John , I'm a commercial fisherman from the port of Bolinas Calif. and I'd like to voice my concerns that there remain an allocation for the hook and line rock cod fishery . This is a sustainable way of catching the targeted species with little or no bycatch and meeting the given set qoutas with a high degree of accuracy . If the allocations are only given to the trawler fleet it is setting the stage for eventual corporate takeover of the fishery and the end of the hook and line fleet as we know it . Once again in this current day and age of maximum conservation and sustainability I believe the hook and line technique is far superior and should not be eliminated , please let my voice be heard at your next meeting ....Thankyou very much , Sincerely Andrew Kleinberg .....

From Tom Worthington <tom@montereyfish.com>
Sent Wednesday, April 2, 2008 3:18 am
To John.DeVore@noaa.gov
Subject FW: Ground Fishery Management Plan

-----Original Message-----
From: Tom Worthington [mailto:tom@montereyfish.com]
Sent: Tuesday, April 01, 2008 9:27 AM
To: 'tom.worthington@sbcglobal.net'
Subject: Ground Fishery Management Plan

John DeVore
Pacific Fishery Management Council

i.e. April Briefing Book section H.3

Dear Mr. DeVore,

I am writing to you with a specific request that you and the Groundfish Allocation Committee consider raising the percentage of allocations of the ground fish quota for all the Hook and Line fishermen.

As you know they are a small portion of the overall fishing fleet and only bring in a small percentage of the over all catch. That being said I would like to share with you the importance of there existence and what it means to the seafood industry and why they should not be overlooked or thought of as inconsequential.

First I would like to point out that the method in which they fish is soft on the environment, they have the ability to stop fishing when they have hit their actual quota with minimal by-catch. If they do run into a species that is not allowed to be caught they can quickly stop fishing and in many cases they can release the catch back alive.

Secondly as a seafood wholesaler based in San Francisco I can tell you that the demand for sustainable caught Hook and Line fish is of a premium to all of our 100 plus restaurants we sell to on a daily basis. The public request for ground fish caught using this method far out cries the supply and demand is on the rise. The fact that they are small part of the overall fleet does not mean that they are not a large part of the community in which they live. These small boat fishermen play an important roll in the economic fortune of not only there own lives but the communities they serve. The economic fabric of some of these costal communities is directly connected to the jobs these fishermen do. I ask that you fairly allocate a substantial portion of the overall quota to these Hook and Line fishermen.

Thank you for your consideration,

Tom Worthington

Monterey Fish
Pier 33
San Francisco Ca. 94111

April 1, 2008

BY FAX, EMAIL, and U.S. MAIL[1]

Mr. Donald Hansen and Members of the Pacific Fishery Management Council
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Re: Public Comments on Proposed Amendment 21 to the FMP: Intersector Allocation

Dear Mr. Hansen and Members of the Pacific Fishery Management Council:

The organizations of the Natural Resources Defense Council, Pacific Marine Conservation Council, Ocean Conservancy, the Pacific Coast Federation of Fishermen's Associations, and the Marine Fish Conservation Network submit the following comments concerning proposed Amendment 21 to the Fishery Management Plan ("FMP") on groundfish intersector allocation.

We are writing to express our concern about the type of analysis being done on this amendment. We believe that the amendment is likely to have significant conservation and socioeconomic impacts on the groundfish fishery and thus that the agency should do an Environmental Impact Statement ("EIS") instead of an Environmental Assessment ("EA"). We also believe that the range of alternatives is too narrow and should include one that considers shifting fishing effort from trawl gear to lower impact gears such as long lines and pots. In addition, we support the recommendation made by the Groundfish Allocation Committee to analyze an alternative that reserves 15% of the groundfish.

We understand that there may be reluctance to conduct EIS analysis given the pressure to complete the Individual Quota ("IQ") trawl process on schedule. However, it appears

[1] Appendix material sent by U.S. Mail only.

from current timelines that National Marine Fisheries Service ("NMFS") can conduct EIS analysis on the sector allocation amendment without slowing down the schedule of the proposed trawl section IQ amendment process.

1. The proposed amendment would have significant and cumulative impacts, requiring EIS analysis under NEPA

"If the action will significantly affect the environment, an EIS must be prepared[.]" Ocean Advocates v. U.S. Army Corp of Engineers, 402 F.3d 846, 864 (9th Cir. 2005) (citing 40 C.R.F. §§1501.3, 1501.4). "Significant" has two components: context and intensity." Id. (citing 40 C.F.R. § 1508.27). "Context refers to the setting in which the proposed action takes place . . . . Intensity means 'the severity of the impact.'" Id. (quoting 40 C.F.R. § 1508.27 (b)). In considering the severity of the potential environmental impact, a reviewing agency "may consider up to ten factors that help inform the 'significance' of a project, such as the unique characteristics of the geographic area, including proximity to an ecologically sensitive area; whether the action bears some relationship to other actions with individually insignificant but cumulatively significant impacts; the level of uncertainty of the risk and to what degree it involves unique or unknown risks; and whether the action threatens violation of an environmental law." Id. (citing 40 C.F.R. §§ 1508.27(b)(3), (5), (7), (10)). NMFS' own NEPA guidelines, consistent with Ninth Circuit law, also require it to do an EIS when the "proposed action may be reasonably expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in the FMPs." NOAA Administrative Order 216-6 (May 20, 1999), Section 6.02(c).

Not only do trawl gear have the highest bycatch rates (see Lekelia Jenkins, Gear Conversion as a Means to Reduce Bycatch and Habitat Impacts in the U.S. West Coast Sablefish Fishery (2008) (Appendix 1)), it is highly destructive to ocean habitat. See National Research Council, Effects of Trawling & Dredging on Seafloor Habitat (2002) (Appendix 2); Korie A. Johnson, A Review of National and International Literature on the Effects of Fishing on Benthic Habitats (2002) (Appendix 3); Eleanor M. Dorsey and Judith Pederson (Eds.), Effects of Fishing Gear on the Sea Floor of New England (1998) (Appendix 4); Peter W. Barnes and James P. Thomas (Eds.), Benthic Habitats and the Effects of Fishing (2005) (Appendix 5); Christian Nellemann, Stefan Hain, and Jackie Alder, In Dead Water, Merging of Climate Change with Pollution, Over-Harvest, and Infestations in the World's Fishing Grounds (2008) (Appendix 6).

It is the work of a moment to conclude that the proposed action, which makes a permanent allocation of a vast majority of the groundfish to the sector that uses the most destructive, non-selective gear, would have a significant impact on the environment.[2] Therefore, NMFS is required to do EIS analysis if it seeks to adopt and implement the proposed amendment on sector allocation. See NOAA's Operational Guidelines Fishery

[2] It is difficult to tell the exact percentage of groundfish that would be allocated to trawl under the proposed amendment. Between data obtained from PacFIN data and calculations made from percentages provided in the draft EA, it appears that between 85-98% of the groundfish would be allocated by this amendment to the trawl sector.

Management Plan Process at B2 ("An EIS or SEIS must be prepared if the proposed action may be reasonably expected to . . . (2) allow substantial damage to the ocean and coastal habitats . . . (5) result in cumulative effects that could have a substantial adverse effect on the target resource species or any related stocks that may be affected by the action."). But see Alaska Factory Trawler Ass'n v. Baldridge, 831 F.2d 1456 (9th Cir. 1987) (holding that agency approval of the allocation regulation at issue did not require EIS analysis –however, that regulation did the reverse of what is being proposed here; it gave 100% of the sablefish to hook and line fishermen and prohibited trawl fishing).

The cumulative impact of the proposed amendment, in particular, requires EIS analysis. It is one thing to allocate a high percentage of fish to the trawl gear for short periods of time (such as two-year increments, as is done through the biannual specification process). It is another scale of magnitude to propose to cement that allocation level in place forever. There are long-term impacts both to the marine environment and fishing communities from permanently allocating such high percentage of fish to the most destructive, non-selective gear. NEPA requires the agency to take a hard look at the potential impacts of such a proposed action. This is especially true given that conditions important to the allocation decision are likely to change over the long term, such as emerging fixed-gear fisheries, the size of the trawl footprint due to area closures, oceanographic changes from warming temperatures and acidification, etc. Thus, the cumulative, long-term impact of the proposed allocation to the trawl gear sector requires an EIS analysis.[3]

Because the proposed allocation amendment will effectively set in stone the amount of fish allocated to the different gear sectors now and in the future, NMFS must analyze the evolving future needs of each of the gear types for a decision on the proposed amendment to have a rational basis. See Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 508 F.3d 508, 548 (9th Cir. 2007) (finding the agency's NEPA analysis inadequate because it "'failed to address certain crucial factors.'") (quoting Found. for North American Wild Sheep v. United States Dep't of Agriculture, 681 F.2d 1172, 1178 (9th Cir. 1982)). In the absence of an EIS, decision-makers have little information or analysis to guide them about the predicted future of the fishery. In such situations, NEPA requires EIS analysis. "Where the environmental effects of a proposed action are highly uncertain or involve unique or unknown risks, an agency must prepare an EIS." Ocean Advocates, 402 F.3d at 864 (citing 40 C.F.R. § 1508.27(b)(5)); see Center for Biological Diversity, 508 F.3d at 548 (finding that an EA which forces decision-makers to speculate about the future impacts of an action to be insufficient because "'the very purpose of

[3] According to the draft EA issued a week ago, it appears that some NMFS staff believe that EIS analysis is unnecessary because this proposed action merely "formalizes" existing levels of trawling which were in place when EIS analysis was done for other FMP amendments. See draft EA at 28 ("The intersector allocation alternatives would not have effects on the marine ecosystem and fish habitat outside of those analyzed under the NEPA documents for Amendments 16-4 and 19 to the FMP."). These analyses, however, did not contemplate a permanent allocation of the vast majority of the groundfish to the trawl gear and consequently did not examine the long term, cumulative impacts of such an allocation. See NOAA Administrative Order 216-6 (May 20, 1999), Section 6.03d2 ("Fisheries Actions that Require an EIS. Consideration of cumulative impacts must also be taken into account when considering whether to prepare an EIS.").

NEPA's requirement that an EIS be prepared for all actions that may significantly affect the environment is to obviate the need for such speculation by insuring that available data is gathered and analyzed prior to the implementation of the proposed action.'") (quoting Found. for North American Wild Sheep, 681 F.2d at 1179).

Permanent allocation of groundfish to the trawl sector, moreover, will significantly affect many members of the public. Doing an EIS instead of an EA has the additional benefit of providing better opportunity for public comment and participation in the decision. "In addition, there is generally a longer time period for the public to comment on an EIS as opposed to an EA, and public hearings are often held." Anderson v. Evans, 371 F.3d 475, 494 (9th Cir. 2004). Preparation of an EIS could also provide more time to assess and better predict how the fishery will develop in the future.[4] See id. ("Furthermore, preparation of an EIS could allow additional study of a key scientific issue . . . .").

Even if there is only the possibility that the proposed amendment will have significant environmental effect, NEPA requires EIS analysis. "An EIS *must* be prepared if substantial questions are raised as to whether a project *may* cause significant degradation of some human environmental factor." Ocean Advocates, 402 F.3d at 864 (internal quotation and alteration from Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1149 (9th Cir. 1998) omitted) (emphasis in original). "If an EA establishes that the agency's action *may* have a significant effect upon the environment, an EIS must be prepared." Sierra Club v. Bosworth, 510 F.3d 1016, 1018 (9th Cir. 2007) (citing Nat'l Parks & Conservation Ass'n v. Babbit, 241 F.3d 722, 730 (9th Cir. 2001) (emphasis in original).

Even if the EA is robust, NMFS cannot avoid undertaking EIS analysis because the types of analyses and evaluations are different. "No matter how thorough, an EA can never substitute for preparation of an EIS, if the proposed action could significantly affect the environment." Anderson, 371 F.3d at 494. See Sierra Club v. Marsh, 769 F.2d 868, 874-76 (1st Cir. 1985). "An EA simply assesses whether there will be a significant impact on the environment. An EIS weighs any significant negative impacts of the proposed action against the positive objectives of the project. Preparation of an EIS thus ensures that decision-makers know that there is a risk of significant environmental impact and take that impact into consideration. As such, an EIS is more likely to attract the time and attention of both policymakers and the public." Anderson, 371 F.3d at 494.

Nor does the fact that a gear-switching option is currently included for analysis in the proposed trawl IQ amendment substitute for the obligation to fully analyze the proposed sector allocation amendment. First, although the allocation amendment may have been motivated by the trawl IQ proposed amendment, the two would be separate amendments to the Fishery Management Plan. As such each requires its own justification and analysis. Second, because the trawl IQ amendment has not been adopted or

[4] As a related matter, the proposed allocation amendment is likely to be highly controversial, which is another reason to consider it "significant" and requiring EIS analysis. See NOAA Administrative Order 216-6 (May 20, 1999), Section 6.02i ("A final factor to be considered in any determination of significance is the degree to which the effects on the quality of the human environment are likely to be highly controversial.").

implemented, it is uncertain that gear-switching will be a part of the final action or what its form will be. Moreover, even if the final trawl IQ amendment contains a gear-switching option, it likely that using the allocation amendment to shift fishing effort to lower impact gears would have a more substantial conservation effect, because the gear-switching option in the trawl IQ amendment does not require switching towards lower impact gears or that any switching which takes place be permanent or long term. In addition, the gear switching option of the trawl IQ would depend on the individual desires of trawlers to switch gears, an uncertain outcome especially in the absence of any specific incentives. Thus, the gear-switching option in the trawl IQ proposed amendment is not a valid substitute for conducting a thorough NEPA analysis on the proposed allocation amendment.

We understand that the Council and NMFS are under pressure to finish the allocation process quickly in order to keep on track with the trawl IQ amendment process. Sector allocation, however, has enormous implications for shaping the future of the fishery both from socio-economic and conservation perspectives. Even though political forces may exert pressure to rush the process, good stewardship (and the law) requires that such an amendment undergo rigorous and thorough analysis and provide ample opportunity for public participation before it is adopted and implemented.

Moreover, it appears that an EIS analysis on the proposed allocation amendment could be conducted and completed prior to implementation of the trawl IQ program. So long as the allocation EIS was done by 2010, an ample amount of time of nearly two years from now, it would be able to inform implementation of the trawl IQ, currently scheduled for 2011. Thus, conducting appropriate analysis on the allocation amendment need not slow down the trawl IQ process.

2. NEPA requires NMFS to consider a more robust set of alternatives

To comply with the requirements of NEPA, federal agencies must present the environmental impacts of the proposal in comparative form, rigorously explore and objectively evaluate all reasonable alternatives, and briefly discuss the reason for eliminating any alternatives from detailed study. 40 C.R.F. §1502.14(a).

Currently, the only alternatives which NMFS is analyzing are the no action alternative and two others (each of which is based on recent historic use: one is based on sector fishing levels during 2003-2005 and the other is based on sector fishing levels from 1995-2005).[5]

[5] The draft EA lists one other alternative (Alternative 2), but it is virtually identical to the first alternative which is based on fishing levels from 2003-2005. The only difference is that it proposes to divide up the non-trawl allocation among the other sectors. This alternative does not appear to be seriously analyzed by the EA (see draft EA at 10 ("Longer term allocations to non-tribal, non-trawl groundfish sectors may be considered later in one or more trailing amendments to the FMP")) but in any case does not analyze a different allocation to the trawl sector, which is at the heart of the proposed action. See Friends of Yosemite Valley v. Kempthorne, Slip Op. No. 07-15124 at 3087 (9th Cir. March 27, 2008) (finding that the agency (National Park Service) violated NEPA because "the range of action alternatives is unreasonably narrow because the alternatives are virtually indistinguishable from each other.").

This is plainly an insufficient range of options under Ninth Circuit law to satisfy the required "hard look" at the proposed amendment's environmental impacts mandated by NEPA. In Environmental Protection Information Center v. United States Forest Service, the Ninth Circuit struck down the U.S. Forest Service's forest-thinning project in the Shasta-Trinity National Forest because the EA examined a too narrow a range of options, similar to what the Council and NMFS are proposing to do here. "First, the EA did not analyze an adequate range of alternatives. Though there is no 'numerical floor on alternatives to be considered,' the EA's analysis of only a no action alternative and USFS's preferred alternative, (the proposed project) was insufficient." 234 Fed. Appx. 440, 442 (9th Cir. 2007) (quoting Native Ecosystems Council v. United States Forest Service, 428 F.3d 1233, 1246 (9th Cir. 2005)). See Muckleshoot Indian Tribe v. United States Forest Service, 177 F.3d 800, 813 (9th Cir. 1999) (holding that the U.S. Forest Service failed to consider an adequate range of alternatives when an EIS considered only a no action alternative along with two "virtually identical" action alternatives). "[W]e hold that the EA's analysis of a no action alternative and the [agency's] preferred action alternative did not amount to the 'full and meaningful consideration of alternatives that NEPA requires." Environmental Protection Information Center, 234 Fed. Appx. at 443 (quoting Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1229 (9th Cir. 1988)).

Not only is the range of alternatives too narrow, reasonable alternatives for groundfish allocation exist which so far have not been included for analysis. NMFS should analyze an option that increases the limited-entry fixed gear's current harvest level by 20-30%. In other works, under this alternative limited entry fixed gear would harvest 20%-30% more metric tons than they currently do of certain species. Such fish include species that are shared (or have the potential to be shared) between trawl and limited-entry fixed gear such as shortspine thornyhead, longspine thornyhead, lingcod, spiny dogfish and sablefish.[6] This option deserves analysis because limited-entry fixed gear generally is a more environmentally friendly gear, having substantially lower bycatch rates and habitat impacts. See Lekelia Jenkins, Gear Conversion as a Means to Reduce Bycatch and Habitat Impacts in the U.S. West Coast Sablefish Fishery (2008) (Appendix 1). If this gear received a significantly higher allocation of fish, it could improve the overall conservation of the fishery which NMFS is obligated under the Magnuson-Stevens Act to promote.

Moreover, there is an historical basis for this alternative, as NMFS has allocated more fish to the fixed gear fishery in the past, similar to what is being suggested here. In the 1980s, the fixed gear fishery received 48% of the sablefish allocation while trawl gear received 52%. See 52 Fed. Reg. 790, 795 (January 9, 1987); 53 Fed. Reg. 231, 253 (January 6, 1988); 43 Fed. Reg. 299, 305 (January 5, 1989). That changed in 1990 when

[6] In summarizing comments received on the proposed allocation amendment, the EA correctly states that at the February 2008 GAC meeting Natural Resources Defense Council recommended that the analysis be developed as an EIS rather than an EA. Draft EA at 7. As part of this same public comment, Natural Resources Defense Council also recommended that the NMFS analyze the alternative of shifting allocation of the groundfish which are shared between gears by increasing the tonnage given to the less impactful fixed gears by 30%.

NMFS increased the trawl sector allocation to 58% and reduced the fixed gear allocation to 42%. See 55 Fed. Reg. 3747, 3748 (February 5, 1990). NMFS has continued this disposition since 1990, giving trawl 58% of the sablefish and fixed gear 42%. See, e.g., 70 Fed. Reg. 22812, 22820 n.f (May 3, 2005). Under the proposed alternative, a 20% increase of sablefish to the fixed gear fishery would result in an allocation of 50% to trawl and 50% to fixed gear, similar to the historic split of 52% trawl/48% fixed gear. A 30% increase of sablefish to the fixed gear fishery would result in a 45% trawl/55% fixed gear split.

The failure to examine a reasonable alternative is a violation of NEPA separate from considering a range of alternatives that is too narrow. "NEPA requires agencies to 'rigorously explore and objectively evaluate all reasonable alternatives' to a proposed plan of action that has significant environmental effects." Natural Resources Defense Council v. United States Forest Service, 421 F.3d 797, 813 (9th Cir. 2005) (quoting 40 C.F.R. §1502.14(a)). See Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 508 F.3d 508, 548 (9th Cir. 2007) (The agency "must rigorously explore and objectively evaluate all reasonable alternatives.") (internal quotation of 40 C.R.F. § 1502.14(a) omitted). See also Friends of Yosemite Valley v. Kempthorne, Slip Op. No. 07-15124 at 3086-87 (9th Cir. March 27, 2008) ("The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.") (internal quotation omitted).

As discussed supra, NMFS must undertake EIS analysis for this proposed amendment. However, fully analyzing reasonable alternatives is required even under an EA. "NEPA requires that alternatives . . . be given full and meaningful consideration, whether the agency prepares an EA or an EIS." Center for Biological Diversity, 508 F.3d at 548 (internal quotation omitted). "[I]n every case, the agency's duty under NEPA remains to consider 'all reasonable alternatives.'" Environmental Protection Information Center, 234 Fed. Appx. at 443 (quoting Native Ecosystems Council, 428 F.3d at 1246).

As an additional alternative, we note that at their February 2008 meeting the Groundfish Allocation Committee recommended that 15% of the fish be reserved and explicitly not allocated under the proposed allocation amendment. This reserve would be distributed on an ad hoc basis as the future needs of the fishery became clearer. We believe that this alternative also deserves consideration and we are glad to see that the draft EA appears to have modeled a buffer not only of 15%, but of 5% and 25% as well.

3. The amendment, as proposed, could violate the Magnuson-Stevens Act

The Magnuson-Stevens Act ("MSA") requires NMFS to reduce bycatch and to rebuild overfished species as quickly as possible. See 16 U.S.C. § 1851(a)(9), § 1854(e). See also 16 U.S.C. § 1851(a)(4) ("If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be . . . reasonably calculated to promote conservation . . . .").

It could violate the MSA to permanently allocate the vast majority of the groundfish to the most destructive, non-selective gear, especially when the opportunity to shift a significant portion of that allocation away from trawl gears to lower-impact, lower bycatch gears exists.[7] For instance, a decision to allocate more sablefish away from trawl to pot fishermen would result in orders of magnitude less Darkblotch and Pacific Ocean Perch bycatch. See Lekelia Jenkins, Gear Conversion as a Means to Reduce Bycatch and Habitat Impacts in the U.S. West Coast Sablefish Fishery (2008) (Appendix 1). In addition, trawl gear catches far more young sablefish as bycatch than does pot gear. Id. Therefore, NMFS must fully consider the impact sector allocation will have and implement an alternative which complies with its MSA obligations. See Alliance Against IFQs v. Brown, 84 F.3d 343, 350 (9th Cir. 1996) (upholding a FMP allocation amendment among gear types in the Alaska sablefish and halibut fishery where "the regulations are tailored to solve a gear conflict problem and to promote the conservation of sablefish.") (internal quotations omitted).

4. The proposed amendment does not appear to be necessary or environmentally advantageous. Therefore, the analysis must fully consider the no-action alternative.

Fixing the amount of groundfish allocated to the sectors and cementing it in place for the future with an amendment to the Fishery Management Plan is a serious step, one that freezes the distribution levels of fish and makes any reorganization of the fishery among gears types going forward substantially more difficult. The future of the fishery has not been analyzed and contains a high degree of uncertainty (including upcoming system shocks such as warming ocean temperatures and increasing acidification as well as changing world-wide markets). Before taking action which immobilizes allocation levels and reduces management flexibility to adjust to changing economic and environmental conditions, the Council should require the analysis to prove a high level of fishery benefit as compared with the status quo or no action alternative.

An allocation amendment to the FMP does not, in fact, appear to be either necessary or perhaps even the exercise of good stewardship. Although proponents of the amendment might argue it is necessary to provide stability for the trawl IQ amendment, much uncertainty about fish amounts would remain because the proposed amendment would set percentages, not tonnage. With changing stock health, the amount of fish that will be assigned to each sector could vary significantly. In addition, under the allocation amendment as proposed, several important species will not be included (such as overfished species like canary and yelloweye). Thus, the amendment would not achieve its purported aim of providing a significant degree of certainty for the trawl IQ process.[8]

[7] The possibility that the proposed action could violate the MSA is an additional reason that EIS analysis is required. An agency must conduct EIS analysis when the proposed action "threatens violation of an environmental law." Ocean Advocates, 402 F.3d at 864 (citing 40 C.F.R. § 1508.27(b)(10)).

[8] This is not to say that the trawl sector does not strongly desire an allocation amendment or that they lack understandable reasons for wanting it. These reasons must be ones that benefit conservation of the fishery as a whole, however, not just the financial interests of specific users before the Council is persuaded by them.

The two-year biannual specifications process, moreover, appears to be adequate to the task of setting allocations by sector. This process is done frequently enough to be responsive to changing fishery conditions but has a reasonable period length of two years to help future business planning. Nothing prevents the Council and NMFS from dividing the trawl sector's allocation into individual percentage allocations according to quota shares.

Finally, even if an allocation amendment is a good idea, there is no compelling reason to rush one through such that it is completed prior to the trawl IQ amendment. It could be quite beneficial to have the fishery settle down and adjust to the trawl IQ before attempted to put in place an allocation amendment. The shape and direction of the fishery would be clearer and there would be more information to decide if an allocation amendment was needed and what kind of allocation between sectors was appropriate.

CONCLUSION

The proposed sector allocation is a separate FMP amendment with enormous implications for the future of the fishery. It deserves an independent and thorough EIS analysis, including an appropriate range of alternatives, before the agency takes final action. The Council and NMFS should also fully analyze whether this is amendment is necessary or in the best interests of the fishery.

Sincerely,

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REFERENCES

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Agenda Item H.3.c
Supplemental Public Comment
April 2008

PACIFIC MARINE
CONSERVATION COUNCIL

Chairman Hansen and Members of the Pacific Fishery Management Council:

Pacific Marine Conservation Council considers the Amendment 21 intersector allocation at least as significant and controversial as the trawl IFQ itself. We also see this as a potential opportunity – a chance to move toward rationalizing the entire groundfish fishery with a progressive design that encourages conservation, rewards innovation, and ensures local access to and benefit from the resource.

If the public is to consider long-term allocation of any species to one gear group, then a hard look at a reasonable range of alternatives, including not changing the current arrangement for the time being is vital. The outcome of an environmental assessment (EA) is a FONSI, a finding of no significant impact. The outcome of a successful environmental impact statement (EIS) is an informed choice, one that will form the basis for much of the future of this fishery.

One of our board members talks about inventing an array of hooks that can be deployed to efficiently catch flatfish, to bring in a high quality, high value product. He should be encouraged. Many on our board envision a fishery that matches up community fishing effort with the biology of the fish populations. They should be empowered. The public process of an EIS is not only legally correct but it can draw out creative contributions from people like these.

About four years ago I spoke with this Council about the need to consider the cumulative effects of the trawl IFQ and an intersector allocation. I was ultimately persuaded and encouraged PMCC to accept the bifurcation of analyses into two EISs – one for the IFQ and one for the allocation. We went along largely because we could see the additional potential of the intersector allocation for bycatch reduction and for modeling the ways that communities might respond to a rationalized fishery. Now we have a deep concern that there might be an attempt to push this through without adequate analysis.

The additional commitment of time and effort to follow through with an EIS will pay off with a stronger foundation on which to rationalize the groundfish fishery. It would be exceptionally false economy to shortchange this process.

Thank you for your time and consideration.

Peter Huhtala

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ENVIRONMENTAL DEFENSE FUND
finding the ways that work

April 9, 2008

Environmental Defense Fund appreciates the opportunity to comment on Amendment 21, Intersector Allocation. We also would like to recognize all of the efforts of staff to put together a draft analysis of alternatives that have been previously identified by the Council. However we do have some process and substance observations and recommendations related to this action.

EA versus EIS

Preparing an EIS – rather than an EA – is the prudent course of action. While there may be no conclusive evidence of a significant impact on the human environment, being precautionary and developing an EIS given the semi-permanent nature of the action and the potential for impacts makes sense. In addition, the clearly controversial nature of these decisions argue for the greater opportunity for public comment afforded by an EIS.

Relationship of Amendment 21 to Amendment 20

EDF shares the Council's commitment to keep the west coast trawl rationalization process on track and on schedule. We recognize that there are limited resources for the effort but we believe that doing a little more upfront work to prepare a focused EIS may be the least resource demanding course in the long run. We further believe that the Council does not need to have a final decision on Amendment 21 intersector allocation prior to the Council's decision on Amendment 21 (Trawl IQ). That said, a Secretarial decision on Amendment 21 which would provide trawl allocations does need to be completed in sufficient time for implementation of the IFQ or IFQ/Coop systems. Realistically, implementation is likely to happen in January 2011.

Species Allocated

EDF supports narrowing the scope of species for intersector allocation to those that (1) do not have previously determined "hard" allocations and (2) are trawl "dominant". These are particularly necessary to provide some stability and certainty in the future as trawl fisheries are rationalized. Other species can be addressed by trailing amendments. It is our hope that in the not-to-distant future, the Council will decide to complete the rationalization of the groundfish fishery and integrate other sectors into a LAPP management system. At that time, it may be reasonable to take a second look at the intersector allocation in a more comprehensive manner.

Range of Alternatives

Given the discussions at the GAP and other public comment received, it is clear that the range of alternatives needs to be expanded. To this end, we recommend that the Council formally include in the EIS a range of buffers as already described in the EA as an element that could be added to any of the alternatives to provide flexibility. We also believe that there is a need to develop an

additional alternative to preserve the Council's ability to ultimately choose allocation splits that take into account the best information about foreseeable harvest needs of all sectors. We would like to recommend the following process to develop that alternative:

> Charge the GAC to take into the account some of the concerns raised through public testimony to develop one additional alternative that provides for a greater flexibility in potential Council action when final action occurs. If this cannot occur at the May GAC meeting, then another meeting should be scheduled prior to September so that the Council could formally finalize the range of alternatives for analysis in September.

In finalizing the range of alternatives we ask that the Council find that balance resulting in a reasonable range of alternatives but resist adding what could be endless variations which could create an unreasonable analytical burden and cause unnecessary delay.

In developing an additional alternative EDF believes that it is important that the Council:

- Assure the alternatives encompass sufficient allocation to non trawl fisheries to provide for anticipated future sector needs
- consider carefully how to allocate species where the OY has not historically been achieved
- provide a reasonable certainty to trawl allocations so that markets for quota are not adversely impacted
- take care to provide mechanisms so that fish do not get "stranded" in a sector and cannot be effectively utilized.

Finally, although a final decision on intersector allocation is not necessary before the Council takes final action in November on trawl IFQ/cooperative program design, it would be useful for the public to know the range of alternatives for intersector allocation that are being considered. Therefore, we urge the Council to include Amendment 21 on the September 2008 Council agenda with the objective of formally adopting the range of alternatives for analysis.

Conclusion

Thank you for the opportunity to provide these comments. EDF wants to reaffirm its commitment to working with the Council and other stakeholders to assure that we have a west coast trawl LAPP on the water no later than January 2011. We look forward to working together to complete this intersector allocation process in a timely manner in support of the LAPP implementation as well as to further the other important objectives of intersector allocation.

Agenda Item H.4
Situation Summary
April 2008

CONSIDERATION OF INSEASON ADJUSTMENTS

Management measures for the 2008 groundfish season were set by the Council with the understanding these measures would likely need to be adjusted throughout the biennial period in order to attain, but not exceed, the optimum yields (OYs). This agenda item will consider inseason adjustments to ongoing 2008 fisheries.

The Groundfish Management Team (GMT) and the Groundfish Advisory Subpanel (GAP) will begin meeting on Sunday, April 6, 2008, to discuss and recommend inseason adjustments to ongoing 2008 groundfish fisheries. Under this agenda item, the Council is scheduled to hear advisory body advice and public comment on the status of 2008 fisheries and consider preliminary or final inseason adjustments. Agenda Item H.6 is scheduled for Saturday, April 12, 2008, should further analysis or clarification be needed.

Council Action:

Consider information on the status of 2008 fisheries and adopt preliminary or final inseason adjustments as necessary.

Reference Materials: None.

Agenda Order:

a. Agenda Item Overview — Merrick Burden
b. Report of the Groundfish Management Team — Kelly Ames
c. Agency and Tribal Comments
d. Reports and Comments of Advisory Bodies
e. Public Comment
f. **Council Action:** Adopt Preliminary or Final Recommendations for Adjustments to 2008 Fisheries

PFMC
03/18/08

GROUNDFISH ADVISORY SUBPANEL REPORT ON INSEASON ADJUSTMENT

The Groundfish Advisory Subpanel (GAP) received a presentation from California Department of Fish and Game (CDFG) Enforcement about salmon bycatch in the early season California shoreside whiting fishery. Regulations provide 5 percent of the shoreside whiting allocation to the California fishery that opens April 1. This sub-sector allocation is based, in part, on migratory patterns of whiting, which are not generally available in this area in harvestable amounts later in the year. The allocation is intended to provide California an opportunity to participate in the whiting fishery.

The GAP understands and is sensitive to the severe restrictions imposed on 2008 California salmon fisheries. The GAP is fully aware of the concerns about salmon bycatch in all areas and sectors of the coastwide whiting fishery. The GAP appreciates the sensitivity surrounding the salmon issues. The GAP believes that current Federal regulations under the Biological Opinion address these concerns. In addition, the industry is committed to the use of voluntary measures that mitigate salmon bycatch. However, we find no biological reason or regulatory precedent in the whiting fishery that leads us to support or endorse the additional CDFG recommendations presented to the GAP.

(1) The GAP does not believe it is necessary for the California fishery to operate under a hardcap of 550 Chinook salmon. The GAP believes present regulations are sufficient to manage this fishery without the use of salmon hard caps for California. Current Federal regulations authorize curtailing the whiting fishery, including fishing in the California shoreside fishery, based on a specified salmon bycatch rate.

(2) The GAP and whiting industry recognize that there are a limited number of regulatory bycatch management measures available in 2008 that allow additional spatial closures or temporary harvest interruptions. Therefore, for the California shoreside fishery the whiting industry proposes to use (in concert with CDFG and National Marine Fisheries Service enforcement) additional voluntary measures, which have been used by other whiting sectors and/or in other regions, to mitigate bycatch. These include (but are not limited to) voluntary areas to be avoided of known salmon bycatch hotspots; and voluntary stand down for periods of time if salmon encounter rates spike. There will be an industry meeting Monday April 14th. Participants in the whiting industry will discuss the salmon bycatch issue at this meeting. It is hoped that other innovative ideas for salmon bycatch avoidance can be brought to the table at this time.

A question that has been posed by some in industry is if it would be prudent to re-examine the April 1 California shoreside fishery start date to see if salmon bycatch would be mitigated by starting later (e.g., April 15th or May 1st).

PFMC
4/10/08

THE GROUNDFISH MANAGEMENT TEAM (GMT) REPORT ON CONSIDERATION OF INSEASON ADJUSTMENTS

The Groundfish Management Team (GMT) considered the status of ongoing fisheries and provides the following considerations and recommendations.

Open Access Nearshore Commercial Fisheries North and South of 40°10' N. lat.

At the March 2008 meeting, the GMT updated the nearshore open access model with the latest bycatch rates from the West Coast Groundfish Observer Program. Impacts to canary rockfish increased from 1.7 mt to 2.6 mt and impacts to yelloweye rockfish increased from 1.5 to 1.7 mt. The GMT analyzed reductions to trip limits and depth closures to reduce impacts. The increases in canary rates primarily occurred south of 40°10' N. lat., while increases to yelloweye impacts occurred in the north. However, reductions both north and south of 40°10' N. lat. would be necessary to reduce the total canary impacts to 1.7 mt. At first glance, severe reductions to trip limits and a depth closure of 20 fm would be necessary to reduce canary impacts. Based on feedback from the Groundfish Advisory Subpanel, such restrictions would present a serious hardship to participants in this fishery. The Team recognized that the inseason proposal would benefit from the inclusion of more refined spatial data on canary and yelloweye catches and thus recommended further analysis. Management measures adopted at the March 2008 Council meeting resulted in a balanced scorecard without action to the nearshore fishery.

The GMT submitted a request to the West Coast Groundfish Observer Program for the refined spatial data, which was provided to the Team in a very timely fashion. The Team has started to analyze how potential area closures or restrictions could be incorporated into the model. These spatial management measures are intended to reduce the amount of trip limit reductions necessary to reduce canary impacts to 1.7 mt.

The California open access fishery is currently closed (March/April) but re-opens May 1. So, no canary impacts are occurring in California at this time. The Oregon open access fishery opened on January 1 and is ongoing. Any reductions in two month cumulative trip limits must occur at the beginning of a two month period, which, if acted on at this meeting, would correspond to July 1. Lingcod is managed with monthly limits; adjustments could be implemented June 1 if acted upon at this meeting. Depth restrictions recommended at this meeting could be incorporated by approximately May 15, however the GMT notes that limited canary savings occur as a result of the 20 fm depth restrictions (savings come primarily from trip limit reductions).

The GMT recommends a thorough analysis of the spatial observer data be completed prior to the June Council meeting. Delaying inseason action until June could provide for a more holistic approach, further discussions with industry, and potentially less disruption to the fleet. Changes to trip limits in June would be in effect approximately July 1; however given increased implementation requirements at the Region, there is a risk that the reductions may not be in place until September 1. Lingcod adjustments could be implemented approximately August 1 (depending on Region implementation requirements). Depth restrictions could be implemented approximately July 15. Additionally, the states monitor landings as part of their limited entry

program. If the states see increased effort in the open access fishery, they can institute smaller trip limits through state processes to slow the catch and provide for a year round opportunity. Additionally, once the analysis of the observer data is complete, areas of high canary bycatch within state waters could be closed outside of the Council process.

The bycatch model for the nearshore fishery is a catch based (not effort based) model and the total allowable catch of target species is specified in regulation. However, if landings are greater than what is predicted in the model, impacts greater than 2.6 mt could occur. The Team will monitor landings relative to historical levels and recommend inseason changes in June, if necessary.

Limited Entry Non-Whiting Trawl

Cowcod
The GMT considered the projected impacts to cowcod in the limited entry non-whiting trawl fishery. The most recently available bycatch rates from the observer program indicate zero cowcod bycatch, however the total mortality reports through 2006 indicate cowcod bycatch has consistently occurred in the non-whiting trawl fishery to some degree. Therefore, the GMT elected to use estimated cowcod bycatch rates from the 2007 model as an interim method for predicting cowcod bycatch in the non-whiting trawl fishery (which results in some estimated cowcod bycatch). The GMT will explore appropriate cowcod bycatch rates in more detail and resolve the issue prior to the June Council meeting. In the meantime, the GMT has provided an updated scorecard with the revised cowcod impacts (Table 1).

The GMT recommendation

1. Delay inseason action in the nearshore open access fishery until the June Council meeting.

PFMC
4/09/08

Table 1. 2008 Projected mortality impacts (mt) of overfished groundfish species after inseason actions taken at the April 2008 Council meeting.

4/9/2008

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	11.7	9.1	1.2	258.6	81.5	7.1	0.6
Limited Entry Trawl- Whiting							
At-sea whiting motherships a/					1.9		0.0
At-sea whiting cat-proc a/		4.7		40.0		275.0	0.0
Shoreside whiting a/					0.0		0.0
Tribal whiting		0.7		0.0	0.6	6.1	0.0
Tribal							
Midwater Trawl		1.8		0.0	0.0	40.0	0.0
Bottom Trawl		0.8		0.0	3.7	0.0	0.0
Troll		0.5		0.0	0.0		0.0
Fixed gear		0.3		0.0	0.0	0.0	2.3
Limited Entry Fixed Gear		1.1					2.2
Sablefish	13.4		0.0	0.6	0.3	0.9	
Non-Sablefish			0.1	0.4		0.5	
Open Access: Directed Groundfish							
Sablefish DTL	0.0	0.2		0.2	0.1	0.0	0.3
Nearshore (North of 40°10' N. lat.)	0.0	2.6	0.1	0.0	0.0	0.5	1.6
Nearshore (South of 40°10' N. lat.)	0.1			0.0	0.0		
Other	10.6	1.0		0.0	0.0	0.0	0.1
Open Access: Incidental Groundfish							
CA Halibut	0.1	0.0		0.0	0.0		
CA Gillnet c/	0.5			0.0	0.0	0.0	
CA Sheephead c/				0.0	0.0	0.0	0.0
CPS- wetfish c/	0.3						
CPS- squid d/							
Dungeness crab c/	0.0		0.0	0.0	0.0		
HMS b/		0.0	0.0	0.0			
Pacific Halibut c/	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	0.0	0.0	0.0	0.1	0.1
Ridgeback prawn	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Salmon troll	0.2	0.8	0.0	0.0	0.0	0.3	0.2
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)							
Recreational Groundfish e/							
WA		5.7					6.2
OR						1.4	
CA	66.3	9.0	0.3			8.0	2.1
EFPs	11.0	0.1	0.2	1.0		3.4	0.1
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	5.5	0.2	2.0	2.0	1.1	3.0
TOTAL	116.4	44.0	2.1	302.9	90.1	344.4	18.9
2008 OY	218	44.0	4.0	330	150	368	20
Difference	101.6	0.0	1.9	27.1	59.9	23.6	1.1
Percent of OY	53.4%	99.9%	52.5%	91.8%	60.1%	93.6%	94.3%
Key		= either not applicable; trace amount (<0.01 mt); or not reported in available data					

a/ Non-tribal whiting numbers reflect bycatch limits for the non-tribal whiting sectors.

b/ South of 40°10' N. lat.

c/ Mortality estimates are not hard numbers; based on the GMT's best professional judgment.

d/ Bycatch amounts by species unavailable, but bocaccio occurred in 0.1% of all port samples and other rockfish in another 0.1% of all port samples (and squid fisheries usually land their whole catch).

e/ Values in scorecard represent projected impacts for WA and OR. However, harvest guidelines for 2008 are as follows: canary in WA and OR combined = 8.2 mt; yelloweye in WA and OR combined = 6.8 mt. For California, harvest guidelines are represented.

f/ Research projections updated November 2007.

PART I OF MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

The Council is scheduled to adopt a range of 2009-2010 management measure alternatives and, if possible, a tentative preferred alternative for formal analysis and public review under this agenda item and Agenda Item H.7. Management measure alternatives are intended to meet, but not exceed the preferred optimum yields (OYs) adopted under Agenda Item H.1. The range of management measure alternatives should include catch sharing options for depleted groundfish species and any other constraining groundfish species without a fixed allocation, and include alternative strategies that meet the overarching objectives of providing fishing opportunities equitably across sectors while meeting the conservation needs of depleted and prohibited species (i.e., alternative seasons, size and bag limits, specific areas closed or open to fishing, trip limits, gear restrictions, and other management measures). The range of management measure alternatives should also attempt to explore the key management issues in 2009 and 2010 as recommended Groundfish Management Team (GMT) and the California Department of Fish and Game and decided by the Council in November 2007 (Attachments 1 and 2, respectively).

A central challenge in developing a range of 2009-2010 management measures will be minimizing the bycatch of canary and yelloweye rockfish. The Council guidance in November, 2007 was to assume the canary and yelloweye catch proportions by sector and state as provided in the GMT's initial 2007 bycatch scorecard developed in November, 2006 in initial analysis of management measures. Agenda Item H.5.a, Attachment 3 provides supplemental recent year catch estimates and other information to aid in developing these initial analyses, including the GMT's 2007 scorecard produced in the November, 2006 Council meeting; the 2006 total mortality report developed by the NMFS Northwest Fisheries Science Center; recently revised 2005-2007 California recreational catch estimates; preliminary 2007 recreational catch estimates of canary and yelloweye rockfish by state relative to the respective harvest guidelines; and initial 2009-2010 catch sharing options for canary and yelloweye rockfish developed by the GMT. Recent year total catch estimates by sector relative to specified OYs from 1995-2005 are also provided in Volume 1 of the Council's recently published Stock Assessment and Fishery Evaluation (SAFE) document (included with the briefing book).

Other attachments useful for developing a range of 2009-2010 management measures include a proposed range of alternative 2009-2010 management measures for the Oregon recreational groundfish fishery (Agenda Item H.5.b, ODFW Report) and relevant public comments received by the April briefing book deadline (Agenda Item H.5.d, Public Comment). The Council should consider these proposals, as well as advice from advisory bodies and the public before adopting a preliminary range of management measures for further analysis. The Council may want to request additional analysis by the GMT and Groundfish Advisory Subpanel (GAP) under this agenda item. Results for any requested analyses can be provided on Saturday under Agenda Item H.7, when the Council is scheduled to adopt a final refined range of 2009-2010 management measure alternatives for analysis in the DEIS. If possible, the Council should adopt a tentative preferred alternative then as well to allow intensified analysis between the April and June Council meetings. Final Council action on a preferred 2009-2010 management measure alternative is scheduled for the June Council meeting.

Council Action:

1. **Adopt a Preliminary Range of Refined Management Measures For 2009-2010.**
2. **Provide Guidance to the GMT and GAP for Further Analysis of Management Measure Alternatives (if Necessary).**

Reference Materials:

1. Agenda Item H.5.a, Attachment 1: 2009-2010 Management Issues Recommended by the GMT in November 2007.
2. Agenda Item H.5.a, Attachment 2: California Department of Fish and Game Practical Range of Management Specifications for California's 2009-2010 Commercial and Recreational Groundfish Fisheries.
3. Agenda Item H.5.a, Attachment 3: Recent Year Catch Estimates Relevant to Deciding a Range of 2009-2010 Management Measures.
4. Agenda Item H.5.b, ODFW Report: Oregon Department of Fish and Wildlife Report on Preliminary Management Measure Alternatives for the 2009-2010 Oregon Recreational Groundfish Fisheries.
5. Agenda Item H.5.d, Public Comment.

Agenda Order:

a. Agenda Item Overview — John DeVore
b. Agency and Tribal Comments
c. Reports and Comments of Advisory Bodies
d. Public Comments
e. **Council Action**: Adopt a Preliminary Range of Management Measures for Analysis

PFMC
03/24/08

2009-2010 MANAGEMENT ISSUES RECOMMENDED BY THE GMT IN NOVEMBER 2007

2009-2010 MANAGEMENT SPECIFICATIONS

The GMT reviewed issues relative to the 2009-2010 management specifications analysis (Agenda Item D.9.a Attachment 1). In prioritizing these items, the GMT first considered actions necessary for specifying management measures for 2009-2010. Recommended items are expected to provide reduced overfished species impacts, increased precision in the impact projections, and provide increased fishing opportunities at lower costs. Additionally, we identified several items on the list that were not appropriate for the specifications process.

The following items are recommended for the 2009-2010 management specifications analysis:

1. Consider managing recreational groundfish catch in numbers instead of weight. There is a national movement of managing recreational fish by number, which would provide management stability.

2. Finer scale spatial management. This item would increase complexity in management and require increased enforcement presence. However, the action is expected to reduce overfished species impacts and provide greater access to target species.
    a. Consider trip limits and management measures specified at a finer geographic scale.
    b. Yelloweye and canary rockfish spatial analysis. This would require analysis of West Coast Groundfish Observer Data by the NWFSC.
        i. Consider new groundfish rockfish conservation areas (RCAs), or "hot spots" to reduce bycatch of overfished species, in lieu of larger RCAs.
        ii. Consider groundfish fishing areas, a.k.a. "cold spots" (areas with low bycatch of overfished species) for target species. This item is a lower priority within the suite of spatial management options.

3. Re-define selective flatfish trawl gear specifications through the legal gear committee process.

4. Provide guidance on species, specifically skates, to be sorted under the scientific sorting designation in Amendment 18. Lack of species specific information is a large source of uncertainty in the longnose skate stock assessment and presumably any future skate assessments.

5. Limited Entry (LE) Trawl
    a. Declaration for trawl vessels to fish exclusively seaward or shoreward of the RCA during a two month cumulative limit period. This would reduce uncertainties in the bycatch model.
    b. Consider a requirement to allow only one trawl gear on board (per trip/period). NOTE: if declaration to fish inside or outside the RCA exclusively during a cumulative limit period moves forward, this may be an unnecessary restriction.
    c. Consider development of a bycatch model for the targeted whiting slope fishery outside the primary whiting season.

6. LE Fixed Gear
    a. Consider allowing LE fixed gear fishermen with a longline endorsement to access all of their landings limits using pot/trap gear. This would reduce bycatch.
    b. Consider separate trip limits and management measures in the LE fixed gear sablefish and lingcod fishery for longline and pot/trap gears. This option is recommended only if the gear switching option in 6a is allowed.

7. RCA latitude and longitude adjustment.

8. Mandatory logbooks for commercial/for hire recreational charter boats. Consideration mandated in the Magnuson-Stevens Re-Authorization; logbooks would provide valuable data for management of recreational fisheries.

9. Federal electronic fish tickets and logbooks.

10. Non-retention regulations for bronzespotted rockfish.

11. Whiting
    a. Sector specific bycatch limits.
    b. Scheduled releases of bycatch limits.
    c. Closing the non-treaty whiting fishery on a projection of attaining a bycatch cap.
    d. Re-defining at-sea processing to allow some minimal processing at sea by small vessels.
    e. Regulations requiring full retention for catcher vessels delivering to motherships.
    f. Analyze un-monitored midwater trawl efforts in the trawl RCA, by both catcher vessels delivering shoreside and to motherships during the primary season, by vessels sorting catch without 100% observer coverage.

The GMT recommends excluding the following items:

Non-Whiting Issues:

- New essential fish habitat closed areas (i.e., Olympic National Marine Sanctuary) Defer to the Essential Fish Habitat Oversight Committee or to the Marine Protected Area Committee.
- Consider dropping vessel ownership from the definition of ownership and control of a sablefish tier: Ownership of less than 50% of a vessel would not count towards ownership and control of a sablefish tier. Unrelated to harvest specifications.
- Consider changing the length variance in LE permit length endorsements. Defer to the trawl rationalization analysis.
- More timely implementation of inseason adjustments.
- Consider shorter notice for closing the non-treaty whiting fishery upon attainment of bycatch caps.
- Consider analysis of more management actions to redefine them as routine.
- Shortbelly specifications. Already adopted by the Council under ABC/OY.

Whiting Issues:

- Change season start dates. Lack of industry consensus.
- Tribal whiting allocations. Unrelated to harvest specifications. This item was originally intended to analyze and define the tribal whiting sliding scale allocation framework so the methodology can be specified in regulations.

PFMC
03/24/08

California Department of Fish and Game
Practical Range of Management Specifications for California's 2009-2010 Commercial and Recreational Groundfish Fisheries

The California Department of Fish and Game (CDFG) has developed a draft range of management options for the 2009-2010 commercial and recreational fishing seasons. The options described below were developed with input received from the Fish and Game Commission at their November 2007 meeting and a Groundfish Taskforce meeting held to solicit recommendations from industry and environmental representatives. The CDFG is proposing the following possible changes to existing management measures with the intent of remaining within harvest guidelines (HGs), particularly for species under rebuilding plans.

COMMERCIAL AND RECREATIONAL
Specific Fishing Area Prohibitions:
Proposals for incorporating specific groundfish closed areas ("hot spots") into the management specifications are still being developed.

COMMERCIAL
The management options below are the proposed possible changes to the current commercial management measures to be considered and analyzed for inclusion in the 2009-2010 Management Specifications:

- *Range of trip limits for scorpionfish with higher limits than 2007-08 EIS.*
- *Range of trip limits for minor nearshore north of 40º10' with lower limits than 2007-08 EIS.*
- *Revise RCA lines to more closely approximate depth contours.*
- *Revise the EFH designation boundaries for the Eel River area.*

RECREATIONAL
The proposed management options below represent possible changes to the current recreational management measures to be considered and analyzed for inclusion in the 2009-2010 Management Specifications:

- *Changes in Management Area Season Lengths.*
- *Make the timing of the lingcod closure period in the Rockfish Lingcod Management Areas* consistent with Rockfish Cabezon Greenling (RCG) season.
- *Changes in Depth Restrictions in Management Areas.*
- *Inclusion of 2-fish lingcod bag limit as a sublimit within the 10-fish RCG bag limit.*
- *Change bag sublimits for some species in the 10-fish RCG bag limit.*
- *Consider retention of 1 canary rockfish within the 10-fish RCG bag limit in Management Areas where they are uncommon.*
- *Require possession and use of a "descending assistance device" to minimize barotrauma-induced mortality.*
- *Elimination of gear restrictions for "Other flatfish".*
- *Inclusion of additional recreational management lines within Management Areas.*
- *Changes to Management Area Boundaries.*
- *Addition or removal of Management Areas.*

Recent Year Catch Estimates Relevant to Deciding a Range of 2009-2010 Management Measures

- 2007 Projected mortality impacts (mt) under current regulations. Final update - November 2006 Council meeting.
- Table 16. Estimated total mortality of major west coast groundfish species during 2006, by sector.
- 2005 Status Report of California Recreational Harvest for Specific Groundfish.
- 2006 Status Report of California Recreational Harvest for Specific Groundfish.
- 2007 Status Report of California Recreational Harvest for Specific Groundfish.
- Preliminary estimated total catch (mt) of canary and yelloweye rockfish in 2007 Washington, Oregon, and California recreational fisheries relative to specified harvest guidelines.
- Initial 2009-2010 Catch Sharing Options for Canary and Yelloweye Rockfish.

2007 Projected mortality impacts (mt) under current regulations. Final update - November 2006 Council meeting. a/

11/17/2006 9 a.m.

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	48.0	7.9	2.8	233.1	101.1	0.7	0.1
Limited Entry Trawl- Whiting							
At-sea whiting motherships					1.0		0.0
At-sea whiting cat-proc		4.7		25.0	2.9	200.0	0.0
Shoreside whiting					1.8		0.0
Tribal whiting		**0.7**		0.0	0.6	6.1	0.0
Tribal							
Midwater Trawl		1.8		0.0	0.0	40.0	0.0
Bottom Trawl		0.8		0.0	3.7	0.0	0.0
Troll		0.5		0.0	0.0		0.0
Fixed gear		0.3		0.0	0.0	0.0	2.3
Limited Entry Fixed Gear		1.2		1.3	0.4		2.9
Sablefish	13.4		0.0			0.0	
Non-Sablefish			0.1			0.5	
Open Access: Directed Groundfish		3.0					3.0
Sablefish DTL	0.0		0.1	0.2	0.1	0.0	
Nearshore (North of 40°10' N. lat.)	0.0			0.0	0.0	0.1	
Nearshore (South of 40°10' N. lat.)	0.0			0.0	0.0		
Other	10.6			0.0	0.0	0.0	
Open Access: Incidental Groundfish							
CA Halibut	0.1	**0.0**		0.0	0.0		
CA Gillnet c/	0.5			0.0	0.0	0.0	
CA Sheephead c/				0.0	0.0	0.0	0.0
CPS- wetfish c/	0.3						
CPS- squid d/							
Dungeness crab c/	0.0		0.0	0.0	0.0		
HMS b/		0.0	0.0	0.0			
Pacific Halibut c/	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	0.0	0.0	0.0	0.1	0.1
Ridgeback prawn	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Salmon troll	0.2	**0.8**	0.0	0.0	0.0	0.3	0.2
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)							
Recreational Groundfish e/							
WA		5.7					6.2
OR						1.4	
CA	98.0	8.3	0.4			8.0	1.7
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	**7.5**	0.1	3.8	3.6	0.9	2.0
TOTAL	173.3	43.3	3.5	263.5	115.2	258.1	18.6
2007 OY	**218**	**44.0**	**4.0**	**290**	**150**	**368**	**23**
Difference	44.7	0.7	0.5	26.6	34.8	110.0	4.4
Percent of OY	79.5%	98.4%	87.5%	90.8%	76.8%	70.1%	80.7%
Key		= either not applicable; trace amount (<0.01 mt); or not reported in available data					

a/ All numbers reflect projected annual total catches except that the non-tribal "Limited Entry Trawl- Whiting" numbers are the total bycatch caps for canary, darkblotched, and widow rockfish.

b/ South of 40°10' N. lat.

c/ Mortality estimates are not hard numbers; based on the GMT's best professional judgment.

d/ Bycatch amounts by species unavailable, but bocaccio occurred in 0.1% of all port samples and other rockfish in another 0.1% of all port samples (and squid fisheries usually land their whole catch).

e/ Values in scorecard represent projected impacts. However, harvest guidelines for 2007 are as follows: canary in WA and OR combined = 8.2 mt and in CA = 9.0 mt; yelloweye in WA and OR combined = 6.8 mt and in CA = 2.1 mt.

f/ Research projections only updated for canary rockfish in November 2006. The other species' updates will be updated in March 2007.

Table 16.--Estimated total mortality (mt) of major west coast groundfish species during 2006, by sector.

	Shoreside commercial fisheries				All at-sea hake fisheries	Shore-side WA Tribal	Total recreational fishing mortality			Research	Remaining GMT Scorecard [3] Values	Estimated total fishing mortality
	Estimated non-hake trawl [1]	Estimated hake trawl	Estimated non-trawl [2]	Total shoreside mortality			CA	OR	WA			
Non-rebuilding species												
Sablefish mortality	2,654	11.0	3,119	5,785	2	669	0.0	2.1	0	11		6,470
Shortspine thornyhead	649	0.1	178	827	0.5	21	0.0	0	0	4		853
Longspine thornyhead	821	0	21	843	0.0		0	0	0	11.6		854
Dover sole	7,476	0.0	5	7,480	0.0	221	0	0.0	0	28.8		7,730
Petrale sole	2,690	0.0	4	2,694	0	26	0.5	0.0	0	2.3		2,723
English sole	1,291	0.0	0.0	1,291	0.0	42	0.0	0.0	0	2.5		1,336
Arrowtooth flounder	2,818	2.3	79	2,899	2.8	197	0	0.0	0	6.1		3,105
Other Flatfish	1,855	0.1	4	1,859	0.3	60	27.6	3.3	0.2	11.8		1,962
Blackgill rockfish [3]	66	na	57	123	na	na	0	na	na	0.4		123
Splitnose rockfish [3]	159	na	0	160	na	na	0	na	na	2.1		162
Other slope rockfish N	187	2.8	58	248	8.2	25	0	0.0	0	2.5		283
Other slope rockfish S	122	na	10	132	na	na	0.0	na	na	1.3		133
Yellowtail rockfish [4]	32	153.7	3	189	109	172	0.4	8.7	13.9	1.2		493
Chilipepper rockfish [5]	116	na	0	116	na	na	1.6	na	na	8.3		126
Other shelf rockfish N	46	9.2	18	73	4	10	5.8	6.3	0.6	4.6		104
Other shelf rockfish S	22	na	35	57	na	na	275	na	na	3.1		334
Black rockfish	5	0	156	161		0.0	186	281	268	0		896
Other nearshore rockfish N	3	0.1	34	37	0.0	1.1	18.3	31.5	7.9	0.0		96
Other nearshore rockfish S	0	na	61	61	na	na	649	na	na	0.0		711
Lingcod mortality	272	5.4	100	378	3.2	45	348	127	47	5.3		952
Cabezon	0	0	51	51	0	0	31.6	18.7	4.3	0		106
Kelp greenling	0	0	17	17	0	0	8.2	21.7	1.6	0.0		48
Pacific hake	942	97,078	0	98,021	139,774	29,896	0.1	0.1	0	16.0		267,707
Pacific cod	344	0.9	0.5	346	0.1	36	0	0.0	3.5	0.2		385
Spiny dogfish	666	33.2	563	1,262	59	77	3.9	0.0	0	5.8		1,407
Longnose+big+Unsp. skate	780	1.7	198	980	0.8	39	1.1	0	1.6	7.3		1,029
Other groundfish	842	1.7	78	922	1.0	0.9	88.6	0.0	0.2	2.6		1,015
Rebuilding species												
Canary rockfish	23.7	1.6	2.9	28.2	1.1	2.9	12.3	2.9	1.1	7.2	1.3	57.0
Widow rockfish	6.5	47.9	0.8	55.2	143.3	9.9	3.3	1.1	0	0.2	0.9	213.8
Yelloweye rockfish	1.4	0.1	1.5	2.9	0.0	0.5	4.1	2.5	1.7	0.1	0.4	12.2
Bocaccio [5]	18.8	na	0.0	18.8	na	na	42.0	na	na	0.2	0.3	61.3
Cowcod [5]	0.9	na	0	0.9	na	na	0.2	na	na	0.0	0.0	1.1
Pacific ocean perch [6]	71.7	0.1	0.3	72.1	3.1	3.9	0	0	0	1.2	0.0	80.3
Darkblotched rockfish	178.5	2.1	0.5	181.1	11.1	0.1	0	0	0	0.9	0.0	193.3

[1] Includes minor landings by trawlers not targeting groundfish [2] Includes minor landings made with troll gear [3] The Pacific Fishery Management Council's Groundfish Management Team Bycatch Scorecard (Table 17) contains estimates of mortality from non-groundfish fisheries for species that are managed under rebuilding plans.

[4] Amounts in this row are for the area south of 40°10' N. Lat. Northern catch is included in the Other Slope Rockfish category.

[5] Amounts in this row are for the area north of 40°10' N. Lat. Southern catch is included in the Other Shelf Rockfish category.

[6] Amounts in this row are for the area south of 40°10' N. Lat. Northern catch is included in the Other Shelf Rockfish category. [7] Amounts in this row are for the area north of 40°10' N. Lat.

2005 Status Report of California Recreational Harvest for Specific Groundfish

Note: Estimates of 2005 recreational take are based upon revised California Recreational Fisheries Survey (CRFS) estimates of landed (A), reported dead (in bag) (B1), discarded live (B2), and reported returned dead (B3) fish from January-December 2005.

Species	Management area for report	Harvest target* (mt)	Total annual take (mt)	% of harvest target	North Coast current take (mt)	North-Central Coast current take (mt)	South-Central Coast - Monterey current take (mt)	South-Central Coast - Morro Bay current take (mt)	South Coast current take (mt)
Minor Nearshore RF North[1,a]	Between 42° 00' N and 40° 10' N	17.3	11.9	69%	11.9	----	----	----	----
Minor Nearshore RF South[2,a]	South of 40° 10' N	383	387	101%	----	155	72	91	69
Black RF[a]	California statewide	175	149	85%	87	56	4.6	1.7	0.1
Cabezon	California	42.1*	41.4	98%	4.6	24.8	0.9	1.9	9.2
Greenlings	California	15.5*	8.1	52%	1.0	6.6	0.4	0.1	0.0
Bocaccio[a]	South of 40° 30' N	60	39.1	65%	----	0.3	2.4	3.6	32.8
Canary RF[a]	California	**9.3**	3.9	42%	0.6	2.1	0.7	0.4	0.1
Cowcod[a]	South of 40° 30' N	**0.4**	0.2	50%	----	0.1	0	0	0.1
Lingcod	California	422	242	57%	45.4	121	15.8	32.4	27.6
Widow RF[a]	California	7.0	1.5	21%	0.0	0.8	0.1	0.0	0.6
Yelloweye RF[a]	California	**3.7**	1.9	51%	0.6	1.2	0.0	0.0	0.0

Bold indicates Harvest Guidelines (*Cabezon and Greenlings = CA Total Allowable Catch, not actively federally managed species)

1. Includes shallow and deeper nearshore rockfish (+ Cowcod, Bocaccio), with the two groups comprised of the following species:
- Shallow = Black-and-yellow, China, gopher, grass, and kelp rockfishes; and
- Deeper = Blue, brown, calico, copper, olive, quillback, and treefish rockfishes.

2. Includes all shallow and deeper nearshore rockfish and California Scorpionfish.

All estimates used A+B1+B3 data and (PR1+PR2)*(factor derived from phone effort data for years 2005-2006) as proxy for (PR1+PR2+PAN) except as follows (superscripts):

a. Catch estimates also include 0.42B2 discard mortality (boat modes only) except California scorpionfish.

California Department of Fish and Game
Prepared by: K. Lynn 3/6/08

2006 Status Report of California Recreational Harvest for Specific Groundfish

Note: Estimates of 2006 recreational take are based upon revised California Recreational Fisheries Survey (CRFS) estimates of landed (A), reported dead (in bag) (B1), discarded live (B2), and reported returned dead (B3) fish from January-December 2006.

Species	Management area for report	Harvest target* (mt)	Total annual take (mt)	% of harvest target	North Coast current take (mt)	North-Central Coast current take (mt)	South-Central Coast - Monterey current take (mt)	South-Central Coast - Morro Bay current take (mt)	South Coast current take (mt)
Minor Nearshore RF North[1,a]	Between 42° 00' N and 40° 10' N	17.3	16.0	92%	16.0	----	----	----	----
Minor Nearshore RF South[2,a]	South of 40° 10' N	383	595	155%	----	322	73	102	97
Black RF[a]	California statewide	171	170	99%	95	59	10.0	3.8	2.3
Cabezon	California	42.1*	27.5	65%	4.3	17.8	0.9	2.0	2.4
Greenlings	California	15.5*	8.1	52%	1.6	5.5	1.0	0.1	0.0
Bocaccio[a]	South of 40° 30' N	43	42.5	99%	----	6.6	2.1	3.2	30.5
Canary RF[a]	California	**9.3**	12.5	134%	0.8	9.7	1.2	0.7	0.2
Cowcod[a]	South of 40° 30' N	**0.4**	0.2	50%	----	0.0	0.1	0.0	0.1
Lingcod	California	422	301	71%	44.2	201	10.4	21.5	23.0
Widow RF[a]	California	7.0	3.2	46%	0.1	1.7	0.9	0.0	0.5
Yelloweye RF[a]	California	**3.7**	3.5	95%	1.0	2.5	0.0	0.0	0.0

Bold indicates Harvest Guidelines (*Cabezon and Greenlings = CA Total Allowable Catch, not actively federally managed species)

1. Includes shallow and deeper nearshore rockfish (+ Cowcod, Bocaccio), with the two groups comprised of the following species:
- Shallow = Black-and-yellow, China, gopher, grass, and kelp rockfishes; and
- Deeper = Blue, brown, calico, copper, olive, quillback, and treefish rockfishes.

2. Includes all shallow and deeper nearshore rockfish and California Scorpionfish.

All estimates used A+B1+B3 data and (PR1+PR2)*(factor derived from phone effort data for years 2005-2006) as proxy for (PR1+PR2+PAN) except as follows (superscripts):

a. Catch estimates also include 0.42B2 discard mortality (boat modes only) except California scorpionfish.

California Department of Fish and Game
Prepared by: K. Lynn 3/6/08

2007 Status Report of California Recreational Harvest for Specific Groundfish

Note: Estimates of 2007 recreational take are based upon revised California Recreational Fisheries Survey (CRFS) estimates of sampler examined landed (A), reported dead (in bag) (B1), discarded live (B2), and returned dead (B3) fish from Jan-Dec (prelim) 2007.

Species	Management area for report	Harvest target* (mt)	Total annual take (mt)	% of harvest target	North Coast current take (mt)	North-Central Coast current take (mt)	South-Central Coast - Monterey current take (mt)	South-Central Coast - Morro Bay current take (mt)	South Coast current take (mt)
Minor Nearshore RF North[1,a]	Between 42° 00' N and 40° 10' N	36.3	17.1	47%	17.1	----	----	----	----
Minor Nearshore RF South[2,a]	South of 40° 10' N	426	396	93%	----	189	60.4	76.3	68.8
Black RF[a]	California statewide	168	143	85%	91.1	41.5	7.6	2.9	0.1
Cabezon	California	42.0*	21.3	51%	5.0	7.6	1.2	2.6	4.9
Greenlings	California	15.5*	10.7	69%	1.5	8.8	0.4	0.1	0.0
Bocaccio[a]	South of 40° 30' N	**66.3**	53.4	81%	----	3.7	2.1	3.1	44.7
Canary RF[a]	California	**9.0**	10.9	121%	1.2	6.4	1.8	1.0	0.5
Cowcod[a]	South of 40° 30' N	**0.3**	0.28	93%	----	0.05	0.10	0.00	0.13
Lingcod	California	422	174	41%	49.1	75.7	8.1	16.6	24.5
Widow RF[a]	California	8.0	7.8	98%	0.0	0.6	2.9	0.0	4.3
Yelloweye RF[a]	California	**2.1**	8.0	381%	2.3	5.6	0.0	0.0	0.0
CA Scorpionfish	California	99	63.8	64%	0	0	0	0	63.8

Bold indicates Harvest Guidelines (*Cabezon and Greenlings = CA Total Allowable Catch, not actively federally managed species)

1. Includes shallow and deeper nearshore rockfish (+ Cowcod, Bocaccio), with the two groups comprised of the following species:
- Shallow = Black-and-yellow, China, gopher, grass, and kelp rockfishes; and
- Deeper = Blue, brown, calico, copper, olive, quillback, and treefish rockfishes.

2. Includes all shallow and deeper nearshore rockfish. CA Scorpionfish pulled out from this group starting 2007.

All estimates used A+B1+B3 data and (PR1+PR2)*(factor derived from phone effort data for years 2005-2006) as proxy for (PR1+PR2+PAN) except as follows (superscript):

a. Catch estimates also include 0.42B2 discard mortality (boat modes only).

California Department of Fish and Game
Prepared by: K. Lynn 3/6/08

Preliminary estimated total catch of canary and yelloweye rockfish in 2007 Washington, Oregon, and California recreational fisheries relative to specified harvest guidelines.

Fishery	Canary	Yelloweye
WA rec.	1.1	2.5
OR rec.	2.5	2.8
Total	3.6	5.3
WA&OR shared HG	8.2	6.8
Remaining yield	4.6	1.5
CA rec.	10.9	8.0
CA HG	9.0	2.1
Remaining yield	-1.9	-5.9

Initial 2009-2010 Catch Sharing Options for Canary and Yelloweye Rockfish.

OY Alternatives for Canary and Yelloweye 2009-2010

2009	OY-Alt 1	OY-Alt 2	OY-Alt 3	OY-Alt 4	OY-Alt 5	OY-Alt 6	Preferred
Canary	0	35	44	85	105	155	Ttarget=2021
Yelloweye	0	13	17	15			17

2010	OY-Alt 1	OY-Alt 2	OY-Alt 3	OY-Alt 4	OY-Alt 5	OY-Alt 6	Preferred
Canary	0	35	44	85	105	155	Ttarget=2021
Yelloweye	0	14	14	15			14

Projected Mortality by Sector from 2007-08 EIS

	2007			
Projected Mortality by Sector	**Canary**	Percentage	**Yelloweye**	Percentage
LE Trawl- Non-Whiting	7.9	24.09%	0.1	0.7%
LE Trawl- Whiting	4.7	14.33%	0	0.0%
OA: Directed	2.1	6.40%	2.4	17.5%
LE Fixed Gear	0.9	2.74%	2.3	16.8%
Rec: WA	1.7	5.18%	3.5	25.5%
Rec: OR	6.5	19.82%	3.3	24.1%
Rec: CA	9	27.44%	2.1	15.3%
Sub-Total	32.8	100.00%	13.7	100.0%
LE Trawl- Tribal Whiting	1.6		0	
Tribal	3.4		2.3	
OA: Incidental	2.2		0.6	
Research	3		3	
EFP	0.4		0.1	
Sub-Total	10.6		6	
Grand Total	43.4		19.8	
OY	44		23	

OY Alt-2	2009			
Projected Mortality by Sector	Percentage	**Canary**	Percentage	**Yelloweye**
LE Trawl- Non-Whiting	24.09%	5.9	0.73%	0.1
LE Trawl- Whiting	14.33%	3.5	0.00%	0.0
OA: Directed	6.40%	1.6	17.52%	1.2
LE Fixed Gear	2.74%	0.7	16.79%	1.2
Rec: WA	5.18%	1.3	25.55%	1.8
Rec: OR	19.82%	4.8	24.09%	1.7
Rec: CA	27.44%	6.7	15.33%	1.1
Sub-Total	100.00%	24.4	100.00%	7

OY Alt-3	2009			
Projected Mortality by Sector	Percentage	**Canary**	Percentage	**Yelloweye**
LE Trawl- Non-Whiting	24.09%	8.0	0.73%	0.1
LE Trawl- Whiting	14.33%	4.8	0.00%	0.0
OA: Directed	6.40%	2.1	17.52%	1.9
LE Fixed Gear	2.74%	0.9	16.79%	1.8
Rec: WA	5.18%	1.7	25.55%	2.8
Rec: OR	19.82%	6.6	24.09%	2.6
Rec: CA	27.44%	9.2	15.33%	1.7
Sub-Total	100.00%	33.4	100.00%	11

OY Alt-4	2009			
Projected Mortality by Sector	Percentage	**Canary**	Percentage	**Yelloweye**
LE Trawl- Non-Whiting	24.09%	17.9	0.73%	0.1
LE Trawl- Whiting	14.33%	10.7	0.00%	0.0
OA: Directed	6.40%	4.8	17.52%	1.6
LE Fixed Gear	2.74%	2.0	16.79%	1.5
Rec: WA	5.18%	3.9	25.55%	2.3
Rec: OR	19.82%	14.7	24.09%	2.2
Rec: CA	27.44%	20.4	15.33%	1.4
Sub-Total	100.00%	74.4	100.00%	9

OY Alt-5	2009	
Projected Mortality by Sector	Percentage	**Canary**
LE Trawl- Non-Whiting	24.09%	22.7
LE Trawl- Whiting	14.33%	13.5
OA: Directed	6.40%	6.0
LE Fixed Gear	2.74%	2.6
Rec: WA	5.18%	4.9
Rec: OR	19.82%	18.7
Rec: CA	27.44%	25.9
Sub-Total	100.00%	94.4

OY Alt-6	2009	
Projected Mortality by Sector	Percentage	**Canary**
LE Trawl- Non-Whiting	24.09%	34.8
LE Trawl- Whiting	14.33%	20.7
OA: Directed	6.40%	9.2
LE Fixed Gear	2.74%	4.0
Rec: WA	5.18%	7.5
Rec: OR	19.82%	28.6
Rec: CA	27.44%	39.6
Sub-Total	100.00%	144.4

OY Alt-2		**2010**		
Projected Mortality by Sector	Percentage	**Canary**	Percentage	**Yelloweye**
LE Trawl- Non-Whiting	24.09%	5.9	0.73%	0.1
LE Trawl- Whiting	14.33%	3.5	0.00%	0.0
OA: Directed	6.40%	1.6	17.52%	1.4
LE Fixed Gear	2.74%	0.7	16.79%	1.3
Rec: WA	5.18%	1.3	25.55%	2.0
Rec: OR	19.82%	4.8	24.09%	1.9
Rec: CA	27.44%	6.7	15.33%	1.2
Sub-Total	100.00%	24.4	100.00%	8

OY Alt-3		**2010**		
Projected Mortality by Sector	Percentage	**Canary**	Percentage	**Yelloweye**
LE Trawl- Non-Whiting	24.09%	8.0	0.73%	0.1
LE Trawl- Whiting	14.33%	4.8	0.00%	0.0
OA: Directed	6.40%	2.1	17.52%	1.4
LE Fixed Gear	2.74%	0.9	16.79%	1.3
Rec: WA	5.18%	1.7	25.55%	2.0
Rec: OR	19.82%	6.6	24.09%	1.9
Rec: CA	27.44%	9.2	15.33%	1.2
Sub-Total	100.00%	33.4	100.00%	8

OY Alt-4		**2010**		
Projected Mortality by Sector	Percentage	**Canary**	Percentage	**Yelloweye**
LE Trawl- Non-Whiting	24.09%	17.9	0.73%	0.1
LE Trawl- Whiting	14.33%	10.7	0.00%	0.0
OA: Directed	6.40%	4.8	17.52%	1.6
LE Fixed Gear	2.74%	2.0	16.79%	1.5
Rec: WA	5.18%	3.9	25.55%	2.3
Rec: OR	19.82%	14.7	24.09%	2.2
Rec: CA	27.44%	20.4	15.33%	1.4
Sub-Total	100.00%	74.4	100.00%	9

Agenda Item H.5.b
Supplemental CDFG Report
April 2008

Preliminary Practical Range of Management Specification Options for California's 2009-2010 Commercial and Recreational Groundfish Fisheries

COMMERCIAL AND RECREATIONAL

Specific Fishing Area Prohibitions

Proposals for incorporating yelloweye rockfish conservation areas into the management specifications are still being developed.

Changes to Rockfish Conservation Area (RCA) lines

Proposals from industry to modify RCA lines to more closely approximate depth contours are being reviewed by CDFG and Enforcement staff.

COMMERCIAL

Most commercial groundfish fishery options will be covered under the general range of federal commercial options. For the nearshore fishery and cabezon, greenling and California sheephead, regional allocation or setting of regional TACs will not be considered for 2009-2010. Commercial management options will implement regional needs where possible and include the following considerations:

Cabezon, Greenlings, and California Sheephead:

- Cabezon:
  - Consider even distribution of trip limits throughout season
  - Consider increasing trip limits for 2010
- Greenling, and Sheephead: Status quo trip limits

Nearshore Rockfish and Lingcod:

Coastwide:

- Consider reduced RCA closure (i.e., allow access to deeper water) between OR/CA border and Pt. Conception (34°27' N latitude)
- Lingcod:
  - Status quo spawning closure is Nov-Apr.
  - Consider shortening duration of nesting closure when nearshore is open (i.e., allow lingcod retention in Nov, Dec, Jan or Feb)
  - Consider decreasing minimum size limit from 24 inches TL to 22 inches TL

North of 40°10' N latitude:

Minor Nearshore Rockfish options:

- Near-status quo trip limit options
  - Consider lower limits, removing blue rockfish from the black/blue rockfish sub-limit, and re-structuring the black, blue, and minor nearshore rockfishes trip limit matrix.
    - Consider shorter season

South of 40°10' N latitude:

- Keep status quo 10-month season with Mar-Apr closure
- Shallow nearshore rockfish options:
  - Near-status quo trip limit options
- Deeper nearshore rockfish options:
  - Near-status quo options with different limits seasonally north and south of Pt. Conception (34°27' N latitude) due to regional preferences in seasonal opportunities.
  - Consider shorter season
- California scorpionfish:
  - Increase trip limits all open months

RECREATIONAL

The California Department of Fish and Game is proposing a range of options for structuring the 2009-2010 recreational groundfish fisheries with the intent of remaining within harvest guidelines (HGs), particularly for species under rebuilding plans. This range of options includes the following:

- Continued non-retention of cowcod, canary and yelloweye rockfish statewide (retention of canary rockfish may be allowed in limited numbers in a portion of the state if the OY is increased)
- Management specifications which are structured around constituents' preferred fishing seasons while still providing as much fishing opportunity as possible
- Alternatives that allow for more access to deeper waters paired with bycatch reduction tools (hot spots, gear restrictions, barotrauma reduction devices)
- Use of closed seasons, depth restrictions, bag limits, and size limits in combination to manage recreational catch to specified harvest limits
- Inclusion of Point Arena as a management line within the North Central Management Area

<u>Management Specifications Under Consideration for 2009-2010</u>
(Seasons and Depth Restrictions)

NORTH COAST MANAGEMENT AREA
(between 40°10' N lat. and 42° 00' N lat.)
Seasons: 2 - 9 months open for groundfish fishing
Depth restrictions: 0-20 fm, 0-30 fm
Status Quo: 8 months at 0-20 fm (Based on March 2008 inseason changes)

NORTH-CENTRAL COAST MANAGEMENT AREA
(between 40° 10' N lat. and 37° 11' N lat.)
Seasons: 5 - 9 months open for groundfish fishing
Depth restrictions: 0-20 fm, 0-30 fm, 0-40 fm
Status Quo: 6 months at 0-20 fm (Based on March 2008 inseason changes)

MONTEREY SOUTH-CENTRAL COAST MANAGEMENT AREA
(between 37° 11' N lat. and 36° 00' N lat.)
Seasons: 5 - 9 months open for groundfish fishing
Depth restrictions: 0-20 fm, 0-30 fm, 0-40 fm
Status Quo: 7 months at 0-40 fm

MORRO BAY SOUTH-CENTRAL COAST MANAGEMENT AREA

(between 36° 00' N. lat. and 34° 27' N. lat.)
Seasons: 5 - 9 months open for groundfish fishing
Depth restrictions: 0-20 fm, 0-30 fm, 0-40 fm
Status Quo: 7 months at 0-40 fm; California scorpionfish retention during all months when rockfish open

SOUTH COAST MANAGEMENT AREA

(between 34° 27' N. lat. and CA/Mexico border)
Seasons: 6-11 months open for groundfish fishing; California scorpionfish: 8-12 months; status quo 12 months
Depth restrictions: 0-40 fm and 0-60 fm; status quo 0-40 fm and 0-60 fm. Allow California scorpionfish retention during all months when rockfish open.
Status Quo: 10 months, 0-60 fm groundfish fishery; California scorpionfish retention 2 months at 0-40 fm, and 10 months at 60 fm,

North, Central and South RLMAs

- Lingcod nesting closure: 3-4 months (for spawning period within January, February, March and December)
- Status Quo: Lingcod nesting closure is Jan-Mar and December

<u>Bag limits</u>

Within the 20 finfish bag limit, the following ranges would be analyzed with the option for differential bag limits for boat and shore anglers and differences between regions (with diver limits set to those of shore anglers):

- Lingcod 1-3 fish, status quo: 2 fish
- RCG (all rockfish, cabezon, kelp greenling, and rock greenling) keep as 10 per bag with following sub-bag limits:
    - Bocaccio south of 40°10' N. lat. 1-2 fish, Status quo: 1 fish
    - Bocaccio north of 40° 10' N. lat. Status quo: 2 fish
    - Cabezon 1-2 fish; Status quo: 1 fish
    - Greenlings (all species of genus *Hexagrammos*) 1-3 fish, Status quo: 2 fish
    - Black Rockfish, Status quo: 10 fish
    - Blue Rockfish, Status quo: 10 fish
    - Lingcod 2-3 fish, Status quo: 2 fish
    - Canary Rockfish 1 fish, Status quo: 0 retention

- RCG (all rockfish, cabezon, kelp greenling, and rock greenling) first 5-10 fish per bag with the following sub-bag limits:
    - Cabezon 1-2 fish, Status quo: 1 fish
    - Greenlings (all species of the genus *Hexagrammos*) 1-3 fish, Status quo: 2 fish
    - Lingcod 1-3 fish, Status quo: 2 fish not included in 10 fish RCG limit
    - Canary, cowcod, and yelloweye rockfish allowed within 5-10 fish limit, Status quo: prohibited
- California scorpionfish, Status quo: 5 fish

Size limits

- Lingcod 22-26 inches TL, Status quo: 24 inches
- Bocaccio Status quo: 10 inches TL
- Cabezon Status quo: 15 inches TL
- Kelp greenling (and other species of the genus *Hexagrammos*), Status quo: 12 inches TL
- California scorpionfish Status quo: 10 inches TL

Filet size limits

- Lingcod filet size changed if size limit changed; Status quo: 16 inches and must bear an intact 1 inch square patch of skin
- All others: Status quo

Gear restrictions

- Rockfish Status quo: limit of 2 hooks and 1 line
- Lingcod Status quo: limit of 2 hooks and 1 line
- "Other flatfish" no hook or weight restrictions when rockfish is closed, Status quo: limit of up to 12 hooks, "Number 2" or smaller, which measure no more than 11 mm point to shank, and up to 2 pounds of weight per line
- Require the possession (one per private vessel and two per CPFV) and use of a "descending assistance device" to minimize barotrauma, Status quo: none required

Proposed Inclusion of Pt. Arena as a Management Line

- Pt. Arena would be included as a management line within the North-Central Management Regions above or below which management actions could be taken or differing regulations could be established.

Specific Fishing Area Prohibitions

Farallon Islands:

Status quo: Waters less than 10 fm in depth around the Farallon Island and Noonday Rock are closed at all times for all groundfish species. Divers and shore-based anglers are NOT exempt from these area closures.

Cordell Bank:

Status Quo: Waters of Cordell Bank less than 100 fm in depth are closed at all times for all groundfish species except Pacific Sanddabs and Other Flatfish.

Cowcod Conservation Areas:

Status quo: Waters within the areas designated as the Cowcod Conservation Areas are closed to fishing for groundfish at all times except for Pacific sanddabs and Other Flatfish and in waters shallower than the 20 fm depth contour, California scorpionfish, nearshore rockfish, cabezon, greenlings, California sheephead, ocean whitefish, and lingcod may be taken.

Other Rebuilding Stock Rockfish Conservation Areas

Other Groundfish Areas of Concern are currently under consideration due to high take of rebuilding species.

Yelloweye Rockfish Conservation Areas (regulations apply to boat-based anglers only, exceptions apply for Pacific sanddabs and Other flatfish, and shore-based anglers and divers):

Point St George Yelloweye Rockfish Conservation Area (Del Norte County)

The area between a line extending from shore due West through the NOAA buoy off Point St. George at 41° 51' 00" North latitude and a line extending due West from Castle Rock at 41° 45' 40" North latitude are closed to fishing for all federal managed Groundfish species at all times.

Punta Gorda Yelloweye Rockfish Conservation Area (Humboldt County)

The area between a line extending due West from the Punta Gorda Lighthouse at 40° 15' 15" North latitude and a line extending due West from Reynolds Creek mouth at 40° 12' 00" North latitude are closed to fishing for all federal managed Groundfish species at all times.

Point Delgada Yelloweye Rockfish Conservation Area (Humboldt County)

The area between a line extending due West from Yellow Bluff at 40° 02' 35" North latitude and west of a line extending due south from Dead Man's Gulch at 124° 03' 26" West are closed to fishing for all federal managed Groundfish species at all times.

Bells Point Yelloweye Rockfish Conservation Area (Mendocino County)

The area between a line extending due West from Switzer Rock 39° 38' 50" North latitude and a line extending due West from Kibesillah Rock at 39° 34' 08" North latitude; are closed to fishing for all federal managed Groundfish species at all times.

Point Cabrillo Yelloweye Rockfish Conservation Area (Mendocino County)

The area between a line extending due West from Hare Creek 39° 25' 00" North latitude south and a line extending due West from Point Cabrillo 39° 21' 00" North latitude are closed to fishing for all federal managed Groundfish species at all times.

Additional YRCAs in the Northern and North-Central Management Area or other Management Areas to the south may be identified in addition to the areas noted above for inclusion in the 2009-2010 regulatory specifications, pending additional analysis. Conforming actions will be pursued in federal waters for areas outside state waters that are found to result in high catch of yelloweye rockfish.

THE GROUNDFISH MANAGEMENT TEAM REPORT ON PART 1 MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

The Groundfish Management Team (GMT) discussed the range of management measures, relative to the 2009-2010 specifications and management measures analysis, that were forwarded for preliminary consideration at the November 2007 Council meeting and included in the April 2008 briefing book (April 2008 Agenda Item H.5.a Attachment 1). Based on guidance from the Region, the GMT discussion focused on how the preliminary range of management measures fit within: (a) the Purpose and Need for the 2009-2010 specifications and management measures supplemental environmental impact statement (SEIS); (b) the four categories of management measures considered in the 2007-2008 specifications and management measures EIS; (c) and, the current workload requirements of the Team and agencies associated with analyses and implementation of these measures. The GMT also considered the implications of taking no action on these potential management measures for 2009-2010. All of these considerations are discussed below. The GMT requests guidance from the Council on which items to prioritize as part of the 2009-2010 SEIS process.

To facilitate this process the GMT reviewed the *Purpose and Need of the Proposed Actions* from the 2007-2008 Groundfish Harvest Specifications and Management Measures and Amendment 16-4 EIS. Guidance from the Region indicates that doing a SEIS is the appropriate course of action, requiring adherence to the same purpose and need from the 2007-2008 action.

The purpose:

1. *Rebuild depleted groundfish stocks to a size and structure capable of supporting maximum sustained yield (MSY) according to the requirements of the Magnuson-Stevens Act (MSA). The MSA mandates rebuilding periods "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 Untied States participates, and the interaction of the overfished stock of fish within the marine ecosystem" (Section 304(e)).*

2. *Ensure Pacific Coast groundfish subject to Federal management are harvested at optimum yield (OY) during 2007 and 2008 in a manner consistent with the Groundfish Fishery Management Plan (FMP), National Standards Guidelines (NSG) (50 CFR 600 Subpart D), and other requirements of the MSA and other applicable law, using routine management tools available to the management measures process (FMP at 6.2., 50 CFR 660.323(b)).*

The need:

1. *The Council approach to rebuilding depleted groundfish species, as described in rebuilding plans, must be re-evaluated and potentially adjusted so they are consistent with a recent opinion rendered by the Ninth Circuit Court of Appeals in Natural Resources Defense Council, Inc. and Oceana, Inc. v. National Marine Fisheries Service, et al., 421 F.3d 872 (9th Cir. 2005), and with National Standard 1 of the MSA.*

2. *Commercial and recreational harvests in 2007 and 2008 must be constrained to levels that will ensure groundfish stocks are maintained at, or restored to, sizes and structures that will produce the highest net benefit to the nation, while balancing environmental and social values.*

To further assist in evaluating the potential analysis the GMT reviewed section 1.3.3 *Range of Management Measures Considered by the Council*, from the 2007-2008 Groundfish Harvest Specifications and Management Measures and Amendment 16-4 EIS. The GMT determined that potential management measures that fit within any of these four categories of management measures could be consistent with the 2007-2008 process. The four categories of management measures analyzed for 2007-2008 were:

1. *Commercial Trip limits*
2. *Commercial Gear requirements*
3. *Recreational gear, size and bag limits*
4. *Time/area closures*

Below is a discussion of each issue and how they relate to the criteria identified above.

COMMERCIAL

Limited Entry Non-Whiting Trawl Fishery

One Bottom Trawl Gear on Board north of 40°10´ N. Lat.

The GMT has discussed the concept of only allowing a single bottom trawl gear on board several times in recent years. The GMT believes consideration of this measure is consistent with the Purpose and Need. The intention of the one bottom trawl gear on board discussion has been to increase the certainty that large footrope gear is not being used shoreward of the Rockfish Conservation Area (RCA). Large footrope is better able to fish in rocky habitats and using this gear in shoreward areas tends to increase bycatch of overfished species found on the shelf. In recent discussions, the team identified several issues that would need to be addressed before putting this type of regulation in place. In particular, if trawlers are held to a single trawl gear during a period, this may inadvertently result in increased trawl effort on the shelf for those vessels that currently fish both seaward and shoreward but are restricted to the smaller limits. In addition, switching between one trawl gear and another may force vessels to incur a cost that they currently do not incur, thus having an adverse economic impact to trawl vessels.

Additionally, sampling concerns in Oregon (approximately 2.6 percent of landings) are associated with the use of multiple trawl gears during one trip. Implementation of a one trawl gear onboard regulation would prevent this issue. Fish are not kept in separate holds by gear type and therefore samples taken at the dock cannot be associated to a specific gear or area fished (shoreward or seaward of the RCA). Gear and area codes cannot be recorded on fish tickets and logbooks when more than one gear is used. When samples cannot be linked to the gear and area fished, they are unable to be used which results in a loss of important information used in stock assessments.

Trawl Declaration to Fish Shoreward or Seaward of the RCA

Requiring that vessels fish shoreward or seaward of the RCA may potentially meet the Purpose and Need, however the implementation of this tool may prove complex and have unintended consequences. Such a declaration may improve modeling capabilities, thus increasing the certainty associated with the trawl model bycatch estimates. While discussing this issue, however, the GMT identified several logistic concerns associated with this tool. If, for example, vessels declare a shoreward or seaward strategy and an inseason adjustment takes place, vessels would be restricted with the shoreward or seaward strategy. If such an inseason adjustment means the closure of a shoreward area, those vessels that have declared the intention to fish shoreward may have their harvest opportunities eliminated without the ability to fish seaward. Such unintended consequences may make the analysis and implementation of this tool difficult and unclear. Reducing flexibility in the non-whiting trawl fishery is inconsistent with the management philosophy we implement inseason (e.g., RCA adjustments to redistribute effort and associated impacts to OFS). **Therefore, the GMT recommends removing this item for analysis under management measures for 2009-2010.**

Redefinition of Selective Flatfish Trawl Gear

In January 2007, the Council received new information indicating the bycatch of canary rockfish in the bottom trawl fishery was higher than modeled during the 2007-2008 Groundfish Harvest Specifications. The 07-08 trawl bycatch model used canary bycatch rates seen under the selective flatfish trawl Exempted Fishing Permit (EFP) and observer data to predict regulated use of the gear. The Team investigated reasons for the difference between the regulated use of selective flatfish trawl gear and the EFP performance by reviewing the report *Effectiveness of Selective Flatfish Trawls in the 2005 U.S. West Coast Groundfish Trawl Fishery* (Hannah, Gove, and Parker 2007) (Agenda Item D.6.c ODFW/NWFSC Report, November 2007). The report recommended refinements to the current selective flatfish trawl regulations, however no further research on gear performance has been conducted to help quantify the canary savings relative to the modifications or possible impacts to target species catch. Preliminary discussions with the Enforcement Committee and the Groundfish Advisory Subpanel highlighted enforceability concerns, difficulty in implementation, standardization of modifications across the fleet, and negative effects on target species catch rates with regard to the proposed changes to the regulations. **Resolution of these issues prior to June without further research on the selective flatfish trawl will be challenging, therefore the GMT recommends removing this alternative for analysis for 2009-2010.**

Limited Entry Whiting Trawl Fishery

Whiting Sector Specific Bycatch Limits

The GMT believes that the concept of sector specific bycatch limits is consistent with the Purpose and Need. Sector specific bycatch limits may tend to decrease competition between sectors, potentially fostering the ability for each sector to manage bycatch successfully. This outcome would increase the likelihood of attaining the whiting OY. The GMT identified several issues that are related to this topic that would need to be addressed in the analysis. First, a bycatch allocation for each sector would need to be calculated. During preliminary discussions, GMT identified two possible methods 1) pro-rata distribution, 2) distribution based on the whiting bycatch model rates. Imposing inflexible, hard limits on each sector may inadvertently constrain one or more sectors even if the overall total bycatch across all three sectors is less than

the overall three sector limit. To alleviate this possibility, sector specific bycatch limits could be subject to adjustments or re-apportionment via a routine inseason adjustment, or sector specific bycatch could be subject to a roll-over from one sector to another if one sector completes harvesting operations and has not taken all of its bycatch. The GMT notes that sector allocations are currently being developed under Amendment 21 - Intersector Allocation and the 2009-2010 exploration of sector specific bycatch limits could build upon this analysis.

Scheduled Release of Bycatch in the Whiting Fishery

The GMT discussed the concept of scheduled releases of bycatch in the whiting fishery and believes that it would tend to operate similarly to sector-specific bycatch limits. Therefore, this item meets the Purpose and Need. This tool would operate similarly to sector specific caps because of the seasonal timing of fishing operations of the three whiting sectors and the fact that devoting specific bycatch amounts to specific times could have an allocative effect, like sector specific limits. Like sector-specific limits, a scheduled release could inadvertently constrain one or more whiting sectors. Therefore, rolling over unused bycatch from one season to another may provide some flexibility in using this tool. In addition, allowing seasonal release amounts to be adjusted via an inseason action could provide another source of flexibility. The current method of releasing the bycatch limit to the fishery at the start of the season tends to favor the sectors that operate in the early part of the season.

Closing Whiting Fishery upon Projected Attainment of a Bycatch Limit

The GMT believes that closing upon projected attainment of a bycatch limit meets the Purpose and Need. Closing upon projection of attainment may mean inadvertently exceeding the bycatch limit or coming in under the bycatch limit, due to imprecise projections. Closing before actually attaining the bycatch limit may result in leaving a portion of the whiting OY unharvested. However, closing upon actual attainment virtually guarantees that the bycatch limit will be exceeded, potentially jeopardizing the OY. Projecting attainment of a bycatch limit inseason is an increased workload for the Region relative to status quo management of the whiting fishery.

Whiting-maximized Retention for Catcher Vessels Delivering to Motherships

Provisions for requiring maximized retention for whiting catcher vessels delivering to motherships fall within the scope of the Purpose and Need. This action does not directly fall into one of the four categories of management measures considered in 07-08, however it does fall into a potential new category for Tracking and Monitoring issues, which are directly related to our ability to manage the fisheries within the constraints of overfished species rebuilding plans. Relative workload associated with this action would be low, because considerable analysis has been completed relative to the at-sea whiting fishery in recent actions. If action is not taken on this issue for 09-10, the GMT would have uncertainty in the accuracy of the bycatch estimates for this sector, which operates in a fishery that is managed within bycatch limits.

The Region indicated that the proposed language for Amendment 10, Shore-Based Pacific Whiting Monitoring Program, addresses this issue. If this issue is addressed in the final Amendment 10 rule, this item should be removed from the SEIS analysis.

Whiting Unmonitored Midwater Trawling in the RCA

Existing regulations allow midwater trawl vessels targeting whiting to fish in the trawl RCA without monitoring/observers during all operations (i.e., only subject to 25 percent coverage by observers) as long as they sort and discard to meet trip limits. Modifying regulations to require

vessels in this fishery to carry an observer during all operations within the RCA would meet the Purpose and Need. This action does not directly fall into one of the four categories of management measures considered in 07-08, however it does fall into a potential new category for Tracking and Monitoring issues, which are directly related to our ability to manage the fisheries within the constraints of overfished species rebuilding plans. Modifying regulations in order to insure that trawl vessels targeting whiting in the RCA are monitored 100 percent of the time would provide accountability for overfished stocks that may be encountered in this fishery. Targeting whiting outside the RCA (with large footrope gear on the slope for example) would still be allowed and subject to normal WCGOP observer rotations.

The Region indicated that the proposed language for Amendment 10, Shore-Based Pacific Whiting Monitoring Program, addresses this issue. If this issue is addressed in the final Amendment 10 rule, this item should be removed from the SEIS analysis.

Limited Entry (LE) Fixed Gear Fishery

Gear Switching From Longline to Pot Gears

Providing the opportunity for gear switching from longline to pot gears meets the Purpose and Need by potentially allowing for access to non-overfished stocks while reducing impacts to overfished species, especially yelloweye rockfish. West Coast Groundfish Observer Program data indicates that yelloweye catch in pot fisheries is lower than catch in longline fisheries. Initial scoping indicates there might be an economic impact of switching from longline to pot gears. If a LE permit with a longline endorsement is allowed to use either pot or longline gear, the value of the longline endorsed permit could be greater and the value of pot endorsed FG permits could be less. As such, there might be a higher workload associated with exploring the economic implications of this item. If the proposed gear switching is recommended by the Council, and analyzed for 2009-2010, an amendment to the Fishery Management Plan would be needed.

Logbooks

Logbooks are not currently mandatory in the limited entry fixed gear fishery and the states vary in their logbook requirements (OR has a mandatory requirement, WA has a voluntary program, CA has no requirement but did do a pilot study to investigate feasibility of a nearshore logbook). Logbooks are directly related to the Purpose and Need of the specifications and management measures process because of the information they provide on the timing and location of fishing effort. The workload associated with the SEIS analysis would not be high, yet design and implementation of a mandatory coastwide logbook program would require coordination between NMFS and the states. The risk of not implementing the program would be no improvement in our knowledge of the fixed gear fleet. Logbooks can improve stock assessments by providing information on CPUE and area of catch. In addition, like with the trawl fishery, the GMT could use logbook information to improve catch projections and estimates of total catch.

Incidental Open Access

Incidental Catch of Lingcod in the Salmon Troll

The GMT discussed the proposal to allow salmon trollers to retain 1 lingcod per 15 chinook landed plus one additional lingcod ("15:1 plus 1") within the RCA at its January 2008 meeting. Under a 50-chinook trip limit, this ratio would permit salmon trollers to retain a maximum of 4

lingcod per trip. The GMT examined whether the 15:1 plus 1 ratio represented a truly incidental bycatch rate by analyzing Washington Department of Fish and Wildlife data taken from onboard observations in the salmon troll fishery off Washington in 2003-2005. This data showed a chinook to lingcod ratio of 24.4 to 1 in 2003, ~15:1 in 2004, and 7.4:1 in 2005. While the 15:1 plus 1 ratio is equivalent to the 2005 ratio, the team has significant concerns about the limited coverage (four percent) and duration of the data. Even if 7.4:1 rate and the trend in the data were statistically significant, the team does not believe that additional impacts to yelloweye and canary could be ruled out. A maximum retention of 4 lingcod per trip does not provide much of an economic incentive to change fishing behavior. However, the team is concerned that there are ways for trollers to target lingcod on a trip at little additional cost. If true, then additional targeting of lingcod should be expected. And given lingcod distributions, the team presumes there would be impacts to canary and yelloweye.

There would be minimal workload associated with analyzing this proposal in the SEIS. However, the team does not have additional data and an analysis would not produce a more definitive answer on canary and yelloweye impacts. **The GMT recommends that the Council either drop this proposal or add a more conservative retention limit (i.e., less than 4 lingcod per trip) to the range analyzed in the SEIS.**

Recreational

Logbooks for Charter Boats

Consideration of a logbook program is mandated under the Magnuson-Stevens Act Reauthorization, though implementation is not required. This action is consistent with the Purpose and Need because logbooks could provide data needed to monitor catch inseason and assess stocks of recreational caught species, which may help in ensuring rebuilding plans are met. Logbooks could provide effort estimates for this fishing mode with greater accuracy than current estimation methods, although depending on the program infrastructure, the information may not be as timely as needed for inseason management. Logbooks may provide additional information that is not currently being collected through the state recreational sampling and survey programs (e.g., location data and CPUE). This data may help identify areas to be avoided to protect overfished species and may also provide valuable information for stock assessments. There may be other methods for collecting additional information from this harvest sector that are more accurate (e.g., observers). The workload associated with the SEIS analysis would not be high, yet design and implementation of a mandatory coastwide logbook program, that meets state and federal requirements, would require coordination between NMFS and the states.

Accounting for Recreational Catch in Numbers

The GMT discussed the concept of managing recreational groundfish catch in numbers instead of weight several times since hearing a presentation from Dr. Richard Methot. This management measure does not clearly meet the Purpose and Need, but there is a national movement toward this approach. Management by numbers may be more socially desirable (i.e., easier for the angler to relate and follow catch progress). Managing recreational fish by numbers seems reasonable from a social standpoint but becomes complicated when considering how to apply the idea to management. The GMT has several unresolved issues with how management in numbers would work.

- How would the change to managing by numbers of fish actually work in terms of allocation and multi-year OYs?

- How would goals be reviewed post season?
- Would the switch to managing by numbers require any changes to the FMP?
- Stumbling blocks: reconciliation at the end of the year and the cycle (e.g., use in the Total Mortality Report).

The GMT notes that Marine Recreational Information Program is currently scoping this issue and should provide guidance in the near term. **As such, the GMT recommends that this item is not analyzed in the 2009-2010 SEIS.**

Recreational Bag Limit for Bronzespotted Rockfish

This measure meets the Purpose and Need by constraining harvest, via bag limits, to levels that would ensure the stock health is maintained. A summary of conservation concerns for bronzespotted rockfish (*Sebastes gilli*) first appeared in the March 2007 briefing book (Agenda Item E.2.b, Attachment 3). This species occurs mainly in Southern California waters, in deep rocky habitats similar to those for cowcod (*S. levis*), a species that is currently under a rebuilding program. Similar to cowcod, bronzespotted rockfish are a slow-growing, long-lived species. Maximum estimated age was 89 years.

Commercial landings of bronzespotted rockfish, after rising to a peak of 94 tons in 1982, dropped rapidly and have been about one ton annually since 1990. RecFIN estimates of recreational landings also dropped severely at about the same time. When plotted relative to the minor shelf south complex within which this species is managed, this suggests that the decline in landings of bronzespotted preceded the decline in both minor shelf and overall landings of rockfish over recent decades as a result of increasingly restrictive management measures.

Data from the RecFIN database suggest that most of the recreational catch comes from rare trips that catch large numbers of bronzespotted rockfish. A recreational bag limit of zero or one fish could encourage vessels to move when they encounter this species; a rational behavior given the association with cowcod. Explicitly linking management measures for these two species would also be a reasonable management approach, and would not result in significant constraints to existing fisheries.

While a decline in the relative abundance of bronzespotted rockfish may be apparent, it is not clear that a prohibition on retention or 1 fish bag limit will reduce recreational impacts on this species. This is a deepwater species and barotraumas induced mortality on individuals encountered in the recreational fishery will most likely be 100 percent.

Mandating Descending Assistance Devices for Rockfish in Recreational Fisheries

This issue meets the Purpose and Need since mandating descending assistance devices could shorten the rebuilding period for overfished species, as research indicates it improves survival of released rockfish. However, research is ongoing and it would be difficult if not impossible to quantify survival rates at this time. Additionally, there are multiple devices available, the use of each likely resulting in differential survival rates. Furthermore, recent research indicates that reproduction success may be hindered in fish released suffering from barotrauma due to injury of internal organs. This effect would also be difficult to characterize at this time.

Requiring the use of descending devices may increase catch and release, if anglers believe that a rockfish released using a descending device will result in the survival of the fish. This may then

provide less incentive to avoid overfished species (i.e., to move another location after catch of an overfished spp.) which is inconsistent with recent and historical guidance to avoid overfished species. Additionally, this mandate would be difficult to enforce. The GMT recommends anglers avoid overfished rockfish and if they are incidentally encountered they should be released at depth. **The GMT recommends further research prior to evaluating whether to require the use of descending assistance devices.**

ADDITIONAL MANAGEMENT MEASURES

Adjustments to RCA Boundaries

The GMT discussed a request to adjust RCA latitude and longitude lines in California to better approximate depth contours. This specifically relates to the Purpose and Need and changes to RCA boundaries can be considered under the management specification process. Adjustments to RCA boundaries would be a low workload for the GMT because the California state representatives will conduct the analyses. Adjustments are necessary because substantial discrepancies exist between current and proposed current depth contours, resulting in lost fishing grounds, lost revenue, and differences in actual versus predicted bycatch.

Electronic Fish Tickets and Logbooks

Electronic fish tickets and logbooks are intended to improve current catch tracking and monitoring systems. This action does not directly fall into one of the four categories of management measures considered in 2007-2008, however it does fall into a potential new category for Tracking and Monitoring issues, which are directly related to our ability to manage the fisheries. Such systems could improve the speed, and possibly, accuracy of landings and logbook information (it would not improve information on discards). The SEIS analysis on the environmental and economic impact of electronic and fish tickets and logbooks could be straightforward. However, the design and implementation of such systems would be complex and would likely extend beyond 2010 because of the associated logistics and workload. Electronic fish tickets are currently being implemented for sectors of the whiting fishery under the proposed Amendment 10 and considered as part of the trawl rationalization process. **Therefore, the GMT recommends that this item is not analyzed in the 2009-2010 SEIS.**

Finer Scale Spatial Management

For fisheries whose catch of target species is constricted by bycatch of overfished species with consistent distributions; RCA, rockfish fishing areas or finer spatial scales of trip limits and other management measures may be effective in reducing bycatch. These finer scale management measures may be critical to meeting the yelloweye rockfish catch reduction, required by the OY ramp-down over the next three years, without having adverse economic effects on coastal communities. The workload associated with this management action has the potential to be very high. However, if such management measures are not pursued, the damping effect of the yelloweye ramp-down could be jeopardized, as could the economic stability of coastal communities dependent on stocks with yelloweye rockfish bycatch associations. Since finer scale spatial management could be instrumental in meeting rebuilding plan goals, this action is consistent with the Purpose and Need and the range of management measures to be considered by the Council. Additionally, this approach also falls under the management measure category of time and area closures that was analyzed in 2007-2008. The GMT notes that finer scale spatial management may provide enforcement concerns.

Scientific Sorting of Skate Species

The requirement to sort skates is related to the Purpose and Need in that it will provide more specific species information necessary for stock assessment evaluation. This information assists in the determination of acceptable biological catch and OY values.

Three species of skate are listed in the FMP (big skate, California skate, and longnose skate) but no requirement exists for species specific sorting. Additionally another five skate species could be encountered regularly on the shelf and slope. Preliminary information reveals that these skates could be visually identified to a species level. The workload associated with implementing this measure would be low, as preliminary groundwork on sampling procedures and species identification has already been outlined. Not implementing a requirement to sort skates may force precautionary management measures necessary to protect these species which have sensitive life histories (i.e., relatively slow growth, late maturation, and a low fecundity). Skate species compositions necessary for stock assessments would not be collected without this requirement.

Re-define at-sea processing

Considering modifications to regulations that define at-sea processing. Allowing some minimal processing at-sea by small vessels would be consistent with the Purpose and Need because it would allow for a value-added product. This action does not directly fall into one of the four categories of management measures considered in 07-08. Relative workload associated with this action would be moderate however; it could increase in complexity if the proposed action is not limited to the primary whiting fishery. At first glance, the GMT does not see the relationship between this item and increasing our ability to manage fisheries within rebuilding OYs. However, the GMT does note that re-defining at-sea processing could provide increased economic incentives. Current prohibitions to at-sea processing apply not only to whiting, but to sablefish as well. **The GMT requests guidance from the Council on whether the intent of this proposed action would be to change the requirements for whiting fishing alone, or for all at-sea processing.**

GMT Recommendations

The GMT recommends removing the following concepts from analysis in the 2009-2010 harvest specifications and management measures SEIS:

- Trawl declaration to fish shoreward or seaward of the RCA.
- Redefinition of selective flatfish gear regulations.
- Either remove the proposal to retain lingcod in the salmon troll fishery within the RCA or request that a more conservative retention limit be added to the range analyzed in the SEIS.
- Accounting for recreational catch in numbers.
- Mandatory release devices for rockfish encountered in recreational fisheries.
- Electronic fish tickets and logbooks.

PFMC
04/10/08

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

APR 0 2 2008

Russell Woodruff
Chair, Quileute Tribal Council
Quileute Natural Resources
P.O. Box 187
La Push, WA 98350

Dear Mr Woodruff,

Thank you for providing written notification of the Quileute Tribe's interest in harvesting Pacific whiting starting in 2009. Consistent with the process described at 50 CFR § 660.324 (d), I am forwarding your letter to the Pacific Fishery Management Council (Council) for inclusion in the April 2008 briefing book and for Council consideration under the 2009-2010 fishery specifications and management measures. As stated in section 660.324(d), the National Marine Fisheries Service (NOAA Fisheries) will develop tribal allocations and regulations in consultation with the affected tribes and, insofar as possible, with tribal consensus. NOAA Fisheries will make the allocation after consideration of the tribal allocation request, recommendations of the Council, and comments from the public.

At the Council's November 2007 meeting, the Makah tribal fishery representatives indicated that a new tribal allocation framework would be submitted to NOAA Fisheries for 2009-2010. We have not yet, however, received a new a new tribal allocation framework proposal. As Frank Lockhart, my Assistant Regional Administrator for Sustainable Fisheries, discussed with Mel Moon at the March Council meeting, we strongly urge you to coordinate with the Makah tribe to present a unified tribal proposal. Any whiting allocation will be an overall tribal allocation, and the intertribal distribution of the overall tribal allocation is an intertribal issue. NOAA Fisheries is available to work with the tribes on this issue, but both interested tribes must be involved. We also urge that the State of Washington, and possibly Oregon, be involved in discussions on the matter.

NOAA Fisheries recognizes the co-managers role of the Coastal Treaty Tribes over the shared federal and tribal resources. For NOAA Fisheries to meet its obligation for total catch accounting under the Magnuson-Stevens Fishery Conservation and Management Act, we will need to collect routine catch information on both Pacific whiting and incidentally caught species. We, therefore, think that a discussion of data gathering and reporting and potential bycatch issues should be included in the discussions. NOAA Fisheries generally collects catch information weekly during the fishing season.

Please contact Frank Lockhart at 206-526-6142 in order to coordinate further discussions on this matter.

Sincerely,

D. Robert Lohn

D. Robert Lohn
Regional Administrator

Cc. Mel Moon

Quileute Natur
QUILEUTE IND

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LaPush, Washing
Phone: (360) 374-5695 • F

D. dal JS
File Action SFD
Pls prepare response
To CC:

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APR 03 2008
PFMC

January 10, 2008

Robert Lohn
Regional Administrator
NMFS, Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115-0070

RE: Quileute Tribal Request for Whiting Allocation or Regulation

Dear Mr. Lohn:

As you know, Washington coastal Indian Tribes, including the Quileute Tribe, have treaty rights to harvest groundfish, including Pacific whiting (or hake, *Merluccius productus*), within their respective usual and accustomed fishing grounds and stations ("U&A"). The Secretary of Commerce, through NMFS, has issued regulations allocating whiting to the coastal tribes since approximately 1996. The Quileute Tribe has not previously participated in this fishery. However, the Tribe anticipates that one or more of its members will do so commencing with the 2009 fishery. The Tribe communicated its intent to enter this fishery to Frank Lockhart of your office during a recent PFMC meeting in San Diego, California. The Tribe is not presently requesting an increase in the whiting allocation to all coastal tribes. However, pursuant to 50 C.F.R. § 660.324(d), the Tribe is hereby advising NMFS of its intent to participate in this fishery and requesting that NMFS take any action that may be necessary to implement the Tribe's right. If you would like to discuss this matter or believe that additional action by the Tribe is necessary, please contact Mel Moon, Director of Quileute Natural Resources, at (360) 374-3133.

Sincerely,

QUILEUTE INDIAN TRIBE

Russell Woodruff, Jr.
Chair, Quileute Tribal Council

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Via Telefax and First Class Mail

April 2, 2008

D. Robert Lohn
Regional Administrator
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-0070

Re: Treaty Indian Groundfish Fisheries in 2009 and 2010

Dear Mr. Lohn:

We have been asked to write to you on behalf of the Makah Indian Tribe. Pursuant to 50 C.F.R. § 660.324(d), the Tribe requests that provision be made for harvest of groundfish by Pacific coast treaty Indian tribes in 2009 and 2010 by continuing, with the exceptions noted below, the treaty regulations and allocations in effect in 2007 and 2008.

The exceptions are as follows. First, as in 2007 and 2008, the Tribe proposes that Tribal fisheries be subject to the Limited Entry trip limits in place at the beginning of each year for both shortspine and longspine thornyheads. However, the Tribe proposes that it be able to combine those trip limits for all periods and all midwater trawl vessels in the Makah fleet, and utilize the total amount in a way that minimizes bycatch of other species.

Second, the Tribe requests that its allocation in the Pacific whiting fishery be equal to 17.5 percent of the Optimum Yield for whiting, instead of using the sliding scale allocation table that has been in use since 1999. Moreover, if the Quileute Tribe intends to participate in the Pacific whiting fishery, an additional allocation should be provided for the Quileute Tribe and appropriate measures should be developed to address observer coverage for and bycatch in the Quileute fishery.

The Tribe's proposals for the Pacific whiting fishery are based on the following considerations. The sliding scale allocation table was first presented to the Pacific Fishery

Management Council in September 1998 as a three-year proposal. At that time, Quileute had expressed interest in participating in the fishery. Accordingly, the sliding scale allocation table explicitly provided for separate Makah and Quileute allocations, as follows:

U.S. Harvest Guideline	Makah Allocation	Quileute Allocation
Up to 145,000 mt	17.5% of U.S. Harv. Guide.	2,500 mt
145,001 to 175,000 mt	25,000 mt	2,500 mt
175,001 to 200,000 mt	27,500 mt	2,500 mt
200,001 to 225,000 mt	30,000 mt	2,500 mt
225,002 to 250,000 mt	32,500 mt	2,500 mt
Over 250,000 mt	35,000 mt	2,500 mt

At the March 1999 Council meeting, Quileute announced that it would not be participating in the whiting fishery in 1999. Accordingly, NMFS used the sliding scale allocation table to make an allocation of 32,500 mt to Makah, based on an OY of 232,000 mt. *See* 64 Fed. Reg. 27,928, 27,929 (May 24, 1999).

Although the allocation was a "tribal" allocation, all parties understood that it had been requested by and was designed to meet the needs of the Makah Tribe alone. This was confirmed by the Ninth Circuit Court of Appeals when Midwater Trawlers Cooperative challenged the 1999 allocation. Among other things, Midwater argued that the allocation was based on an overly expansive definition of the coastal tribes' usual and accustomed grounds. The Court held Midwater lacked standing to challenge the usual and accustomed grounds of Hoh, Quileute or Quinault because "*NMFS has not allocated any Pacific whiting to them.*" *Midwater Trawlers Co-op v. Department of Commerce*, 282 F.3d 710, 716 (9th Cir. 2002) (emphasis added). Rather, "the only tribal allocation properly at issue is that to the Makah Tribe." *Id.*

Quileute has not requested an allocation in any other year, until now. In each year, Makah was the only Tribe requesting an allocation in the whiting fishery and the "tribal" allocation was based on the sliding scale allocation table to meet the needs of the Makah fishery.

Since the Makah Tribe proposed the sliding scale allocation table ten years ago, its fishery has developed and matured. Today, the Makah whiting fleet comprises five vessels that consistently participate in the fishery and fully harvest the Makah allocation. The Tribe has contractual arrangements with both an at-sea and a shore-based processor to harvest the catch. It has observer coverage on-board the at-sea processor and at the shore-based facility. It has a full retention policy for all bycatch and intensively manages the fishery to minimize bycatch of depleted groundfish species and chinook salmon.

Given the development of its fishery, the Tribe believes an allocation of 17.5 percent of

the OY would better meet its needs while still remaining well within the scope of its treaty right. A straight 17.5 percent allocation would avoid sudden changes in the Tribe's allocation as a result of small changes in the OY. Also, the Tribe's understanding of the fishery, as a result of twelve years of experience, means that it can fully harvest a 17.5 percent allocation at higher OY levels with its existing fleet, while still minimizing bycatch.

In upholding the sliding scale allocation table, the Ninth Circuit began with the proposition that the Tribe "is entitled to one half of the Pacific whiting passing through its usual and accustomed fishing grounds." *Midwater Trawlers v. Department of Commerce*, 393 F.3d 994, 1003 (9th Cir. 2004). It then noted that NMFS' data suggest that Pacific whiting's migration pattern takes the bulk of the stock through the Makah Tribe's usual and accustomed fishing grounds. *Id.* This is significant because it means that all migrating coastal Pacific whiting are potentially exploitable by Makah. *Id.* at 1004. Accordingly, basing the Makah allocation on a percentage of the OY was consistent with the best available science and treaty allocation principles. *Id.* at 1004-05.

Under the sliding scale allocation table, "the Makah Tribe would be allocated a percentage ranging from 14 [to] 17.5 percent" of the OY. *Id.* at 1004. Midwater argued that NMFS failed to explain the scientific basis for this range. *Id.* at 1004 n.11. In rejecting this argument, the Ninth Circuit made it clear that a 17.5 percent allocation is well within the scope of the Makah's treaty right:

> Contrary to Midwater's argument, [the] Fisheries Service is not required to establish that these percentages are supported by the best scientific information available. We have previously concluded that Makah's treaty rights entitle it to *50 percent* "of the harvestable surplus of Pacific whiting that passes through its usual and accustomed fishing grounds, or that much of the harvestable surplus as is necessary for tribal subsistence." *Midwater II*, 282 F.3d at 719. Nothing, however, supports the notion that a tribe is obligated to take its <u>full 50 percent entitlement. That the tribe opts to not take its full treaty share does not put [the] Fisheries Service in the position of justifying a tribe's lower allocation request</u>. Rather, [the] Fisheries Service is required only to support its decision to use the U.S. Optimum Yield as the basis from which to measure the tribe's allocation. And, we conclude that [the] Fisheries Service has met this obligation.

Id. (italics in original, underlining added).

Accordingly, Makah's current proposal for an allocation of 17.5 percent of the OY will remain well within the scope of its treaty right and, indeed, will remain less than "its full treaty share."

In order to avoid potentially significant disruption to the Makah fishery, Quileute's participation should be based on a separate allocation as contemplated when the sliding scale allocation table was first proposed in 1998. Quileute has not contacted the Makah Tribe to notify it of Quileute's plans to participate in the fishery, and has not provided any information to Makah regarding the number of Quileute vessels that will participate, the anticipated harvest of whiting, or the projected bycatch of other species. The Makah Tribe, its fishermen, their crews, and the processors have all made significant investments to establish and develop the Makah whiting fishery, and have foregone opportunities to participate in other fisheries. Makah's allocation requests have been designed to meet the needs of its fishery and to remain well within the scope of its treaty right. If Quileute wants to participate in the fishery, an additional allocation should be made to accommodate its fishermen, rather than simply diverting an unknown portion of the Makah allocation to them.

The need for a separate, additional allocation to Quileute is particularly acute given bycatch concerns, especially for widow and canary rockfish. The Makah Tribe intensively manages its fishery to reduce impacts on these species and to accommodate the needs of non-treaty fisheries within the constraints of current rebuilding plans. Quileute has provided no information concerning projected impacts on these or other species in its fisheries, its plans for observer coverage, or on management efforts it intends to implement to reduce bycatch.

Under these circumstances, if Quileute intends to participate in the whiting fishery in 2009 or 2010, the "tribal" allocation should include an additional allocation, over and above the 17.5 percent allocation to Makah, to accommodate the Quileute fishery, and appropriate measures should be developed to address observer coverage for and bycatch in the Quileute fishery. The Makah Tribe intends to contact the Quileute Tribe to discuss these matters and to attempt to coordinate the Tribes' respective fisheries.

Makah representatives will be available to discuss any questions you or your staff may have regarding these matters at the upcoming Council meeting.

Very truly yours,

ZIONTZ, CHESTNUT, VARNELL,
BERLEY & SLONIM

Marc D. Slonim

cc (via fax):

Frank Lockhart
Eileen Cooney
Russ Svec
Steve Joner

OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT ON PRELIMINARY MANAGEMENT MEASURE ALTERNATIVES FOR THE 2009-2010 OREGON RECREATIONAL GROUNDFISH FISHERIES

The Oregon Department of Fish and Wildlife (ODFW) met with their Sport Advisory Committee (SAC) to develop and discuss preliminary recreational groundfish fishery proposals for 2009 and 2010. The alternatives proposed in this report are based on SAC input and preliminary impact modeling, and vary based on the allowable impact of yelloweye rockfish. The season duration and expected impacts on yelloweye rockfish and canary rockfish, the two most constraining species, are detailed in Figure 1. These options are in addition to the no fishery scenario.

Season *

Option 1. Open all year at all-depths except open only shoreward of the 40-fathom line from April 1 through September 30 (status quo).

Option 2. Open all year shoreward of the 25-fathom line.

Option 3. Open April 1 through September 30 shoreward of the 30-fathom line.

Option 4. Open all year at all-depths except open only shoreward of the 40-fathom line from April 1 through September 30 (status quo). Required reductions in yelloweye rockfish and canary rockfish impacts to be achieved by reducing the Pacific halibut catch. An estimated 1.9 mt of yelloweye rockfish and 2.3 mt of canary rockfish would be impacted by the Oregon sport fishery, all trip types combined, if the 2008 catch limit of Pacific halibut was reduced by 60 percent.

Option 5. Open all year at all-depths except only shoreward of the 20-fathom line from May 1 through September 30.

* All Options: Stonewall Bank YRCA closed to fishing for, taking, or retaining groundfish and Pacific halibut; recreational vessels in possession of groundfish and halibut may transit the YRCA without fishing gear in the water Groundfish retention prohibited if a halibut is on the vessel on days open to all-depth halibut fishing in the area north of Humbug Mountain; except sablefish is allowed to be retained in the area of Cape Falcon to Humbug Mountain and sablefish and Pacific cod are allowed to be retained in the area north of Cape Falcon. Shore based fisheries targeting or incidentally encountering groundfish are allowed year round.

Figure 1. Season structure along with expected yelloweye rockfish and canary rockfish impacts for various 2009-10 Oregon sport fishery options

Option	Month: J	F	M	A	M	J	J	A	S	O	N	D	Yelloweye RF EST OR Sport (mt)	Canary RF EST OR Sport (mt)
1	GF open all depth			GF open <40 fm						GF open all depth			2.4	2.5
2	GF open <25 fm												1.9	2.1
3	CLOSED			GF open <30 fm						CLOSED			1.9	2.1
4	GF open all depth			GF open <40 fm; Halibut reduced 60%						GF open all depth			1.9	2.3
5	GF open all depth				GF open <20 fm					GF open all depth			1.7	1.9

Daily Bag Limits (all options)

Marine fish** = range 8 to 10
Lingcod = 2
Flatfish (excluding Pacific halibut) = 25

** marine fish bag limit includes rockfish, greenling, cabezon and other species excluding lingcod, flat fish, Pacific halibut, salmon, trout, steelhead, perch, sturgeon, striped bass, offshore pelagic species, and bait fish (herring, smelt anchovies and sardines). Retention of yelloweye rockfish and canary rockfish are prohibited.

Minimum Length limits (all-options)

Lingcod: 22-inches
Cabezon: 16-inches
Greenling species: 10-inches

Potential Inseason Management Measures

Oregon has a responsive port based monitoring program through their Ocean Recreational Boat Survey (ORBS) and regulatory processes in place to track harvest and take actions inseason if necessary. The following are suggested management measures that could be implemented inseason if the 2009 (or 2010) fishery does not proceed as expected.

Inseason management tools include changes to size limits, bag limits (including non retention), seasons, closing days per week, depth and area closures, and gear restrictions. The fishery is managed to not exceed harvest guidelines on overfished species.

Overfished Species

Depth management will be the main inseason tool for controlling yelloweye rockfish and canary rockfish catch. Offshore closures may be implemented inseason at 40, 30, 25, or 20 fathoms as the presence of these two species is reduced nearshore and release survival increases at shallower depths. Other options include latitudinal area closures based on established management lines for salmon and Pacific halibut fisheries. Duration of off shore closures and area affected may be adjusted dependant on the allowable catch limit of Pacific halibut (increase or decrease from the 2008 level). Additionally, the duration and size of offshore closure periods may be adjusted if the total season length is modified due to inseason management actions addressing harvest guidelines of non-overfished groundfish.

Although retention of canary rockfish and yelloweye rockfish in recreational fisheries is currently prohibited, bycatch mortality of released fish is large enough to constrain the fishery for other groundfish species. The large offshore RCA closure is an example of how these recreational fisheries are affected by bycatch of these overfished species. To help alleviate this constraint without increasing bycatch mortality, the large offshore RCA closures may be modified inseason to close areas of known canary rockfish and yelloweye rockfish concentrations OR open areas known to have no or low concentrations of canary rockfish and yelloweye rockfish. Currently, there is one Yelloweye Rockfish Conservation Area (YRCA) located off Newport, Oregon, referred to as the Stonewall Bank YRCA (coordinates below). Work is currently being conducted on identification of additional areas to be included for analysis. Specific area proposals may be available at the April Council meeting, or included in the final Environmental Impact Statement.

The Stonewall Bank YRCA was implemented through the 2007-2008 biennial management process. Multiple alternatives for size of the YRCA were analyzed at that time, and allows for expansion of the area inseason. For the 2009-2010 fisheries, the same alternatives are proposed for use. The location of the status quo YRCA is:

Stonewall Bank YRCA (2007-2008; proposed for 2009-2010)

ID	Longitude	Latitude
1	124°24.92	44°37.46
2	124°23.63	44°37.46
3	124°21.80	44°28.71
4	124°24.10	44°28.71
5	124°25.47	44°31.42

Returning to the first point

Stonewall Bank YRCA alternatives under consideration:

Alternative 1.

ID	Longitude	Latitude
1	124°29.99	44°41.71
2	124°21.60	44°41.68
3	124°17.01	44°27.66
4	124°17.01	44°25.22
5	124°30.11	44°25.27

Returning to the first point

Alternative 2.

ID	Longitude	Latitude
1	124°30.00	44°41.68
2	124°15.38	44°41.68
3	124°15.80	44°34.87
4	124°14.43	44°33.74
5	124°16.99	44°27.66
6	124°30.00	44°27.66

Returning to the first point

Similarly, other means to reduce bycatch mortality, especially of overfished species, may include gear restrictions and/or release techniques. For example, ODFW is presently studying the effects of sub-surface release on the survival of rockfish. If successful techniques are developed and accepted, their use may alleviate the current constraints from bycatch mortality on recreational fisheries. Other examples could include modifications of terminal gear, perhaps requiring long leaders or weight restrictions, to avoid or reduce capture of species with harvest constraints.

Non-overfished Species

Bag limit changes may be implemented to adjust expected catch of non-overfished species to achieve season duration goals. Non-retention and size restrictions are inseason tools to reduce catch for species such as cabezon and greenling, both under state harvest guidelines, as release survival is very high. These tools may also be used to reduce harvest on other nearshore species due to improved survival of release in shallow depths. In addition to inseason options, total closure of the groundfish recreational fishery may be implemented to stay within harvest guidelines.

Directed yellowtail rockfish and/or flatfish fisheries may be implemented inseason in the event of a closure or management action affecting the nearshore recreational groundfish fishery due to attainment of species harvest guidelines or state harvest caps, as were conducted in 2004. Fisheries will be monitored to ensure that impacts to yelloweye and canary rockfish are not in excess of the harvest guidelines.

Tribal Proposal Regarding
Groundfish Fisheries for 2009 and 2010

Black Rockfish - The 2009 and 2010 tribal harvest guidelines will be set at 20,000 pounds for the management area between the US/Canada border and Cape Alava, and 10,000 pounds for the management area located between Destruction Island and Leadbetter Point. No tribal harvest restrictions are proposed for the management area between Cape Alava and Destruction Island.

Sablefish - The 2009 and 2010 tribal set asides for sablefish will be set at 10 percent of the Monterey through Vancouver area OY minus 1.6 percent to account for estimated discard mortality. Allocations among tribes and among gear types, if any, will be determined by the tribes.

Pacific cod - The tribes will be subject to a 400 mt harvest guideline for 2009 and 2010.

For all other tribal groundfish fisheries the following trip limits will apply:

Thornyheads - Tribal fisheries will be restricted to the Limited Entry trip limits in place at the beginning of the year for both shortspine and longspine thornyheads. Those limits would be accumulated across vessels into a cumulative fleetwide harvest target for the year. The limits available to individual fishermen will then be adjusted inseason to stay within the overall harvest target as well as estimated impacts to overfished species.

Canary Rockfish - Tribal fisheries will be restricted to a 300 pound per trip limit.

Other Minor Nearshore, Shelf and Slope Rockfish - Tribal fisheries will be restricted to a 300 pound per trip limit for each species group, or the Limited Entry trip limits if they are less restrictive than the 300 pound per trip limit.

Yelloweye Rockfish - The tribes will continue developing depth, area, and time restrictions in their directed Pacific halibut fishery to minimize impacts on yelloweye rockfish. Tribal fisheries will be restricted to 100 pounds per trip.

Lingcod - Tribal fisheries will be subject to a 250 mt harvest guideline for 2009 and 2010.

Spiny Dogfish - The Makah Tribe is proposing a directed longline fishery for spiny dogfish for 2009 and 2010. The fishery would be restricted to the Limited Entry trip limits. Increased landings of dogfish by treaty fishermen in 2009 and 2010 would be dependent on successful targeting in 2008 while staying within current estimates of impacts on overfished species.

Full Retention - The tribes will require full retention of all overfished rockfish species as well as all other marketable rockfishes during treaty fisheries.

Tribal Proposals Regarding
Makah Trawl fisheries for 2009 and 2010

Midwater Trawl Fishery - Treaty midwater trawl fishermen will be restricted to a cumulative limit of yellowtail rockfish, based on the number of vessels participating, not to exceed 180,000 pounds per two month period for the entire fleet. Their landings of widow rockfish must not exceed 10 percent of the poundage of yellowtail rockfish landed in any given period. The tribe may adjust the cumulative limit for any two-month period to minimize the incidental catch of canary and widow rockfish, provided the average cumulative limit does not exceed 180,000 pounds for the fleet.

Bottom Trawl Fishery - Treaty fishermen using bottom trawl gear will be subject to the trip limits applicable to the limited entry fishery for shortspine and longspine thornyhead, Dover sole, English sole, rex sole, arrowtooth flounder, and other flatfish. For Dover sole, thornyheads (both shortspine and longspine), and arrowtooth flounder, the limited entry trip limits in place at the beginning of the season will be combined across periods and the fleet to create a cumulative harvest target. The limits available to individual fishermen will then be adjusted inseason to stay within the overall harvest target as well as estimated impacts to overfished species. For petrale sole, fishermen would be restricted to 50,000 pounds per two month period for the entire year. Because of the relatively modest expected harvest, all other trip limits for the tribal fishery will be those in place at the beginning of the season in the limited entry fishery and will not be adjusted downward, nor will time restrictions or closures be imposed, unless in-season catch statistics demonstrate that the tribe has taken ½ of the harvest in the tribal area. Fishermen will be restricted to small footrope ($\leq$ 8 inches) trawl gear. Exploration of the use of selective flatfish trawl gear will be conducted in 2008.

Observer Program - The Makah Tribe has an observer program in place to monitor and enforce the limits proposed above.

PFMC
04/10/08

Quinault Indian Nation

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Robert Lohn
Regional Administrator
NMFS Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115-0070

April 4, 2008

Dear Mr. Lohn,

The Quinault Indian Nation requests information regarding NOAA Fisheries' procedures, protocols, and timeframes for consideration of requests for tribal participation in the whiting fishery. In addition, we would appreciate information on any special monitoring and reporting needs to help us prepare to meet resource management responsibilities.

Interest in exploring opportunities to harvest whiting and other species within our Usual and Accustomed fishing areas is increasing and we anticipate that our entry into the whiting fishery may occur as early as 2009. We have already initiated discussions with the other Coastal Treaty Tribes so that management can be adequately coordinated to ensure orderly conduct of the treaty whiting fishery in the future.

Thank you for your assistance.

Ed Johnstone
Quinault Fisheries Policy

cc: Dr. Donald McIssac, Pacific Fisheries Management Council
Frank Lockhart, NOAA Fisheries
Eileen Cooney, NOAA Fisheries

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April 10, 2008

VIA FACSIMILE AND MAIL

Robert Lohn
Regional Administrator
NMFS, Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115-00700

Re: Quileute Pacific Whiting Fishery

Dear Mr. Lohn:

This firm represents the Quileute Indian Tribe with respect to its fisheries. As you are aware, by letter dated January 10, 2008 and pursuant to 50 C.F.R. § 660.324(d), the Quileute Tribe provided NMFS with written notification of its intent to participate in the Pacific whiting fishery commencing in 2009. By reply letter dated April 2, 2008, you advised the Tribe that its request had been forwarded to the Pacific Fishery Management Council (PFMC) for consideration at its April meeting, which is presently taking place. Additionally, you further advised the Tribe that "any whiting allocation will be an overall tribal allocation, and the intertribal distribution of the overall tribal allocation is an intertribal issue."

By letter also dated April 2, 2008, counsel for the Makah Tribe wrote you about issues related to the Pacific whiting fishery. In particular, the Makah Tribe requested it be allocated of 17.5% of the Optimum Yield ("OY") and that a "separate allocation" be made for the Quileute Tribe. The unstated implication of the Makah's request is obvious—to limit the Quileute's whiting fishery to that "separate allocation." The Quileute Tribe hereby responds to that and other issues raised in the Makah's letter.

There is no basis to and it would be entirely inappropriate for NMFS to allocate any fishery, including Pacific whiting, on a tribe-by-tribe basis. Tribal allocations of all federally-managed fisheries, including Pacific whiting, have always been made to all affected tribes, leaving it up the tribes to decide the appropriate intertribal distribution. Indeed, the federal groundfish regulations make clear that NMFS must make groundfish allocations to "the tribes" as a whole, not separate allocations to individual tribes as Makah requests. Specifically, the groundfish regulations state in pertinent part that once a tribe makes a written request to participate in a fishery, NMFS will implement those "through an allocation of fish **that will be managed by *the tribes***... ." 50 C.F.R. § 660.324(d) (emphasis added). Consistent with this regulatory authority, NMFS has always designated its Pacific whiting allocation in the federal regulations as a "tribal allocation." *See, e.g.*, 50 C.F.R. § 660.385(e).

Contrary to Makah's claim, NMFS made abundantly clear during the 1999 regulatory process that its allocation was for all four coastal tribes. That year the Quileute Tribe had expressed its interest in participating in the Pacific whiting fishery on an experimental basis in which one of its fishers would use low-volume nets, not a high-volume trawler. Quileute and the Makah Tribe submitted a joint proposal whereby the total tribal allocation would be only slightly increased by 2,500 mt to factor in the low-volume Quileute experimental net fishery. In response to the joint proposal, NMFS made clear that its allocation would be an overall tribal allocation, leaving the tribes to decide the proper intertribal distribution: "**NMFS believes that the intertribal distribution of the overall tribal allocation is an internal tribal issue, and herein issues only a total allocation for the affected tribes.**" 64 Federal Register 27,929 (May 24, 1999) (emphasis added). After the Quileute Tribe withdrew its request, NMFS issued its overall "tribal allocation" which was subsequently challenged by non-tribal parties in the *Midwater Trawlers* case. On appeal, the Ninth Circuit acknowledged that the matter concerned a challenge to "**a federal regulation that increased the amount of Pacific whiting fish *allocated to four Indian tribes.***" *Midwater Trawlers Co-operative v. Department of Commerce*, 282 F.3d 710, 714 (9th Cir. 2002) (emphasis added). Passing references to the "Makah allocation" and the like simply reflect the fact that Makah has been the only participant in the fishery to date. That fact, however, does not somehow vest Makah with a perpetual and exclusive entitlement to the entire tribal allocation.

In short, the Quileute Tribe does not object to the Makah's request to dispose of the sliding scale approach in favor of an allocation equaling 17.5% of the OY. Nor does the Quileute Tribe object to increasing the ***total tribal allocation*** to account for its expected participation in this fishery starting in 2009. However, the Tribe strenuously objects to issuance of a "separate allocation" to the Quileute or any other action which purports to restrict Quileute's right to harvest from the overall "tribal allocation." NMFS would not only exceed its limited regulatory authority with such unprecedented action, it would open floodgates to litigation between the tribes and the federal government.

Regardless of whether NMFS sets the tribal allocation using the sliding scale approach or a fixed percentage of the OY, there can be no question that the Quileute has the treaty right to harvest from that allocation. In attempting to justify the sliding scale approach in 2002 and 2003, NMFS asserted that declarations from William L. Robinson and Dr. Richard Methot, Jr. represented the "best scientific information currently available" on the distribution and migratory pattern of the Pacific whiting stock. *See, e.g.*, 68 Federal Register 11,228 (March 7, 2003). In sum, those declarations, which are attached hereto, explained that because "all mature whiting" of a harvestable size annually migrate from California and Baja north along the coast to Canada they pass through the Makah U&A. The declarants, NMFS and Makah maintained that because Makah therefore had the right to catch 50% of the OY in any year, the sliding scale methodology, calling for an allocation of between 14-17.5%, was inherently reasonable and well-within the treaty right. The district court and the Ninth Circuit Court of Appeals agreed and upheld the sliding scale approach as being supported by the best available science. *Midwater Trawlers Cooperative v. Department of Commerce*, 393 F.3d 994 (9th Cir. 2004).

This "best available science" makes clear that as the entire mature whiting stock migrates from California to Canada and along the coast, it necessarily passes through the Quiluete U&A which is directly south of the Makah U&A. Like Makah, Quileute therefore has the equal, treaty-secured right to catch up to 50% of the entire OY in any given year. Consequently, there can be no question that Quileute is entitled to harvest from the overall "tribal allocation" which has historically been between 14-17.5% of the OY.

Last, Makah's concerns about "observer coverage for and bycatch in" the Quileute whiting fishery are unfounded and premature. Quileute intends to research, study and potentially model their observer programs and bycatch procedures after those employed by the Makah Tribe. Considering that Quileute fishers do not intend to enter this fishery until 2009, there is more than ample time for the Tribe to develop an adequate observer program and steps to minimize bycatch, such as time and area restrictions.

If you have any questions or would like to discuss this matter further, please contact me directly at (206) 816-1340.

Sincerely,

GARVEY SCHUBERT BARER

By
Seth J. Berntsen

via facsimile only

cc: Mel Moon
David West
Eileen Cooney
Frank Lockhart
Marc Slonim

SEA_DOCS:884988.1

HONORABLE BARBARA JACOBS ROTHSTEIN

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WASHINGTON

MIDWATER TRAWLERS COOPERATIVE, et al.,

v.

UNITED STATES DEPARTMENT OF COMMERCE, et al

Defendants.

No. C96-1808BJR
No. C99-1500BJR (consolidated)

DECLARATION OF WILLIAM L. ROBINSON

I, William L. Robinson, declare under penalty of perjury:

1. I am the Assistant Regional Administrator for Sustainable Fisheries (1987 - present), Northwest Region, National Marine Fisheries Service (NMFS), Seattle, Washington. From 1980-1987, I was the Chief, Fisheries Management Division, Alaska Region, NMFS, Juneau, Alaska. From 1984 - 1985, while on leave from NMFS, I was an advisor to the Australian Fisheries Service. From 1970 - 1979, I was employed by the Fish Commission of Oregon (later the Oregon Department of Fish and Wildlife), managing the Columbia River fisheries

2 I have a B.S. degree (1967) in molecular biology from the University of California, Santa Barbara, and a B.S. degree (1970) in Fisheries Science from Oregon State University.

3. As Assistant Regional Director for Sustainable Fisheries, my current job duties include representing NMFS on the Pacific Fishery Management Council (Council), which makes

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recommendations to NMFS on fishery management plans and amendments, and regulations, for the Pacific groundfish and other federally-managed fisheries. My division also provides data and regulatory guidance to the Council, reviews the Council's regulatory proposals, and makes initial recommendations on their approval and implementation. I am responsible for ensuring that regulatory proposals fully comply with the Magnuson-Stevens Act and all other applicable laws, including Indian treaty rights.

4 I have reviewed the Declaration of Dr. Richard D. Methot, Jr., Northwest Fisheries Science Center, NMFS (dated April 18, 2002) concerning the scientific basis for the Indian tribal allocation of Pacific whiting to the Makah Tribe, using the abundance-based "sliding scale" allocation methodology. Dr. Methot concludes that four declarations submitted by NMFS and by the Makah Tribe in U.S. v. Washington, Sub-proceeding 96-2, 143 F. Supp. 2d 1218 (W.D. Wash 2001), and attached to his declaration, continue to be the best scientific information available on the distribution and migration pattern of the Pacific whiting stock, and that the Indian treaty allocations that NMFS has made to the Makah Tribe using the sliding scale methodology fall within the legal parameters established for the treaty right.

5. Based on Dr. Methot's conclusions, NMFS relies on the four declarations as the best scientific information available for the Makah treaty allocation of Pacific whiting, and concludes that the Indian treaty allocations that NMFS has made to the Makah Tribe using the sliding scale methodology fall within the legal parameters established for the treaty right. While the declarations speak for themselves, and adequately explain the scientific basis for the allocation, the following discussion provides additional explanation in the event that further information is desired.

6. In its opinion issued on March 6, 2002 in Midwater Trawlers v. Department of Commerce, 282 F.3d 710, the Ninth Circuit upheld the Indian tribal treaty right to Pacific whiting, upheld the usual and accustomed ocean fishing area of the Makah Tribe, and found that the Makah Tribe is entitled, pursuant to the Treaty of Neah Bay, "to one-half the harvestable surplus of Pacific whiting that passes through its usual and accustomed fishing grounds, or that much of the harvestable surplus as is necessary for tribal subsistence, whichever is less." The

reference to "one-half the harvestable surplus of Pacific whiting that passes through its usual and accustomed fishing grounds" is sometimes referred to as "pass through" methodology

7. With respect to the sliding scale method for allocating Pacific whiting to the Makah Tribe that is currently in use by NMFS, the Ninth Circuit found that the specific allocation in 1999 to the Makah Tribe was inconsistent with the scientific principles set forth in the Magnuson-Stevens Act, which requires that NMFS base fishery conservation and management measures on the best scientific information available, because NMFS did not adequately support the 1999 allocation set forth in the 1999 Federal Register notice. The Court stated that "a remand to the NMFS is required to either promulgate a new allocation consistent with the law and based on the best available science, or to provide further justification for the current allocation that conforms to the requirements of the Magnuson-Stevens Act and the Treaty of Neah Bay." The Court also stated that "[w]e affirm in part and reverse in part, with instructions to the district court to remand to the agency for more specific findings "

8. Beginning in 1999, NMFS has set the tribal allocation according to an abundance-based sliding scale allocation method first proposed by the Makah Tribe in 1998. See, 64 F.R. 27928, 27929 (May 29, 1999); 65 FR 221, 247 (January 4, 2000); 66 FR 2338, 2370 (January 11, 2001). Under the sliding scale allocation method, the tribal allocation varies in relation to the level of the U.S. whiting Optimum Yield (OY), ranging from a low of 14 percent (or less) of the U.S OY at OY levels above 250,000 mt, to a high of 17 5 percent of the U.S. OY at an OY level at or below 145,000 mt

9 In 2001, this allocation method was considered by Judge Rothstein in U.S. v Washington, Case No. C70-9213, Phase I, Sub-proceeding No. 96-2, 143 F Supp. 2d 1218 (W.D. Wash.2001). In that case, the Court considered the scientific affidavits submitted by NMFS and the Makah Tribe (attached to Dr. Methot's Declaration), and found that "the allocation agreed on by the Secretary is a lawful exercise of his obligation to comply with the treaties guaranteeing Indian tribes their aboriginal right to take fish at their usual and accustomed fishing grounds." 143 F. Supp. 2d 1218, at 1224. The Court concluded: "The sliding scale allocation method advocated by the Secretary and Makah shall govern the United States aspect of

the Pacific whiting fishery until the Secretary finds just cause for alteration or abandonment of the plan, the parties agree to a permissible alternative, or further order issues from this court." Id.

10. The Makah Tribe's usual and accustomed (u & a) fishing grounds are located in the Pacific Ocean south of the international boundary with Canada, north of 48°02'15" N. latitude (Norwegian Memorial), and east of 125°44'00" W. longitude. 50 C.F.R. 660.324(c)(1). In quantifying the treaty right of the Makah Tribe to Pacific whiting, the question is. what is one-half the harvestable surplus of Pacific whiting that passes through the Makah Tribe's u & a grounds?

11 The following information is excerpted from relevant portions of the four declarations attached to Dr. Methot's Declaration, which NMFS deems the best scientific information available on the distribution and migration pattern of the stock. The four declarations are the Declaration of Dr. Richard D. Methot, Jr., dated March 5, 2001 ("Methot Declaration 1"); the Declaration of Ransom A. Myers January 18, 2001 ("Myers Declaration 1"); the Declaration of Ransom A. Myers in Response to Oregon's Motion for Summary Judgment dated February 14, 2001 ("Myers Declaration 2"), and the Declaration of Ransom A. Myers In Response to Oregon's Opposition to Makah's Motion for Summary Judgment dated March 7, 2001 ("Myers Declaration 3").

12. There are four populations of Pacific whiting on the West Coast: the coastal population, the Strait of Georgia population, the Puget Sound population, and a small-bodied hake that is found off southern Baja California. Only the coastal population, which is the subject of both U S. and Canadian fisheries, is at issue here. (Methot Declaration 1 at ¶ 5.)

13. Pacific whiting is a schooling, migratory species with transitory patterns of distribution. It is a midwater, pelagic species, i.e., it is wide-ranging and free-swimming as opposed to other types of groundfish, which dwell on the bottom. It inhabits the California current system, which is composed of four main currents. Spawning takes place primarily during January and February off central California to Baja California. During April-October, adults are distributed along northern California to the northern end of Vancouver Island, Canada, with the largest fish found furthest north. Recruitment [entry of similarly-aged fish into the fishable stock

of older fish] occurs at a relatively young age, and is more influenced by environmental factors than by spawning biomass. Whiting make a significant contribution to the U S. fishery by age 3 Although the maximum age is about 20, whiting older than age 12 are uncommon in the U.S fishery. Whiting begin appearing in the Canadian fishery at age 3, but a major contribution usually does not occur until age 5. (Methot Declaration 1 at ¶ 6)

14. In general, marine species in the California Current respond to environmental conditions (particularly El Niño conditions) in a variety of ways, including changes in growth, reproductive effort, and spatial distribution Both active migration and transport by currents may change the latitudinal distribution of whiting during El Niño years. For example, age 3 whiting were common in Canadian waters during the 1983 El Niño. It has also been noted that strong year classes[1] only occur in warm-water years. High water temperatures were also associated with an increased proportion of Pacific whiting in the Canadian zone during the 1982-1983 and 1991-1992 El Niño events, whereas low water temperatures were associated with a decreased proportion in the Canadian zone in 1989. Results of recent analyses suggest that El Niño events promote the northward movements of Pacific whiting via intensified northward currents during the period of active migration. Additional research is needed to better understand the distribution of whiting. (Methot Declaration 1 at ¶ 7.)

15. The general migration pattern and the large influence of oceanographic factors on the annual extent of the northward distribution of Pacific whiting is described in Dorn, Martin W., "The Effects of Age Composition and Oceanographic Conditions on the Annual Migration of Pacific Whiting, Merluccius Productus," Alaska Fisheries Science Center, National Marine Fisheries Service, CalCOFI Rep , Vol. 36, 1995, attached as Exhibit 2 to Dr Methot's Declaration. The proportion of the biomass observed in Canadian waters has ranged from approximately 10% in cold water years to 50% in warm El Niño years such as 1998. The large influence of ocean conditions on the annual migration is further exemplified by the occurrence of numerous age zero and age one whiting off Oregon, Washington and British Columbia following

[1] "Year class" means fish born in the same year that have recruited into the population.

the large El Niño events in the 1990's, which presumably caused a northward displacement of the spawning location. (Methot Declaration at ¶ 8.)

15 The exact pathway of northern movement has not been intensively studied, but early observations by Soviet fishery scientists and the rapid appearance of fishable aggregations off Canada in May-June suggests that the northward movement predominately occurs somewhat off the edge of the continental shelf followed by onshore movement to the shelf. However, there is not sufficient information to quantify this migratory pathway and determine the proportion of the Canada-bound whiting that move through the Makah usual and accustomed area. The hydroacoustic survey of whiting is conducted by the National Marine Fisheries Service in July-August, which is after the migration has been completed, so is not pertinent to this calculation. Some whiting aggregations are found offshore of the continental shelf in summer, but the degree of mixing between offshore and shelf aggregations each summer is not known. Most whiting remain on these summer feeding grounds through at least November, then migrate southward to the winter spawning grounds. (Methot Declaration 1 at ¶ 9.)

16 The migratory behavior of Pacific whiting is strongly age-dependent. Since the extent of northward migration is related to age, the spatial distribution of the population is also affected by changes in the population age structure independent of any environmental factor. (Methot Declaration 1 at ¶ 10.)

17. Overall, the coastal stock of Pacific whiting exhibits a "remarkable hundredfold variation" in year class strength, a phenomenon that has been present during at least the past few centuries. As a result of the great variations in recruitment, there is also a large variation in stock abundance. However, until an environmental predictor of recruitment is identified, short-term forecasts of whiting potential yield will remain imprecise. (Methot Declaration 1 at ¶ 11.)

18 Whiting's transitory patterns of distribution complicate both stock assessment and fishery management. The primary controls on fishing are annual quotas set by the U.S. and Canada. Other U.S. regulations control gear, area, and season, primarily in response to bycatch

concerns. Our current understanding of the dynamics of whiting distribution makes it extremely difficult to allocate whiting internationally. In summary,

> [R]eaching an agreement that will be appropriate for the indefinite future may be difficult. An agreement based on current climatic conditions could be inappropriate in future conditions. The U.S. and Canadian fisheries have largely developed during a warm period, from 1966 to the present. Under some scenarios for climate change, global warming might result in persistent El Niño-like conditions on the west coast of North America, which could lead to high migration rates to the Canadian zone. Alternatively, a regime shift to cooler conditions is also possible in the near future, leading to decreased migration rates to Canada. The long-term performance of the Canadian fishery for Pacific whiting depends somewhat on climatic conditions. The U.S. fishery is less vulnerable, since it can fish over a much wider latitudinal range within the migration limits of the resource.

The same biological uncertainties that make it difficult to achieve a U S.-Canada allocation agreement also affect the portion of the whiting stock that passes through the Makah Tribe's u & a grounds. (Methot Declaration 1 at ¶ 12.)

19. Given the biological context described above, the sliding scale proposal for treaty allocations within the U.S. fishery made by the Makah Tribe is reasonable, and will fall within the legal parameters established for the treaty right. (Methot Declaration 1 at ¶ 13)

20 Mature whiting undergo an annual migration from spawning grounds (northern Baja to central California) to feeding grounds (northern California to Queen Charlotte Islands). Younger whiting inhabit a brood area extending along the coastal shelf and slopes of California and, at times, into Oregon. (Myers Declaration 1 at ¶ 17.)

21. The available data suggest that when whiting migrate north, the migrations take place within, not seaward of, Makah u & a grounds That is, all migrating coastal whiting are potentially exploitable by the Makah The most recent coastwide acoustic survey, carried out in 1998, confirmed this pattern (Myers Declaration 1 at ¶ 18.)

22. The extent of the northward migration varies from year-to-year and is influenced by environmental conditions, but cannot be predicted in advance. This potential for large portions of the stock to migrate far north into Canadian waters is very clear in the 1998 coastwide acoustic survey which was carried out by NMFS and the Canadian Department of Fisheries and Fisheries and Oceans. (Myers Declaration 1 at ¶ 19)

23. Older whiting tend to migrate farther north than juveniles, hence whiting in Makah u & a grounds tend to be older than those harvested to the south in the U.S. fishery This allows the Makah fishery to avoid the juveniles, and thus the migration implies that over time, all whiting are potentially available in the Makah u & a grounds. (Myers Declaration 1 at ¶ 20.)

24. The State of Oregon asserts that "[r]ecent evidence from expanded acoustic surveys . . suggests that a substantial portion of the stock may migrate in an area generally west of the relevant u & a's." However, examination of the results of a comprehensive acoustic survey of the Pacific whiting resource conducted in 1998 by the National Marine Fisheries Service (Wilson et al 2000)[2] shows that Oregon's interpretation is incorrect. (Myers Declaration 2 at ¶ 4)

25. The 1998 survey is consistent with previous studies and supports the biological basis for the Makah claim. The surveys showed a large amount of whiting in the Makah u & a area. For example, the abstract of Wilson et al. (2000) reports that one of the three heaviest concentrations of whiting occurred "near the U.S. (Washington)-Canada border," i.e., in and near the Makah u & a grounds Moreover, on page 10 of Wilson et al it is stated that "the densest concentration occurred over bottom depths of 100-200 m from 44° N to 50° 30' N." That is, in the areas north of, within, and south of the Makah u & a area, whiting usually occur at depths that are completely within the Makah u & a grounds. (Myers Declaration 2 at ¶ 5.)

26. One of the maps produced by the acoustic survey appears to show whiting concentrations northwest of the Makah u & a area. This map is reproduced as Figure 12 to the 1998 Stock Assessment. However, this map does not support Oregon's claim that a substantial portion of the whiting migration takes place west of the Makah u & a area. Because the depth contours are oriented from southeast to northwest in the vicinity of Makah's u & a area (reflecting the orientation of Vancouver Island and the northern part of the Olympic Peninsula), as whiting move along these depth contours they will be found north and west of Makah's U&A

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[2] Echo Integration-trawl Survey of Pacific Hake, *Merluccius productus*, off the Pacific Coast of the United States and Canada During July-August, 1998 by C D Wilson, M A Guttormsen, K Cooke, M W Saunders, and R Kieser. NOAA Technical Memorandum NMFS-AFSC-118 U S Department of Commerce September 2000

areas. This does not change the fact, supported by all of the surveys, that the primary migratory path runs along these depth contours and therefore within, and not west of, Makah's u & a area. (Myers Declaration 2 at ¶ 6.)

27. This distribution is confirmed by the location of the fishery. A depiction of fishing locations of vessels participating in the Canadian fishery is found in Figure 4 to the 1998 Stock Assessment, and shows that the fishery is concentrated just north of the Makah u & a area and in the vicinity of the 100 meter depth contour. Similarly, a depiction of the location of vessels participating in the U.S fishery (Figure 5 to the 1998 Stock Assessment) shows that it occurs overwhelmingly east of 125° 44' W longitude. Because these figures represent tow locations throughout the season (in contrast to the snapshot in time provided by the acoustic survey), they provide a more reliable indication of the location of the resource, and further support the proposition that the bulk of the stock moves through Makah's u & a grounds. (Myers Declaration 2 at ¶ 8)

28. In sum, the available data suggest that when whiting migrate north, the migrations take place within, not seaward of, Makah usual and accustomed fishing grounds, and that all migrating coastal whiting are potentially exploitable by the Makah. The coastwide acoustic survey carried out in 1998 confirmed this pattern. (Myers Declaration 2 at ¶ 9) I would also point out, however, that just because it is plausible that all migrating coastal whiting are potentially exploitable withing the Makah u & a grounds, there is no evidence that all migrating coastal whiting actually do migrate through the Makah u&a grounds during some period of their life history. It is more reasonable to assume that some lesser proportion of the total population actually migrates through the Makah u & a grounds.

29. Based on an analogy to anadromous fish, the State of Oregon has argued that the "pass through" methodology should only consider whiting that pass through Makah fishing grounds in a single year, instead of considering all whiting that are destined to pass through Makah fishing grounds over their entire lives. However, this assertion is based on an incorrect description of allocation principles applied to anadromous fish, and provides no support for Oregon's approach to whiting. (Myers Declaration 3 at ¶ 7.)

30. When applied to anadromous fish, such as sockeye salmon, the pass through methodology is applied on a life-time basis. For anadromous Pacific salmon, the early life-history stages take placed in freshwater, the fish migrate to the ocean, and in most cases are harvested after fully completing their growth. This entire life-cycle takes between 2 and 7 years, and the harvest, which typically occurs during the spawning migration, usually takes place only once per generation, not once per year, as Oregon asserts. (Myers Declaration 3 at ¶ 8.)

31. Under Oregon's approach, a non-treaty harvest of immature salmon, either in freshwater or on marine feeding grounds, would not count for allocation purposes if the fish were not destined to "pass through" tribal u & a grounds in the year of the harvest Just as there would be no merit to such an approach to salmon allocations, there is no merit to Oregon's claim that harvests of younger whiting that are not yet old enough to migrate to Makah fishing grounds should not count for allocation purposes. (Myers Declaration 3 at ¶ 9.)

32 Oregon's approach makes other fundamental errors in its claim regarding the percentage of fish that pass through the Makah u & a grounds, including the following: (1) the assumption that the total biomass represents the biomass that should be fished to obtain Maximum Sustainable Yield (MSY); (2) the assumption that the NMFS triennial acoustic surveys represents the proportion of fish that pass through the Makah u & a grounds, and (3) the assumption that whiting found just west of the Makah u & a grounds in the acoustic survey never passed through the Makah u & a grounds. (Myers Declaration 3 at ¶ 10)

33. One objective of fisheries management, which is reflected in the Magnuson-Stevens Fishery Conservation and Management Act, is to achieve, "on a continuing basis, the optimum yield," which is usually known as the Maximum Sustainable Yield (MSY). From this perspective, the distribution of fish, per se, is not the issue, but rather than the distribution of the size/age class that would result in MSY if fished. In the case of anadromous salmon this condition is usually satisfied by harvesting the correct fraction of mature fish, i.e., the salmon have completed their growth and are at a size and age that would produce maximum sustainable yield if harvested at the correct rate. (Myers Declaration 3 at ¶ 11.)

34 Oregon does not deny that younger whiting primarily inhabit the waters off of California and Oregon. It is well-established that older fish are found further north, and it is more efficient and conservative not to catch juvenile fish. A fishery that takes younger fish will reduce the eventual catch of alternative fisheries. In particular, the shore-based fisheries that are based in Oregon capture fish younger than the Makah fishery; this will have a detrimental effect on the Makah fishery. Oregon's approach to the "pass through" methodology, which does not count any fish that do not pass through Makah's u & a grounds in a given year, fails to account for this fact. Instead, Oregon's approach would allocate all younger fish to harvests off the Oregon coast, regardless of the fact that, if allowed to mature, these fish would provide larger, more efficient and more conservative harvests farther north, including in the Makah u & a grounds. As discussed above, this is analogous to arguing that harvests in a fishery that targets immature salmon should not be counted for allocation purposes because the fish are not available to fisheries targeting mature salmon in the same year. (Myers Declaration 3 at ¶ 12.)

35. I have used accepted NMFS values for all population parameters and have investigated the trade-offs involved in fishing at different locations along the West Coast. Based on accepted biological principles, I suggested that it is crucial to determine the trade-off between yield and lifetime egg production that will result from any allocation. My analysis showed the inevitable decline in yield that occurs from fishing on the juvenile fish that occur off the coast of Oregon. As a result of such fishing and the declines in yield, MSY cannot be achieved. In fact, if MSY were the goal, one could argue that no fishing should occur off the Oregon coast because it inevitably would result in lower than maximum sustainable yield because of the harvesting of too many young fish. (Myers Declaration 3 at ¶ 13.)

36. Oregon also errs when they state that "at least 25% of the whiting that reach the latitude of the U&A migrate west of the U&A and do not pass through it." In making this statement, they rely on the hypothesis that fish just west of Makah's u & a grounds would never pass through the Makah u & a grounds. This hypothesis of fish migration requires that whiting undergo complex trajectories, so that they can avoid the Makah u & a grounds. It assumes that whiting never move around to search for food. This contradicts common sense, any experience of

commercial and recreational fishermen, and scientific observation. As any fishermen knows, fish do not travel in straight lines. When fish are in feeding aggregations, they typically move from place to place in search of food. The heavy concentration of the Canadian harvest just north of the Makah u & a grounds, and the location of vessels participating the U.S. fishery, shows that the area in question is an area of major feeding aggregations, and whiting undoubtedly exhibit east-west as well as north-south movements in this area Thus, a "snapshot" of whiting west of the Makah u & a grounds in no way demonstrates that 25% of the fish migrate west of the Makah u & a grounds. (Myers Declaration 3 at ¶ 14)

37. Oregon also presents a "cartoon" to support their claim that the whiting migrate west of the Makah u & a grounds. This figure was originally published in 1982 by Bailey and coworkers to illustrate the general pattern of whiting movement; it was not, and was not meant to be, quantitatively correct. For example, it shows movements 300 km offshore, while in words it states that the movement is over the continental slope, which is typically 50 km offshore in the region. Using this map for the Oregon claim that whiting migrate west of the Makah u & a grounds is as absurd as making the claim that the map adequately describes the size of individual whiting (which would be 30 km long according to the scale of the map). (Myers Declaration 3 at ¶ 15.)

38. The most liberal possible quantification of the Makah treaty right to take whiting would be to assume that all mature whiting of a size which would produce MSY and which have the potential to pass through the Makah u&a grounds actually do migrate through the Makah u&a grounds sometime during their lifetimes. This assumption would result in a Makah allocation of 50 percent of the allowable U.S. harvest in any year, an amount well above that requested by the Tribe. Even is something less than the entire coastal whiting population actually migrated through the Makah u & a grounds, it is a safe assumption that the sliding scale allocation methodology that is currently in use falls well within a quantification of the Makah treaty right based on 50 percent of the adult population that actually does pass through the Makah u & a grounds.

39 The Makah Tribe is entitled by the Treaty of Neah Bay to take up to half the harvestable surplus of Pacific whiting that passes through their u & a grounds. The best scientific information currently available (see Methot Declaration and four declarations described above) shows that the sliding scale allocation methodology that is currently in use falls well within the legal parameters established for the treaty right.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 26, 2002.

William L. Robinson

Honorable Barbara Jacobs Rothstein

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

UNITED STATES OF AMERICA, et al., Plaintiffs, vs. STATE OF WASHINGTON, et al., Defendants	No C96-1808BJR No. C99-1500BJR (consolidated) DECLARATION OF DR RICHARD D. METHOT, JR

I, Dr. Richard D Methot, Jr., hereby declare:

1. I have a Ph.D. degree (1981) in Biological Oceanography from Scripps Institution of Oceanography, University of California, and a B.S degree (1975) in Fisheries from the University of Washington

2. I have been employed by the National Marine Fisheries Service since 1981 in the following capacities:

2000-present: Senior Advisor on Groundfish Issues, Northwest Fisheries Science Center, National Marine Fisheries Service, Seattle, Washington

1995-2000 Director, Fishery Resource Analysis and Monitoring Division, Northwest Fisheries Science Center, National Marine Fisheries Service, Seattle, Washington.

1993-1995: Program Manager in Resource Ecology and Fisheries Management Division of Alaska Fisheries Science Center, National Marine Fisheries Service, Seattle, Washington.

1988-1993 Fishery Biologist, Resource Ecology and Fisheries Management Division of Alaska Fisheries Science Center, National Marine Fisheries Service, Seattle, Washington.

1981-1987. Fishery Biologist, Southwest Fisheries Center, National Marine Fisheries Service, La Jolla, California.

3. In the course of my employment with the National Marine Fisheries Service, I have had responsibility for assessment of West Coast groundfish, including Pacific whiting, since 1988. Since 1988, I have served as a stock assessment scientist, a Program Manager supervising assessment scientists (including Martin W. Dorn, who conducted most whiting assessments during the 1990s), and a Division Director with responsibility for an expanded West Coast groundfish research and assessment program. I served as chairman of the Pacific Fishery Management Council's Groundfish Management Team for five years, and have been the lead technical consultant in support of the U.S. delegation's negotiations with Canada regarding allocation of Pacific whiting.

4. I have conducted research and assessment of marine fish since 1981, and have focused on West Coast groundfish since 1988. I developed a statistical model specifically for assessment of West Coast groundfish that was widely used throughout the 1990s I have personally engaged in numerous assessments, including assessments of Pacific whiting (also known as Pacific hake). In addition to many other technical documents, I co-authored (with Martin W. Dorn) Chapter 14 of the book Hake: Biology, Fisheries, and Markets (Chapman & Hall, London 1995). Chapter 14 is entitled "Biology and fisheries of North Pacific hake (M. productus)," and is attached as Exhibit 1 to this Declaration. Exhibit 2 to this Declaration is a paper authored by Martin W. Dorn, Alaska Fisheries Science Center, National Marine Fisheries Service, Seattle, Washington, on "The Effects of Age Composition and Oceanographic Conditions on the Annual Migration of Pacific Whiting, Merluccius Productus" which was published in CalCOFI Rep., Vol. 36, 1995.

5. I have reviewed the existing information on the amount of Pacific whiting that passes through the Makah Tribe's usual and accustomed fishing grounds, which are defined as the area located in the Pacific Ocean south of the international boundary with Canada, north of 48°02'15" N. latitude (Norwegian Memorial), and east of 125°44'00" W. longitude. 50 C.F.R. 660.324(c)(1). Information we reviewed includes the scientific information submitted by NMFS

and the Makah Tribe in U.S. v Washington, Sub-proceeding 96-2, 143 F. Supp. 2d 1218 (W.D. Wash.2001), particularly the Declaration of Dr Richard D. Methot, Jr , dated March 5, 2001; the Declaration of Ransom A. Myers January 18, 2001; the Declaration of Ransom A. Myers in Response to Oregon's Motion for Summary Judgment dated February 14, 2001; and the Declaration of Ransom A. Myers In Response to Oregon's Opposition to Makah's Motion for Summary Judgment dated March 7, 2001. These declarations (with their attachments) are attached.

6. A "sliding scale" abundance-based allocation methodology for Pacific whiting has been in use to determine the treaty Indian and non-treaty shares since 1999. Under the sliding scale allocation method, the tribal allocation varies in relation to the level of the U.S. whiting Optimum Yield (OY), ranging from a low of 14 percent (or less) of the U S. OY at OY levels above 250,000 mt, to a high of 17.5 percent of the U S. OY at an OY level at or below 145,000 mt. The treaty right is up to one-half the harvestable surplus of Pacific whiting that passes through the Makah Tribe's usual and accustomed fishing grounds, or that much of the harvestable surplus as is necessary for tribal subsistence, whichever is less.

7. NMFS has no new information that alters the information (described in paragraph 4 above) submitted in Subproceeding 96-2 on the distribution and migration pattern of the Pacific whiting stock Therefore, this information continues to be the best scientific information available Based on this information, I conclude that the Indian treaty allocations that NMFS has made to the Makah Tribe using the sliding scale methodology fall within the legal parameters established for the treaty right.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 18, 2002.

Richard D. Methot, Jr.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE REPORT ON PRELIMINARY MANAGEMENT MEASURE ALTERNATIVES FOR THE 2009-2010 WASHINGTON RECREATIONAL GROUNDFISH FISHERIES

The Washington Department of Fish and Wildlife (WDFW) held public meetings on December 14, 2007, February 14, 2008, and March 18, 2008 to develop and discuss recreational bottomfish proposals for 2009 and 2010. The intent of the proposed preliminary alternatives is to reduce incidental catch of overfished rockfish, primarily yelloweye, while anglers are targeting halibut and lingcod. Depth restrictions are used to keep the fishery focused in shallower water (i.e., 20 fathoms or less), which is expected to increase survivability of released rockfish based on research by Alvin and Karpov (1995). There is also expected to be a reduced encounter rate of yelloweye rockfish in shallower depths (i.e., 30 fathoms or less).

Based on the input provided, we are not proposing any changes to the current bottomfish aggregate bag limit of 15, which includes a sub-limit of 10 rockfish and 2 lingcod, but does not include halibut (which has a daily bag limit of 1). Retention of canary and yelloweye rockfish would continue to be prohibited, regardless of area caught. We also plan to retain the "C-shaped" yelloweye rockfish conservation area in the north coast and the two offshore rockfish conservation areas in the south coast area. With that, WDFW supports the following preliminary management measure alternatives for the recreational fishery to be approved for public review by the Pacific Fishery Management Council.

Lingcod Seasons

Status Quo (2008 season): Marine Areas 1-3: Open the Saturday closest to March 15 (which is March 14 in 2009 and March 13 in 2010) through the Saturday closest to October 15 (which is October 17 in 2009 and October 16 in 2010). Marine Area 4: Open April 16 through the Saturday closest to October 15 or October 15, whichever is earlier, which is April 16 through October 15 in 2009 and April 16 through October 15 in 2010.

Option 1: Marine Areas 1-3: Open the 2nd Saturday in March through the 3rd Saturday in October. Marine Area 4: Open April 16 through the 3rd Saturday in October.

Bottomfish Seasons

North Coast (Washington Marine Areas 3 and 4)

Status Quo (2008 season): Prohibit retention of bottomfish seaward of a line approximating 20 fathoms from May 21-September 30, except on days that halibut fishing is open. The retention of yelloweye and canary rockfish is prohibited. It is prohibited for fish for, retain, or possess bottomfish and halibut in the "C-shaped" yelloweye rockfish conservation area.

Option 1: Prohibit retention of bottomfish seaward of the 20 fathom line from May 1-September 30, except on days that halibut fishing is open.

Option 2: Prohibit retention of bottomfish seaward of a line approximating 20 fathoms from May 1-August 15. Prohibit retention of bottomfish August 16-April 16 in Marine Areas 3 and 4, except in the following offshore area:

48°19 N lat. 125°22 W long.
48°19 N lat. 125°18 W long.
48°16 N lat. 125°18 W long.
48°16 N lat. 125°22 W long.

Option 3: Prohibit retention of bottomfish seaward of a line approximating 20 fathoms from May 1-August 15. Prohibit retention of bottomfish August 16-April 16 in Marine Areas 3 and 4.

South Coast (Washington Marine Area 2)
Status Quo (2008 season): Prohibit retention of bottomfish seaward of a line approximating 30 fathoms from March 15-April 30. Prohibit the retention of bottomfish, except sablefish and Pacific cod, from May 1-June 15 seaward of a line approximating 30 fathoms. The retention of yelloweye and canary rockfish is prohibited.

Option 1: Same as status quo, except continue to prohibit retention of lingcod seaward of a line approximating 30 fathoms on Fridays and Saturdays from June 16- September 30.

Option 2: Same as status quo, except continue to prohibit retention of lingcod seaward of a line approximating 30 fathoms on Fridays and Saturdays from June 16- September 30 and prohibit retention of lingcod south of 46°58 March 15-September 30.

Option 3: Same as status quo, except prohibit retention of lingcod seaward of a line approximating 30 fathoms March 15- September 30.

Option 4: Prohibit the retention of rockfish and lingcod seaward of a line approximating 25 fathoms from March 15-June 15, using the following coordinates:

47°31.70 N lat. 124°34.660 W long.
47°25.67 N lat. 124°32.775 W long.
47°12.82 N lat. 124°26.000 W long.
46°52.94 N lat. 124°18.940 W long.
46°44.18 N lat. 124°14.890 W long.
46°38.17 N lat. 124°13.700 W long.

Option 5: In combination with any of the options listed above for Marine Area 2, prohibit fishing for or possession of lingcod in the following areas:

46°57.00 N lat. 124°30.00 W long.
47°00.00 N lat. 124°30.00 W long.
47°00.00 N lat. 124°33.50 W long.
46°57.00 N lat. 124°33.50 W long.

46°55.50 N lat. 124°24.00 W long.
46°56.50 N lat. 124°00.00 W long.
46°56.50 N lat. 124°25.70 W long.
46°55.50 N lat. 124°25.70 W long.

46°56.70 N lat. 124°34.00 W long.

46°57.70 N lat. 124°34.00 W long.
46°57.70 N lat. 124°35.50 W long.
46°56.70 N lat. 124°35.50 W long.

47°07.70 N lat. 124°30.00 W long.
47°07.70 N lat. 124°27.50 W long.
47°06.50 N lat. 124°27.50 W long.
47°06.50 N lat. 124°30.00 W long.

46°52.50 N lat. 124°21.70 W long.
46°52.50 N lat. 124°20.30 W long.
46°51.60 N lat. 124°20.30 W long.
46°51.60 N lat. 124°21.70 W long.

46°52.50 N lat. 124°26.60 W long.
46°52.50 N lat. 124°25.30 W long.
46°51.60 N lat. 124°25.30 W long.
46°51.60 N lat. 124°26.60 W long.

Option 6: In combination with any of the options listed above for Marine Area 2, prohibit fishing for or possession of bottomfish, lingcod and halibut in the following areas:

46°42.50 N lat. 124°42.00 W long.
46°42.50 N lat. 124°34.00 W long.
46°37.50 N lat. 124°34.00 W long.
46°37.50 N lat. 124°42.00 W long.

46°54.30 N lat. 124°53.40 W long.
46°54.30 N lat. 124°51.00 W long.
46°53.30 N lat. 124°51.00 W long.
46°53.30 N lat. 124°53.40 W long.

46°53.50 N lat. 124°47.50 W long.
46°53.50 N lat. 124°45.50 W long.
46°52.50 N lat. 124°45.50 W long.
46°52.50 N lat. 124°47.50 W long.
47°05.50 N lat. 124°48.50 W long.
47°05.50 N lat. 124°45.50 W long.
47°03.50 N lat. 124°45.50 W long.
47°03.50 N lat. 124°48.50 W long.

47°10.00 N lat. 124°36.20 W long.
47°10.00 N lat. 124°33.20 W long.
47°08.00 N lat. 124°33.20 W long.
47°08.00 N lat. 124°36.20 W long.

Columbia Area (Washington Marine Area 1)
Very little yelloweye and canary rockfish are caught in Marine Area 1 (0.022 mt and 0.008 mt in 2007) Therefore; WDFW proposes to keep the status quo bottomfish fishing regulations in place through 2009 and 2010. Status Quo (2008 season): Prohibit the retention of bottomfish, except sablefish and Pacific cod, with halibut onboard from May 1 through September 30. The retention of canary and yelloweye rockfish is prohibited.

WDFW believes that the range of management measure alternatives presented above is sufficient to stay within the state harvest targets for yelloweye and canary. Regardless of which options are chosen, WDFW is committed to monitoring our catch inseason and will take action as appropriate. In the event that we are projected to exceed our state harvest target, we will consult with the Oregon Department of Fish and Wildlife regarding our inseason harvest estimates to compare our projected catches with our joint harvest guidelines for yelloweye and canary rockfish. We will have another public meeting in late April to review and solicit input on the proposed alternatives.

PFMC
4/10/08

ENFORCEMENT CONSULTANTS REPORT ON PART 1 OF MANAGMEMENT MEASURES FOR 2009-2010 FISHERIES

The Enforcement Consultants (EC) has reviewed the Groundfish Management Team's (GMT) report on management measures for 2009-2010, along with draft management measure alternatives from the individual west coast states. In general we agree with the GAP statement pertaining to measures which should go forward for analysis and their relative priority. We will continue to monitor the development of these proposals and network with the GMT, Groundfish Advisory Subpanel, and other advisory bodies. We have some additional comments regarding one of the strategies being considered.

Finer Scale Spatial Management: Recognizing that this idea has not yet been fully developed to the extent that we can determine how "cold and hot spot" strategies will be applied, the EC has several concerns, particularly as these management measures relate to recreational fishing.

- **Cold spots:** Small open areas within large closures are extremely difficult to enforce. For example, it is nearly impossible for law enforcement to determine where fish were harvested once a vessel is in transit through a closed area.
- **Hot spots:** Large closures are preferable to numerous small closures. Anglers' ability to remain current on regulations decreases as regulations become more complex. Also, patrolling a patchwork of small closed areas is less efficient than patrolling a smaller number of broad closures. The smaller the closure, the less opportunity for a violation to be detected (i.e. once a vessel is underway, catch location is almost impossible to prove).
- **Warm spots** (i.e. areas open to certain species, but closed to others): It is impossible to determine an angler's intent until a particular species is retained. For example, sport gear configurations used to catch some species (like Lingcod) are also used to catch others (like rockfish or Pacific Cod). Similar to cold spots, once the vessel is in transit, it is challenging to determine the origin of catch.

With regard to how closures are implemented:

There is more opportunity for the public to be confused or uninformed when rules become more restrictive throughout the season. Conversely, if regulations start from a conservative position, liberalizing those rules at a later date can avoid the adverse consequences of this confusion..

Our concerns regarding spatial management are primarily with the recreational fisheries. Some of these concerns also apply to the commercial fishery, but may be mitigated by the implementation of tools such as Vessel Monitoring System.

PFMC
04/10/08

GROUNDFISH ADVISORY SUBPANEL REPORT ON PART 1 OF MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

The Groundfish Advisory Subpanel (GAP) heard guidance from National Marine Fisheries Service (NMFS) staff on management measures for 2009-2010 and the associated analysis. For the first part of this agenda item the GAP worked from Agenda Item H.5.a Attachment 1, Management Measures recommended for analysis by the Groundfish Management Team in November.

1. **Consider managing recreational fisheries by numbers of fish instead of weight**. The GAP supports analyzing this measure, but believes it should receive a **low priority**. While this alternative management measure may be useful in some cases, the numbers would still need to be converted to metric tons in order to fit in to our management process.
2. **Finer scale spatial management**. The GAP believes there is a real need to explore "groundfish fishing areas" within the cowcod conservation area and rockfish conservation areas. We believe that there are areas within the conservation areas that people can fish without impacting overfished species. Allowing access to these areas would contribute economicaly to coastal communities. Groundfish fishing areas should be a **high priority**.
3. **Redefine Flatfish trawl**. The GAP recommends dropping this issue from the analysis. Attrition has taken care of many of the nets which were not designed to specifications.
4. **Provide guidance**, particularly on skates, on scientific sorting. The GAP agrees that these activities inform stock assessments but believes this should be a **low priority** for the analysis.
5. **Limited Entry Trawl –** The GAP recommends dropping a, b and c from the analysis.
6. **Limited Entry Fixed Gear –** consider allowing limited entry (LE) fishermen with a longline endorsement the opportunity to harvest their landings limits using pot/trap gear. The GAP agrees with including this in the analysis but gives it a **low priority**.
7. **Rockfish Conservation Area latitude and longitude adjustment**. The GAP believes this should be included in the analysis and is a **high priority**.
8. **Mandatory longbooks for the recreational fleet**. The GAP is recommending that this is dropped from the analysis.
9. **Federal electronic logbooks & fish tickets**. This is to take the existing state logbook program and turn it into an electronic transmittal system rather than a paper system. The electronic system will greatly improve how quickly the information can be developed and distributed. It also improves the accuracy of the data because it does not need to be entered manually which sometimes results in input errors.

10. **Non-retention regulations for bronzespotted rockfish**. The GAP agrees this issue should remain in the analysis and is a low priority.
11. **Whiting Issues**.
    a. **Sector specific bycatch caps**. The GAP believes this should be Included in the analysis and is a high priority. The GAP does not believe that waiting for intersector allocation to solve this problem is appropriate. The analysis should include no overall bycatch cap for the fleet when sector specific caps are in place.
    b. **Scheduled releases of bycatch**. The GAP believes this should be included in the analysis and is a **low priority**.
    c. **Closing the non-treaty whiting fishery on projection of a bycatch cap**. The GAP believes this should be dropped from the analysis because this issue has already been dealt with by NMFS.
    d. **Re-defining at-sea processing**. The GAP believes this should be included in the analysis and it is a **high priority**.

12. **Create a limited entry fixed gear Federal logbook**. The GAP believes this should be included in the analysis and this is a **high priority**. A sablefish logbook will inform the stock assessment with information that is not currently available, for example, catch per unit of effort data.
13. The GAP believes that the issue regarding changing the **length variance** in LE permit length endorsements should be explored but is a **low priority**.
14. The GAP believes that **retention of lingcod in the salmon troll fishery** should be analyzed and is a **high priority**.
15. **Include a definition of vertical hook and line gear** (commercial and recreational) for distance from deepest hook to the weight (lead, sinker) provided that the hook is above said weight and is not large enough to be a weight. This may provide opportunity to target species while avoiding overfished species that tend to be demersal and this should be a **high priority**.

PFMC
4/10/08

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PART I OF THE MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

Mr. E. J. Dick presented the Groundfish Management Team report on the development of a discard mortality matrix for ocean and estuary recreational fisheries which describes estimation of discard mortality rates by species and depth. The Scientific and Statistical Committee (SSC) considers this analysis to be an improvement over current methods of estimating discard mortality (e.g., assuming 42 percent post-release mortality across species and depths in California) and finds further research to be warranted. The SSC provided a number of technical suggestions to improve the model. The SSC notes that estimates of depth and species specific mortality are necessarily highly uncertain given the sparseness of the data.

The mortality estimation procedure in the current document is incorrect due to the use of additive mortality rather than multiplicative survival. Nonetheless, the SSC agrees with the use of the current mortality estimates if practical constraints preclude the adjustment of management measures which have already been developed using these values. The SSC notes that the current estimation procedure results in overestimates of mortality which are therefore somewhat risk averse from a conservation standpoint. If the values are corrected but the management unchanged, larger buffers between expected total fishery mortality and the harvest specifications will result. In any case, the calculation method should be corrected before analysis is undertaken for the 2011-2012 management cycle. The issues and suggestions which have been identified by the SSC could have been dealt with more efficiently had this document been reviewed by the SSC in March.

Additional research should be pursued, including: 1) research on short-term (1-5 days) and long-term delayed mortality, 2) research on the effectiveness of devices that release fish at depth, which could lead to a decrease in mortality rate estimates for fish released using such a device with a concomitant potential increase in fishing opportunities, and 3) research on discard mortality rates for commercial hook-and-line fisheries.

PFMC
4/09/08

FISHING VESSEL OWNERS' ASSOCIATION
INCOPORATED

ROOM 232, WEST WALL BUILDING • 4005 20TH AVE. W.
SEATTLE, WASHINGTON 98199-1290
PHONE (206) 284-4720 • FAX (206) 283-3341

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PFMC

February 29, 2008

Mr. Don Hansen, Chairman
Pacific Fishery Management Council
7700 N.E. Ambassador Place, Suite101
Portland, OR 97220-1384

RE: Council's 2009-10 SPEC Process

Dear Chairman Hansen:

The members of the Fishing Vessel Owners' Association are in support of a mandatory fixed-gear logbook program being completed during the 2009-10 SPEC process. It is our understanding that the GMT discussed including this action as part of the SPEC analysis and that the Council will make a decision whether to include a mandatory logbook program within the 2009-10 SPEC process.

During the last two sablefish stock assessments, a logbook program would have been very beneficial in verifying different data points or assumptions within the model. Currently, our Association is participating in a voluntary logbook program managed by the Washington Department of Fish & Wildlife. It has had some success particularly on the North Coast. A logbook program that is federally required would provide coast-wide, unified information, not only for sablefish but for many rockfish species for which little data is available.

We support the Council approving a fixed-gear logbook program that would be coast-wide for analysis during the 2009-10 SPEC process.

Sincerely,

Robert D. Alverson
Manager

RDA:cmb

Subject: {Spam?} Canary and Yelloweye Rockfish letter
From: Kevin B Mc Grath <kevinb@humboldt.net>
Date: Wed, 12 Mar 2008 16:07:55 -0700
To: Carrie.Montgomery@noaa.gov
Return-path: <kevinb@humboldt.net>
Received: from relay-central.nems.noaa.gov ([140.172.10.152]) by vmail4.nems.noaa.gov (Sun Java System Messaging Server 6.2-7.05 (built Sep 5 2006)) with ESMTP id <0JXN00IWC48ZQG70@vmail4.nems.noaa.gov> for Carrie.Montgomery@noaa.gov; Wed, 12 Mar 2008 16:07:47 -0700 (PDT)
Received: from mx-west.nems.noaa.gov ([140.172.10.153]) by relay-central.nems.noaa.gov (Sun Java System Messaging Server 6.2-3.04 (built Jul 15 2005)) with ESMTP id <0JXN00L2L48YHEC0@relay-central.nems.noaa.gov> for Carrie.Montgomery@noaa.gov (ORCPT Carrie.Montgomery@noaa.gov); Wed, 12 Mar 2008 17:07:46 -0600 (MDT)
Received: from lilly.humboldt.net (HELO mail.humboldt.net) ([208.251.150.18]) by mx-west.nems.noaa.gov with ESMTP; Wed, 12 Mar 2008 23:03:35 +0000
Received: from mypc (66-81-69-151.bayarea.dialup.o1.com [66.81.69.151]) by mail.humboldt.net (8.12.10/8.12.10) with SMTP id m2CN6EUn012399 for <Carrie.Montgomery@noaa.gov>; Wed, 12 Mar 2008 17:06:16 -0600
Message-ID: <008501c88495$e8878c10$97455142@mypc>
MIME-Version: 1.0
X-MIMEOLE: Produced By Microsoft MimeOLE V6.00.2900.3198
X-Mailer: Microsoft Outlook Express 6.00.2900.3138
Content-type: multipart/alternative; boundary="----=_NextPart_000_0082_01C8845B.3B520320"
X-Priority: 3
X-MSMail-priority: Normal
X-IronPort-Anti-Spam-Filtered: true
X-IronPort-Anti-Spam-Result: AsUCAC7/10fQ+5YSh2dsb2JhbAATgiszhRaBZguBF4VjAQEBCAopjGeJdASCBg
X-IronPort-AV: E=Sophos;i="4.25,490,1199664000"; d="scan'208,217";a="40894291"
X-MailScanner-Information: Please contact the ISP for more information
X-MailScanner: Found to be clean
X-MailScanner-SpamCheck: spam, SpamAssassin (not cached, score=3.138, required 2, autolearn=disabled, DOS_OE_TO_MX 2.75, DYN_RDNS_SHORT_HELO_HTML 0.29, HTML_MESSAGE 0.00, RDNS_DYNAMIC 0.10)
X-MailScanner-SpamScore: sss
X-MailScanner-From: kevinb@humboldt.net
Original-recipient: rfc822;Carrie.Montgomery@noaa.gov
X-Spam-Status: Yes

I fish alot at Shelter Cove CA.This last season I used a homemade deep release device and stuck around to watch for floaters after release and saw none.Why arn't deep release devices like Bill Sheltons mandatory on all recreational fishing boats?Why can't they be given out with fishing licenses.They only cost like 4 bucks.Also there needs to be large color posters of the fish that can't be taken posted.That way there is no quesswork on the part of new anglers.I am disabled and fishing is one of the few things I can do.Closing the season was a huge blow to me.
Sincerely
Kevin Mc Grath
P.O. Box 1
Redway,CA
945560
707-923-1984

Mr. DeVore,

I have been reading and re-reading the restrictions being placed on the recreational fisherman for 2008 based on count numbers from 2007 for Yellow Eye and Canary rockfish catches. I am totally confused and personally just don't understand how 5.9 mt of Yellow Eye and 2.1 mt of Canary rockfish, which were the reported counts for 2007, were determined as an over harvest of the species. This was all directed at the recreational fishermen in the areas north of Point Area to the Oregon border. That is a huge amount of catch or by-catch by such a small number of fishermen; that seems closer to a commercial drag.

Considering the small number of fishermen that leave my home port of Eureka an area that had a great salmon catch year as well as an outstanding albacore year, where did all the fishermen come from to fish Cape Mendocino and Trinidad. These are the only areas close by that hold our sport rockfish. Sure some of us with bigger boats can travel up to Reading Rock, which is about 15 miles north of Trinidad, but it is very difficult for the smaller aluminum boater. The same is true for Cape Mendocino, the smaller recreational boater cannot make the 25 mile trip south of Eureka on a regular basis to make the impact the reported counts say we did.

I am sorry, I just don't understand where these numbers were generated, who and where the counters were located and how the weight was determined. I would be very interested in seeing the detailed reports by area become public so we can scrutinize the numbers.

We are working hard here in Eureka to educate all our fishermen as to how to identify the Canary and Yellow Eye; most understand the implications. Those that don't understand, we are emphasizing the fact that if we cannot reduce or eliminate the mortality of the protected species that we are in danger of losing our right to fish. All fishermen will be equipped with fish savers to help a fish decompress and increase the release rate.

Any further fishing restrictions in the Eureka area (includes Trinidad) will continue to hurt the economy, which is now severely impacted by the change in salmon regulations, poor crab season and high gas prices.

Please release the information so we can understand how these determinations have been done.

Thank you and sincerely,

Bob Taylor
Owner/Developer
Taysys Software
326 I Street, PMB 141
Eureka, CA. 95501
Phone: (707) 616-5946

Mr. DeVore, I am a charter boat operator in Eureka Ca. I am concerned about the data being used to establish restrictions in California to promote yelloweye stock recovery. As I'm sure you know, Northern Ca exceeded the allowable yelloweye harvest by a considerable amount. The majority of the "take" came from Shelter Cove (45%). Shelter Cove is the smallest access point in Northern Ca. It does not have a large fleet, especially when salmon fishing is slow like last year. The numbers that Ca F&G came up with last year amounted to 21 yelloweye per DAY every single day of the season. There are many days when boats cannot get out due to weather and many other days when only one or two boats are launched. I understand how the data is obtained and assembled and I am well aquainted with the personel obtaining this information. After reviewing this information with local fishermen and others familiar with effort last year it is our feeling that there is a flaw somewhere in the process. I am not in any way questioning the people involved but I and many others have questions about the results. On the other side of the equation is the most recent stock assesment being used. The 2007 Yelloweye stock assesment by John R Wallace states on page 10:" the sparseness of the size and age composition data and the lack of a relevant fishery-independent survey has limited the model's ability to properly assess the status of the resource". Unfortunately all of this 'bad' data is being used to restrict our ability to fish. With the recent CV salmon collapse we are more dependent on rockfish than normal. Obviously yelloweye stocks in California are in much better shape than previously thought. I know that a new stock assessment is in the works and it is definately needed. Lets make it a good one this time that does not have to have disclaimers about it's accuracy attached. After all, for some of us our very livelyhood is at stake. I would like a response to this e-mail please. Thank you, Tim Klassen

I fish alot at Shelter Cove CA.This last season I used a homemade deep release device and stuck around to watch for floaters after release and saw none.Why arn't deep release devices like Bill Sheltons mandatory on all recreational fishing boats?Why can't they be given out with fishing licenses.They only cost like 4 bucks.Also there needs to be large color posters of the fish that can't be taken posted.That way there is no quesswork on the part of new anglers.I am disabled and fishing is one of the few things I can do.Closing the season was a huge blow to me.

Sincerely
Kevin Mc Grath
P.O. Box 1
Redway,CA
945560
707-923-1984

Mr. John Devore:

I have received a copy of the Yellow Eye counts for California in 2007. I cannot understand how anyone would project a catch/loss of 8.0mt based on a total of 80 counted fish. I know you have models and there are adjustments for forecasting that more fish were caught than reported, but my gosh, those numbers are outrageous.

Reading into way corrections were made to the 2006 calculations raise a red flag here. You have the following:

mean angler-trips per day (*Angler-trips per day = angler-hours per day x mean angler-trips per angler-hour*)

angler trips per day in the Humboldt region is and has been unpredictable, especially in 2007. We are so dependant on the weather here that there are many days during a fishing season anglers cannot make it to the fishing grounds. There are times that you may want to go rockfishing and half way to where you were going to fish you have to turn around due to a strong wind. So how many fishing days were used? Was it determined from actual interviews or speculation?

We also had a very good salmon and albacore season where many anglers targeted those species. Are we counting all the anglers that launch a boat?

So I ran a query of the raw catch totals for all species in Humboldt county for Jan-Feb to Nov-Dec, 2007. I received a total 42 Yellow Eye counted in Humboldt, 80 in Humboldt and Del Norte counties. The average counted weight for Humboldt was 1.57 lbs.; for Humboldt and Del-Norte 1.50 lbs/fish. So using this data alone we come up with 66 lbs in Humboldt and a total for both counties 120 lbs. Now we want to add in hearsay data (interviews), apply your model calculations and we wind up with 8.0mt. From 120 lbs of actual catch we get 8.0 mt. That is fuzzy math. How can you speculate that large of a number on fish you never saw. That is just wrong and us sportfishermen are going to pay the price for it.

This count closed our rockfishing on the North coast in October, three months earlier than was scheduled. This counting method is also jeopardizing all our rock fishing here, maybe with seasonal adjustment yet to be realized. But we understand one thing here, until we can get an accurate count of how many fish are caught, your calculations are only SWAG.

What are the alternatives? Number one, the many concerned fishermen and banding together to educate fishermen who fish our waters. We have information posted at tackle stores in the area. We are investing in newer "sure release" devices that will reduce the mortality of any rockfish that is released. We are contacting you to express our concerns.

Please consider my concerns and others that have written to allow us to continue enjoying our sport.

Thank you.

Bob Taylor

Subject: Agenda Item H5, April meeting, public comment
From: Jan Joyce or Jessie Zeiters <jzfarm@humboldt1.com>
Date: Fri, 28 Mar 2008 20:14:07 -0700
To: Merrick.Burden@noaa.gov

I and many other recreational anglers have some serious reservations about CDFG's compilation of Yelloweye rockfish kill numbers for the 2007 season.

There is no doubt that there were in fact Yellow eye caught and killed by recreational anglers during the 2007 season. However, the part of this information that myself and many others question is the anecdotal data taken by DFG's Creel Census people at the landings and the estimation of the fish being killed that anglers claimed they released.

These numbers are at best a guess of what happened and in my opinion neither truly accurate nor indicative of the actual number of fish killed.

The rockfish season was shut down early last year with these numbers, anglers being informed that it was in an effort to keep recreational anglers from exceeding the kill limit of Yellow eye. Now in reading the PFMC site I see that the estimate of Yellow eye kill is over eight MT. Just how in the devil did we go from not yet exceeding the kill quota to way over the mark... Smoke, mirrors or is the DFG data that flexible?

xxxxxxxxx
Agenda Item F.5.c (March Meeting)
Supplemental CDFG Report
March 2008
"In season management, actions were initiated closing the Northern and North-Central Management Areas on October 1, 2007 to prevent the 2.1 metric ton (mt) HG for Yelloweye rockfish from being further exceeded. **Recreational catches are estimated using the California Recreational Fisheries Survey (CRFS) data and the 2007 Yelloweye rockfish catch estimate of 8.0 mt was 5.9 metric tons over the harvest guideline for the California Recreational Fishery"**
xxxxxxxxxx

I have sent emails to both the DFG Commission and Director DFG about this issueand I have received an answer but the numbers are still questionable to me and many other anglers.

I would task the PFMC to examine these kill numbers that are currently being accepted as scientific fact with more skepticism and ask that the SWAG estimates and projections be separated from the actual kill numbers. Per a recent telephone conference the DFG admitted that they knew that recreational anglers were inflating the Yellow eye numbers in a mistaken attempt to help the recovery.

The partial table below shows the sample data and catch estimates from CRFS for Yellow eye rockfish in 2007.

Catch type Sample data

(Number of fish)

Table 1

Sampler examined 80 fish

Landed catch

Angler reported

Dead/released 299 fish

dead

Angler reported

released alive fish 979 fish

Total 1358

*The PFMC applies a 42 percent mortality rate to fish released alive

****

After the estimaters were finished with these numbers they guessed that recreational anglers had killed an estimated 8 metric tons, quite a stretch with the numbers.

If this is done I think that you will see a great difference in actual kills verses what they guess was killed.

I am not impugning the honesty nor the integrity of CDFG, more so I am questioning the veracity and accuracy of the data used on this issue.

My question to the director was if these Yellow eye were being taken at specific locations where was DFG enforcement during all this? How many citations were issued ?

The answer was 11 citations were issued and the reason is there were only 80 fish observed by DFG.

The rest of the "Kill" levied against the recreational anglers beyond the 1358 fish is nothing but an estimate or a SWAG.

As a conservation minded angler I support and applaud the efforts of PFMC/NOAA and CDFG to protect the resources, however if I were to use estimated numbers like these that were used to calculate the Yellow eye kill to do my taxes I'm sure that the IRS would be having words with me about the accuracy of my returns.

Respectfully,

Mr. Jan Zeiters
McKinleyville Ca
707-840-0730

WDFW MOTION IN WRITING ON
PART 1 OF MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

Refer to Agenda Item H.5.b, Supplemental GMT Report:

Move that the Council approve for public review and analysis the items described in the referenced GMT report with the recommended exclusions described on p. 9, with the following exception:

Approve for public review the following options to retain lingcod in the salmon troll fishery:

Option 1: Allow the retention of 1 lingcod for every 15 chinook salmon, plus one additional lingcod, not to exceed 10 lingcod per trip, up to a maximum limit of 400 lbs/month.

Option 2: Allow the retention of 1 lingcod for every 20 chinook salmon, plus one additional lingcod, not to exceed 10 lingcod per trip, up to a maximum limit of 400 lbs/month.

In addition, approve the following options for public review and analysis for the whiting fishery:

1. Include the ability to implement depth-based closures for the whiting fishery as an inseason measure upon the projected attainment of one or more bycatch caps for canary widow rockfish, and darkblotched rockfish or the chinook harvest guideline.
2. Include options for sector-specific bycatch caps as described in the GMT report, with the following sub-options:
    a. Upon the attainment of the whiting allocation by a sector, allow the roll-over of unused bycatch cap amounts to the remaining non-tribal whiting sectors pro-rated to their respective initial whiting allocations.
    b. Upon the attainment of the whiting allocation by a sector, add the remaining unused bycatch cap amounts to the overall residual in the scorecard to be accessed by any sector, including to cover projected overages in research catches.
3. Include options for seasonal releases of an overall whiting sector bycatch cap, using the following release schedules:
    a. Apr 1: 45%; June 15: 40%; Fall 15%
    b. Apr 1: 50%; June 15: 40%; Fall 10%
    c. Apr 1: 50%; June 15: 45%; Fall 5%
    d. Across all sub-options analyze the following release dates for the Fall period: Sept 1; Sept 15; and Oct 1 (Use as a guideline, but consider other dates as needed).
    e. Across all sub-options any unused bycatch amounts from the previous release would carry-over to the following specified season

Approve for public review and analysis the alternatives described in Agenda Item H.5.b, WDFW Report.

PFMC
4/10/08

Agenda Item H.6
Situation Summary
March 2008

FINAL CONSIDERATION OF INSEASON ADJUSTMENTS – IF NEEDED

Consideration of inseason adjustments to 2008 groundfish fisheries may be a two-step process at this meeting. The Council will meet on Wednesday, April 9, 2008, and consider advisory body advice and public comment on inseason adjustments under Agenda Item H.4. If the Council elects to make final inseason adjustments under Agenda Item H.4, then this agenda item may be cancelled, or the Council may wish to clarify and/or confirm these decisions. If the Council tasks advisory bodies with further analysis under Agenda Item H.4, then the Council task under this agenda item is to consider advisory body advice and public comment on the status of 2008 groundfish fisheries and adopt final inseason adjustments as necessary.

Council Action:

Consider information on the status of ongoing 2008 fisheries and adopt inseason adjustments as necessary.

Reference Materials: None.

Agenda Order:

a. Agenda Item Overview — Merrick Burden
b. Report of the Groundfish Management Team — Kelly Ames
c. Agency and Tribal Comments
d. Reports and Comments of Advisory Bodies
e. Public Comment
f. **Council Action:** Adopt or Confirm Final Adjustments to 2008 Fisheries

PFMC
03/19/08

PART II OF MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

This is the final step at this meeting in the process to adopt a range of 2009-2010 groundfish management measure alternatives that will be fully analyzed in a Draft Environmental Impact Statement (DEIS). The adopted process and schedule for finalizing 2009-2010 management recommendations calls for a preliminary DEIS to be distributed in the June briefing book for public review and used to base final Council decision-making at the June Council meeting. The states, tribes, advisory bodies, and public recommended management measure alternatives to be analyzed in the DEIS under Agenda Item H.5. The objective of these management measure alternatives is to meet, but not exceed the preferred harvest levels decided under Agenda Item H.1. The Council is expected to give guidance to the Groundfish Management Team (GMT) and Groundfish Advisory SubPanel (GAP) on Thursday, April 10 during Council action under Agenda Item H.5 for further refinement and analysis of proposed 2009-2010 management measures. The Council task under this agenda item is to adopt a refined range of 2009-2010 management measure alternatives and, if possible, a tentative preferred alternative for formal analysis and public review.

Council Action:

1. **Adopt a Range of Refined Management Measures, and, if Possible, a Tentative Preferred Alternative.**

Reference Materials:

None.

Agenda Order:

a. Agenda Item Overview — John DeVore
b. Agency and Tribal Comments
c. Reports and Comments of Advisory Bodies
d. Public Comment
e. **Council Action**: Adopt a Range of Refined Management Measures, and, if Possible, a Preferred Alternative for Public Review

PFMC
03/19/08

Agenda Item H.7.b
Supplemental CDFG Report
April 2008

CALIFORNIA DEPARTMENT OF FISH AND GAME REPORT ON MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

The California Department of Fish and Game (CDFG) would like provide the following revisions to the report *"Preliminary Practical Range of Management Specification Options for California's 2009-2010 Commercial and Recreational Groundfish Fisheries"* (Agenda Item H.5.b).

COMMERCIAL

Additional Management Lines

The Groundfish Management Team (GMT) received data from the West Coast Groundfish Observer program that revealed increased canary and yelloweye impacts between Point San Pedro and the California/Oregon Border. If GMT analyses over the next few weeks indicate that overfished species impacts can be restricted to specific areas using new management lines not currently available in regulations, CDFG requests that the Council recommend that these additional management lines be recommended for inclusion in the 2009-10 management specifications.

RECREATIONAL

The use of Point Arena as a management line within the North-Central Management Area was adopted within the range of options for analysis based on the Supplemental CDFG Report (Agenda Item H.5.b) under Agenda Item H.5. Adoption of this line will divide the current north central management region resulting into two smaller areas. This division is intended to create smaller management areas that can be used to manage overfished species impacts without negatively affecting other areas. Revised management areas are as follows:

NORTH-CENTRAL NORTH OF POINT ARENA MANAGEMENT AREA *(40° 10' N lat. to 38° N lat.)*

Seasons: 2 - 9 months open for groundfish fishing
Depth restrictions: 0-20 fm, 0-30 fm, 0-40 fm
Status Quo: 6 months at 0-20 fm (Based on March 2008 inseason changes)

NORTH–CENTRAL SOUTH OF POINT ARENA MANAGEMENT AREA *(38° N lat. to 37° 11' N lat.)*

Seasons: 3 - 9 months open for groundfish fishing
Depth restrictions: 0-20 fm, 0-30 fm, 0-40 fm
Status Quo: 6 months at 0-20 fm (Based on March 2008 inseason changes)

Agenda Item H.7.b
Supplemental ODFW Report 2
April 2008

OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT ON MANAGEMENT MEASURES FOR THE 2009-2010 COMMERCIAL NEARSHORE GROUNDFISH AND LINGCOD FISHERIES

Nearshore

Since 2004, the Oregon Department of Fish and Wildlife (ODFW) has managed the commercial nearshore under a state limited entry program. State management of the fishery is specific to black rockfish and blue rockfish plus 21 species of nearshore fish (which includes vermillion rockfish and tiger rockfish) that live predominately in the Oregon territorial sea. Qualified participants are required to hold a black and blue rockfish limited entry permit and may also hold a nearshore endorsement, which provides for the harvesting of the remaining nearshore species.

The following management measures are utilized for both pre-season and in-season structuring of the fishery:

- Limited entry program
- State harvest guidelines and landings caps
- Daily, weekly, and cumulative period limits
- Length restrictions (e.g., cabezon, greenling, China rockfish, cooper rockfish, grass rockfish, etc.)
- Season duration
- Gear restrictions
- Area closures (RCA boundaries)
- Area or depth restrictions
- Black rockfish areas which have small trip limits
- Mandatory logbooks

There is a responsive in-season management program for the nearshore fishery. Landings are monitored on a weekly basis to determine progression of the fishery and project potential attainment of harvest guidelines or landing caps. Upon approaching a harvest guideline or landing cap, a "soft data" system may be implemented to provide daily monitoring of the fishery. If it is deemed necessary to slow or close the fishery, action may be taken, and rules implemented within 48 hours. ODFW will continue to implement these management measures though state regulations in 2009/2010 in order to ensure that harvest is at or below levels specified in regulation.

Lingcod

For limited entry fixed gear and open access fisheries off Oregon and Washington, ODFW recommends including for analysis allowing retention of lingcod during the months of December, January, and February. Specific trip limits may be determined through analysis by the Groundfish Management Team.

OREGON AND CALIFORNIA DEPARTMENTS OF FISH AND WILDLIFE
JOINT PROPOSAL ON MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

The southern component of black rockfish was first assessed in 2003. For 2004, the Council adopted a 58/42 Oregon/California split of the OY based on recent year landings as proposed by the GMT. This split was also used in adopting biennial harvest guidelines for the two states in 2004-05 and again in 2006-07. The 2007 black rockfish stock assessment also utilized the 58/42 split in determining relative habitat between the two states which was used in conjunction with the Oregon PIT tagging analysis to inform the assessment. The Oregon Department of Fish and Wildlife and California Department of Fish and Game propose the 58/42 sharing arrangement of the black rockfish OY be used again in 2009-10.

PFMC
4/11/08

OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT ON PART II OF MANAGEMENT MEASURES FOR THE 2009-2010 OREGON RECREATIONAL GROUNDFISH FISHERY

The Oregon Department of Fish and Wildlife (ODFW) recommends the suite of management measures adopted for initial public review contained in Agenda Item H.5.b, ODFW Report be forwarded for analysis and public review with the following refinements:

Lingcod

ODFW recommends including an additional lingcod bag limit alternative of 3 lingcod per angler.

Amended Options

Due to changes in discard mortality rates and recreational sharing guidelines developed during this meeting the season structures proposed in the ODFW report under Agenda Item H.5.b were revised and remodeled. ODFW recommends the following season options be forwarded for public review, replacing those adopted under Agenda Item H.5.b. Due to current issues under discussion in the Pacific halibut arena which may affect the amount of allowable harvest in Area 2A; Option 1 was developed, taking into account a reduced halibut season.

Option	Month												Yelloweye * RF (mt)	Canary RF (mt)
	J	F	M	A	M	J	J	A	S	O	N	D		
1	Open all depth						<40 fm	Open all depth					3.2	2.8
2	Open all depth						Open <40 fm						2.6	2.5
										Open all depth				
3	Open all depth						Open <40 fm						2.2	2.3
										Open all depth				
4	Open <30 fm												1.9	2.0
5	CLOSED						Open <25 fm						1.6	1.7
										CLOSED				

Area Closures

ODFW may develop alternatives for Yelloweye Rockfish Conservation Areas (YRCA) in addition to those contained in Agenda Item H.5.b ODFW Report. These YRCAs may be developed through the state public process that will be conducted in the next few months and identified with specific coordinates at the June 2008 Council meeting.

PFMC
04/11/08

GROUNDFISH ADVISORY SUBPANEL COMMENTS ON PART II MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

The Groundfish Advisory Subpanel (GAP) heard a presentation from the Groundfish Management Team (GMT) on various management measures to meet high and low optimum yield (OY) values for overfished species. In addition, the GAP considered supplemental reports from Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), California Department of Fish and Game (CDFG) and the tribes. Lastly the GAP reviewed the WDFW motion as amended during agenda item H.5.c. The GAP comments address all of these areas.

2009-2010 OYs for Overfished Species

GAP Recommendations for Overfished Species

SPECIES	**2009**	**2010**
Bocaccio	288 mt	302 mt
Canary	155 mt	155 mt
Cowcod	4 mt	4 mt
Darkblotched rockfish	300 mt	306 mt
Widow Rockfish	522 mt	506 mt
Yelloweye Rockfish	17 mt	14 mt

The GAP refers the Council to Agenda Item H.1.c., Supplemental GAP report where the GAP explained their rationale for the proposed overfished species OYs listed above. We have some additional comments below.

In general the GAP would like to remind the Council that any liberalizing in OYs on overfished species does not present NEW fishing opportunities. We are looking to reinstate significant lost opportunities and provide flexibility for some existing fisheries. In the last two years some of the commercial and recreational participants have been permanently lost. In the last two years shoreside infrastructure and facilities have been lost. In the last two years ice plants have had to be subsidized in some ports and buyers have stopped buying product because the amounts available are too low.

Increases in overfished species OYs also allow increased EFP opportunities. In recent years the GAP has consistently denied creative and forward thinking EFP applications due to the unknown and potential impacts on overfished species. Increases in overfish species OYs allow the possibility that EFP proposals utilizing new and innovate gear could be pursued.

Increases in overfished species OYs presents opportunities for new and innovative cooperative research and also takes some pressure off traditional research opportunities. In recent years the possibility of a large research tow of canary rockfish could have shut down several fisheries. Research is a critical part of the process and a robust research program must be continued. Higher OYs on overfished species allow existing and new cooperative research programs to take place which ultimately inform the stock assessments necessary to make management decisions.

Yelloweye Ramp Down – new alternatives: the GAP believes that new ramp down strategies on yelloweye should not be included in the analysis. While we understand the dire consequences to communities under the current ramp down strategy, we believe that altering the ramp down strategy now to be more liberal is irresponsible. There is a significant cost to analyzing these new ramp down strategies. Diverting resources from analyzing other critical management measures to spend time on an alternative that is likely to be legally indefensible is nonsensical.

Darkblotched Rockfish

Implementing a 300 mt OY is probably the most important decision to make today. Darkblotched rockfish affects virtually every commercial fishery deeper then 100 fathoms. A 300 mt OY represents a 10% reduction from the 2008 OY. If you restrict the deep water opportunities north of 40˚ 10 you run the risk of an effort shift into more shallow areas where canary and yelloweye impacts would increase. The deeper the RCA boundary the more inefficient your operation becomes. Vessels must travel further using more fuel at an increased cost. Some of the smaller vessels are unable to fish seaward of the RCA and their opportunities are eliminated. Safety concerns also increase the deeper the RCA seaward boundary is set.

Widow Rockfish

The GAP reiterates our recommendation to set the widow rockfish OY at the current SPR harvest rate, which provides a 2009 OY of 522 mt. The health and increasing abundance of the widow stock has been consistently validated over the past several assessment cycles. It is likely the stock will be above B40 before 2009 management measures are implemented. It is clear to the GAP that the widow rockfish resource can easily support the current harvest rate. Given their increasing abundance, it is certain that widow rockfish will be encountered at higher rates in many sectors of the groundfish fishery. Maintaining the current harvest rate will provide flexibility to the Council in balancing widow rockfish impacts in the scorecard. The GMT's analysis indicates that, based on current bycatch rates, the 2009 whiting fishery would be severely curtailed by widow rockfish at an OY of 371 mt. A potential revenue loss of

$19,000,000 dollars in ex-vessel value and a community impact of $57,000,000 dollars. Even a 522 mt OY, which is based on the current harvest rate, will potentially limit the whiting fishery to less then 300,000 mt.

Analysis of Management Measures for 2009-2010

Limited Entry Trawl Fishery

The table below demonstrates the loss of average ex-vessel revenue between the low and high OY options:

Species	Average ex-vessel price in 2007	Difference between high and low OY
Sablefish	$1.48 / pound	$2,769,370.00
Longspine	$0.51 / pound	$96,292.00
Shortspine	$0.71 / pound	$403,728.00
Dover	$0.38 / pound	$7,006,692.00
Arrowtooth	$0.10 / pound	$200,123.00
Petrale	$1.00 / pound	$941,108.00
Other flatfish	$0.35 / pound	$476,725.00
Slope Rock	$0.55 / pound	$67,883.00
Total		$11,961,921.00

The difference in average ex-vessel revenue for the limited entry trawl fishery between the low OY options and the high OY options is just under $11,961,921. Using the community impact multiplier of 3 to 1 the loss to west coast communities under a low OY option is $35,885,763 million dollars.

Fixed Gear Sablefish Fishery

The GAP has concerns over options that would alter the non-trawl RCA creating deeper seaward boundaries from 100 fathoms to 125 or 150 fathoms in order to save yelloweye rockfish. For a small yelloweye savings the following impacts should be considered:

1. The 125 fathom RCA seaward boundary would eliminate the northern fixed gear dogfish fishery.
2. The depth restriction would eliminate significant halibut grounds for the directed halibut fishery off of Oregon currently valued at $4 - $5.00 per pound delivered dressed. The resulting fishery will be very limited in area which will exacerbate gear conflicts, which are already a problem with the 100 fathom line boundary.
3. The deeper RCA seaward boundary will reduce or eliminate the incidental halibut take in the sablefish fishery north of Pt. Chehalis. This amounts to approximately 70,000 pounds with an average value of $315,000.
4. A 125 or 150 fathom RCA boundary will result in the fleet fishing earlier in order to access the sablefish before they move shallower into the RCA. This migration of sablefish tends to take place from winter through summer and is very evident off the Olympic peninsula. This effort shift will have safety ramifications for all vesels but particularly for the DTL fishery which has many small vessels. Fishing sablefish earlier in the season results in fish with less oil and weight at a given length due to spawning. Sablefish traditionally are sold to high end export markets such as Japan that base valuation on oil and prime fish condition. Any departure from present quality standards has the potential to push these buyers away from sablefish. If this happens the effects could devalue the entire west coast sablefish fishery.
5. The deeper depth restriction will reduce other economic values that help make a fishing trip profitable. Currently a vessel can land a 400 pound limit of lingcod per trip, valued at $2.00 a pound. Lingcod and other species will be eliminated or greatly reduced.

Open Access North of 40˚10

The GAP recommends analyzing status quo options with these additions:

1. Analyze moving to 20 fathoms from 30 fathoms to reduce yelloweye mortaility.
2. If option 1 above does not reduce yelloweye mortality adequately, reduce only the minor nearshore component of the bi-monthly limits as much as needed to reduce yelloweye mortality.

The GMT proposal to reduce black rockfish will not reduce yelloweye impacts. Baited hooks on the bottom catch these fish. Boats fishing this gear often use vertical gear to catch black rockfish while "soaking" bait accounting for the yelloweye/black rockfish relationship found in observer data. Reducing black rockfish limits will only cause unnecessary economic harm to the current fishery.

Open Access and Limited Entry Fixed Gear South of 40˚10 - 34˚27

The GAP recommends analyzing status quo options with these additions:

1. Shoreward RCA boundary of 20 fathoms
2. Shoreward RCA boundary of 30 fathoms
3. Shoreward RCA boundary of 40 fathoms

A deeper boundary would allow for access to more valuable shelf rockfish species.

Washington Recreational

The Washington recreational options have been crafted not toward an OY of 17 mt or a harvest guideline of 3mt. They have been crafted for the long-term goal of meeting the 2010 harvest guideline and beyond without the possibility of increase and to provide breathing room in case of mistakes. Reduced salmon opportunity alone will cause loss of revenue to community and business. Any allocative removal of bycatch allowance is penalizing Washington management and fishermen for behaving responsibly. Aside of enforcement concerns with small management hot or cold spots, the GAP believes the Washington management alternatives will achieve those goals.

Oregon Recreational

The GAP supports the management measures described in the ODFW report (Agenda Item H.5.b) ODFW Report. The GAP would like to include analysis of two additional options:

1. Retention of 3 lingcod in the daily bag limit for recreational fisheries – currently the bag limit is 2 fish and Oregon is not attaining the harvest guideline on lingcod.

California Recreational

The GAP supports the CDFG management measures (as amended on the Council floor under Agenda Item H.5) described in Agenda Item H.5.b Supplemental CDFG Report with one addition. The GAP recommends analyzing retention of 3 bocaccio in the daily bag limit.

Council Direction to the GMT

In general we support the Council's guidance to the Team on 2009-2010 management measure analysis under agenda Item H.5. provided in Supplemental WDFW Motion in Writing, Agenda Item H.5.e. as amended.

Conclusion

The GAP believes that taking into account the needs of communities continues to be of paramount concern and we believe that current needs are not being met under status quo harvest levels. Clearly this is the case as we realize the loss of whole fleets from particular communities. These fishermen are not coming back. These communities are permanently losing a major part of their history and culture. Families continue to suffer financially and emotionally. Relief is not only needed it is essential if we truly want to preserve communities and prevent future losses.

PFMC
4/11/08

Agenda Item H.7.c
Supplemental GMT Report
April 2008

GROUNDFISH MANAGEMENT TEAM REPORT ON MANAGEMENT MEASURES FOR 2009-2010 FISHERIES

The Ground Fish Management Team (GMT) reviewed the preliminary preferred optimum yields (OYs) decided by the Council under Agenda Item H.1 and provides new versions of Tables 2-1a and 2-1b reflecting those decisions appended to this report. The GMT notes that the ABC/OY tables used for this decision did not indicate a coastwide OY for lingcod, but rather the OY split at 42° N. lat. which is used to determine state harvest guidelines (HGs). **The GMT would like confirmation that the Council intends to set a coastwide lingcod OY as has been standard practice.**

The GMT recognizes that yelloweye is highly constraining to West Coast groundfish communities and believes the ramp-down strategy is necessary to provide time to collect much-needed additional data, develop new management measures, and mitigate the immediate and drastic adverse impacts to fishing communities. The status quo ramp-down strategy took a significant amount of analysis in the Amendment 16-4 process and the GMT is concerned that the requisite socioeconomic and biological analysis that will be needed for a June decision on revised ramp-down strategies will detract from the quality of analyses of management measures adopted under Agenda Item H.5 and those contemplated under this agenda item. The GMT recognizes the significant adverse socioeconomic impacts associated with any of the ramp-down strategies and, while a less aggressive ramp-down strategy may provide some short term relief, preliminary analysis shows the end result will require lower harvest levels after the ramp down is complete.

To aid the Council's decision on preferred OY alternatives for all the overfished groundfish, the GMT adopted the same methodology as was done in Amendment 16-4 by analyzing a suite of OY alternatives for both rebuilding and target species. As part of the Amendment 16-4 process, the Council considered various suites of rebuilding species OYs in order to show the tradeoffs associated with different rebuilding strategies. These OYs were combined into overall programs, or suites of rebuilding options intended to illustrate the combined, interactive effect of rebuilding species OYs in concert. These options are illustrated below using a combination of 2009 OY alternatives.

INTEGRATED ANALYSIS OF OVERFISHED SPECIES FOR 2009-2010 FISHERIES

TABLE 1. Range of Overfished Species Optimal Yields, by Area and Species.

		Shelf to Slope Impacts				
		Higher-Lower	Lower-Higher	Lower-Lower	Higher-Higher	Mixed
Area	**Species**	**Option 1 (mt)**	**Option 2 (mt)**	**Option 3 (mt)**	**Option 4 (mt)**	**Option 5 a/b (mt)**
Northern Shelf	Canary	155	44	35	155	85 or 105
	Yelloweye	20	14	14	20	17
Southern Shelf	Bocaccio	288	218	218	288	218
	Cowcod	4	2	2	4	2
Slope	POP	130	189	130	189	164
	Darkblotched	159	300	159	300	300
Pelagic	Widow	522	371	371	522	371 or 522
Note: Options 5a and 5b vary widow and canary in concert						

Summary of Options Provided in Table 1

- Option 1 is intended to show the effect of providing relatively more opportunity on the shelf and in midwater fisheries and relatively less opportunity on the slope.
- Option 2 is intended to show the effect of providing relatively more opportunity on the slope and relatively less opportunity on the shelf and in midwater fisheries.
- Option 3 is intended to show the effect of being relatively restrictive on the shelf, slope, and in midwater fisheries.
- Option 4 is intended to show the effect of providing relatively more opportunity along the shelf and slope and in midwater fisheries.
- Option 5 is intended to show further trade-offs between rebuilding OYs that may not be captured by Options 1 through 4.

Summary of Integrated Impacts

Effects on Rebuilding Species

Appendix A includes tables of rebuilding OYs and reference points. In summary:

- Darkblotched: The OYs of darkblotched rockfish vary within the options between 159 and 300 mt. Under the 159 mt OY, the T_{target} is equal to 2022 which is 4 years longer than under the no fishing scenario. Under the 300 mt OY, the T_{target} is equal to 2030, which is 12 years longer than under the no fishing scenario
- Canary: The canary rockfish OYs vary in the options between 35 mt and 155 mt, with values that are intermediate. Under the 35 mt OY, the T_{target} is equal to 2020, which is 1 year longer than under the no fishing scenario. Under the highest OY

of 155 mt the T_{target} is equal to 2021. Alternatives less than 155 mt result in a T_{target} of 2020.

- Cowcod: The OYs of cowcod vary between 2 and 4 mt. Under a 2 mt OY, the T_{target} is 2065, or four years later than under no fishing. With a 4 mt OY, the T_{target} is 2072, or 11 years longer than under no fishing.
- Widow rockfish: The OYs of widow vary between 371 and 522 mt under the GMT options. OYs of 371 or 522 mt result in the same T_{target} of 2009, which is no different than under no fishing.
- Pacific Ocean perch: The OYs of POP vary between 130 and 189 mt in the GMT options. The T_{target} is 2010 under the 130 mt option which is the same as under no fishing. The T_{target} is 2011 under the 189 mt option, which is 1 year longer than the year under no fishing.
- Bocaccio: The OYs of bocaccio vary between 218 and 288 mt. The T_{target} under a 218 mt OY is 2022, while the T_{target} under 288 mt is 2023. These OYs are 2 and 3 years longer, respectively, than under no fishing respectively.
- Yelloweye rockfish: The OYs of yelloweye vary between 14 and 20 mt. Furthermore, the ramp down is adjusted to either A) hold the Median Year to Rebuild equivalent to that which is specified in the FMP, or B) ramp down to the same harvest rate originally specified. The implication is that the ramp down either dips lower than originally expected (to maintain the same median year to rebuild), or extends the median year to rebuild to a date later than in the rebuilding plan.

Washington, Oregon, and California Recreational Fisheries

In all options, yelloweye rockfish is the constraining species for recreational fisheries. Recreational fisheries south of approximately San Francisco may be the exception. Management measures taken to reduce yelloweye rockfish catch in the recreational fisheries include reductions in season length, depth closures, bag limits, and yelloweye rockfish conservation areas (YRCAs).

Open Access Nearshore Commercial Groundfish Fishery

As in the recreational fisheries, the nearshore commercial fishery is primarily constrained by yelloweye rockfish. Depth restrictions of 20 fm north of 40°10' N lat., in conjunction with an approximate 30% reduction in catch, would provide yelloweye savings of 0.5 mt. Changes south of 40°10' N lat. will not have any appreciable yelloweye savings because impacts are negligible in that area. West Coast Groundfish Observer Program (WCGOP) data indicates that yelloweye impacts are relatively high in the area between Cape Mendocino (40°10' N. lat.) and Cape Blanco (43° N. lat.). Area specific management measures could possibly be implemented in that area to restrict yelloweye impacts. Management measures could include closing the area for all or part of the year between the Cape Blanco (43° N. lat.) and the Oregon border (42° N. lat.), closing the area between the California/Oregon Border (42° N. lat.) and Cape Mendocino (40°10' N. lat.), or closing both areas (43° N lat. to 40°10' N. lat.). Reductions in overall trip limits can reduce fishery activity in the aggregate, while closures of areas with relatively high encounters of yelloweye may maintain the aggregate catch level while adversely impacting select communities adjacent to those closures.

For 2008 inseason, the GMT is investigating canary and yelloweye rockfish bycatch rates in the open access nearshore commercial fishery on a finer spatial scale. **The GMT recommends, that the Council forward for the analysis any potential management lines for use of routine inseason management that are discovered in the next few weeks for the 2009/2010 for analyses.**

Slope Fixed Gear Commercial Groundfish Fisheries

In all options, yelloweye rockfish is the primary species that constrains opportunities in this fishery. Reductions in fixed gear catch of yelloweye rockfish can be achieved by moving the seaward boundary of the fixed gear RCA north of 40°10 N. Lat. to depths deeper than 100 fm. For the limited entry fixed gear fleet, yelloweye rockfish catch reductions can also be achieved by allowing longline vessels to use pot gear; an option that was recommended by the Council for 2009-2010 analysis. However, it is unknown how many longline vessels will switch gear, and therefore it is unknown how much bycatch will be reduced. If both gear switching and differential pot and longline trip limits are regulated then effort shifts could be greater, which could provide for decreased yelloweye impacts. The following table illustrates the impacts of overfished species associated with the Council preferred sablefish OY. Varying impacts are shown according to shifts in the RCA boundary and assumed percentages of gear switching.

Table 2. Limited Entry Fixed Gear and Open Access Sablefish Impacts on Overfished Species, Including Distribution of Catch by Gear, Depth, and Area.

	Council Set OY			**Percent of Longline to Pots 100 fm North & 150 fm South**		
Sablefish 2009 LE & OA	**100 fm North: 150 fm South[1]**	**125 fm North: 150 fm South[2]**	**150 fm North: 150 fm South[3]**	**20%**	**35%**	**50%**
Total catch OY (mt)	7,052	7,052	7,052	7,052	7,052	7,052
Landed Catch (mt)	2,955	2,955	2,955	2,955	2,955	2,955
Projected bycatch impacts (mt)						
Canary rockfish	0.33	0.09	0.09	0.26	0.22	0.17
Widow rockfish	0.41	0.22	0.00	0.32	0.26	0.20
Yelloweye rockfish	1.13	0.69	0.29	0.91	0.74	0.57
Bocaccio rockfish	0.00	0.00	0.00	0.00	0.00	0.00
Cowcod rockfish	0.00	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	0.30	0.18	0.15	0.24	0.19	0.15
Darkblotched rockfish	0.80	0.86	0.93	0.71	0.65	0.59

Non-Whiting Trawl Fisheries

The overfished species options impact the non-whiting trawl fishery in a number of ways. In all cases, yelloweye, cowcod, and darkblotched rockfish are the principal constraints to trawl fishing activity. Yelloweye constrains harvest activity more so than canary; darkblotched rockfish constrains harvest opportunity more so than POP; and cowcod constrains harvest activity more so than bocaccio. Constraints due to the lowest yelloweye rockfish OY in the overfished species options result in a near total closure of trawling activity in the north in areas shoreward of the RCA. Under the highest yelloweye OY option, trawl fishing activity in the north shoreward of the RCA resembles the fishery at the start of 2007. The moderate yelloweye OY results in more moderate RCA restrictions.

A reduction in the cowcod impacts result in more restrictive shoreward RCA boundaries in the south compared to status quo. Depending upon the option, a 75 fm restriction is in place for periods 3 and 4 compared to status quo where a 100 fm shoreward RCA boundary is in place for the entire year.

The GMT notes that because of the revised stock assessment and rebuilding analysis, the reconsideration of the darkblotched OY presents a new tradeoff between rebuilding time and needs of fishing communities. Trawl fishery opportunities are heavily influenced by the darkblotched OY. Darkblotched has a direct effect on the most valuable target species caught with trawl gear including sablefish, petrale sole, Dover sole, and thornyheads. As modeled, a reduction in the darkblotched OY results in less trawl activity seaward of the RCA in the north. More restrictive RCA boundaries are put in place alongside more restrictive cumulative limits. The more restrictive RCA boundaries (250 fm) are expected to have a distinct geographic effect by limiting opportunities for vessels off central and northern Oregon and Washington more so than vessels off southern Oregon and northern California. This is because target species are less available at deeper depths as one moves north. A reduction in the darkblotched OY can result in a fairly dramatic shift in trawl opportunity for dover-thornyhead-sablefish (DTS) species complex from north to south. This is because darkblotched are found in the north and attaining target species OYs requires a large increase in DTS limits in the south.

Limited Entry Trawl Fishery for Pacific Whiting

The Pacific whiting fishery is limited by widow rockfish in all rebuilding species options. This is based on an extension of the linear trend analysis for predicting widow bycatch that the GMT has been using since the start of 2007. Data used to inform this analysis is through 2007, and therefore, the trend is predicting bycatch two years into the future. This creates some substantial uncertainty, so the estimates are best treated as order of magnitude estimates. The implications of this approach means that a widow rockfish OY of 371 mt may limit the whiting fishery to a U.S. OY of slightly under 200,000 mt, while a widow rockfish OY of 522 mt may limit the whiting fishery to a U.S. OY of slightly under 300,000 mt.

TABLE 3. Overfished Species Impacts within a Range of Pacific Whiting OY

US OY (mt)	Sector	Sector Allocation (mt)	Canary	Drkb	POP	Widow	Yelloweye
280,770	Tribal	35,000	1.1	0.0	0.5	2.7	-
	Mothership	58,505	2.2	6.6	1.2	128.7	0.0
	CP	82,882	0.3	6.5	1.2	157.5	0.0
	Shoreside	102,384	1.7	3.1	0.4	163.8	0.0
	Total	**278,770**	**5.3**	**16.2**	**3.3**	**452.7**	**0.0**
192,014	Tribal	27,500	0.8	0.0	0.4	2.1	-
	Mothership	39,003	1.5	4.4	0.8	85.8	0.0
	CP	55,255	0.2	4.3	0.8	105.0	0.0
	Shoreside	68,256	1.1	2.0	0.2	109.2	0.0
	Total	**190,014**	**3.6**	**10.8**	**2.3**	**302.1**	**0.0**

Tribal Fisheries

The coastal treaty tribes provided a report to the Council (Agenda Item H.5.b, Supplemental Tribal Report) that describes their proposed management measures for 2009-2010. Similar to 2007-2008, these management measures are designed to provide for treaty tribal fisheries while minimizing impacts to overfished species. The GMT will analyze the impacts of these management measures in the 2009-2010 SEIS.

Option 1

Opportunities under Option 1 result in fixed gear fisheries and shoreward trawl fisheries that are similar to status quo. Trawl opportunities for several of the most economically valuable species groups (e.g., sablefish and petrale sole) are restricted under this option. For Washington and California, recreational fisheries are similar to status quo. However, in Oregon reductions to catch in the Pacific halibut fishery are necessary to reduce yelloweye impacts.

Option 1.

Projected Mortality by Sector	Bocaccio	Canary	Cowcod	Drk	POP	Widow	Yelloweye
LE Trawl- Non-Whiting	9.7	23.5	1.1	117.9	36.1	5.2	0.8
LE Trawl- Whiting		4.2		16.2	2.8	450.0	
Total OA: Directed	4.2	3.3	0.1	0.2	0.1	0.7	2.2
Sablefish DTL		0.1		0.2	0.1	0.1	0.3
Nearshore (N of 40 10)		1.7	0.1			0.6	1.8
Nearshore (S of 40 10)	0.1	1.5				0.0	0.0
Other	4.1						0.1
LE Fixed Gear	13.4	1.4	0.1	1.2	0.3	0.9	1.7
Rec: WA projected impacts		1.2					2.5
Rec: WA harvest guideline							
Rec: OR projected impacts		2.8					3.2
Rec: OR harvest guideline							
Rec: CA projected impacts	53.3	8.0	0.1			6.5	2.1
Rec: CA harvest guideline	87.6	31.7	0.3			11.3	2.1
Sub-Total (excludes HGs)	80.6	44.4	1.4	135.5	39.3	463.2	12.5
NON-CHANGEABLES							
LE Trawl- Tribal Whiting		1.1			0.5	2.7	0.0
Tribal		3.4			3.7	40.0	2.3
OA: Incidental	1.3	2.2				0.4	0.6
Research	3.0	7.3	0.2	3.0	3.0	3.0	3.0
EFP		0.4	0.2				0.1
Sub-Total	4.3	14.4	0.4	3.0	7.2	46.1	6.0
Grand Total	84.9	58.8	1.8	138.5	46.5	509.3	18.5
OY	288	155	4	159	130	522	20

Washington Recreational

Washington recreational fishery measures do not require a departure from status quo (2008 management measures) in order to stay within the Council specified catch-sharing arrangements for yelloweye rockfish under Option 1.

Oregon Recreational

Option 1 assumes there is a reduction in the recreational halibut catch limit. This reduction comes either as a result of reduced halibut OY per the stock assessment, or limitations on access to the available OY. Shore based fisheries targeting or incidentally encountering groundfish are allowed year round. Depth closures (seaward of 40-fathoms), compared to status quo, occur only during one month. Marine and flatfish bag limits are status quo, though the lingcod bag limit increases from 2 to 3 fish. The status quo Stonewall Bank RCA remains in place. Restrictions on groundfish retention in the all-depth halibut fishery are status quo.

Season

Month													Yelloweye RF (mt)	Canary RF (mt)
J	F	M	A	M	J	J	A	S	O	N	D			
Open all depth						<40 fm	Open all depth						3.2	2.8

California Recreational Fisheries

The California Department of Fish and Game (CDFG) is proposing a range of management measures for its recreational fisheries in 2009 and 2010 and is exploring which measures may be necessary to meet the constraints of the high and low yelloweye and cowcod OYs. The North and North Central North of Pt. Arena Management Areas are reduced by 4 months and 3 months respectively, relative to their status quo pre 2007

season length. This, in addition to 5 yelloweye rockfish conservation areas, shallower depth restrictions and bag limits, were necessary in all options analyzed in order to reduce the catch of yelloweye rockfish given the low share of the OY apportioned under the current initial catch sharing of the recreational harvest guideline.

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	---	Open <20fm			---	---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm			---	---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm						---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 60fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

(All other regulations are as described in Appendix B)

Limited Entry Non-Whiting Trawl Fishery

Limited entry trawl measures under Option 1 use a 75 fm and 100 fm shoreward RCA in the north. Seaward boundaries are set to 250 fm north of 40°10' N. lat. and to 200 fm between 40°10' N. lat and 38° N. lat. RCA boundaries south of 38° N. lat. are unaffected. Trip limits are set at levels shown in the following table.

OPTION: 1

SUBAREA	BIMO	INLINE	OUTLINE	SABLE	LONGSP	SHORTSP	DOVER	OTR FLAT	PETRALE	ARRWTTH	SLP RK
NORTH	1	75	200*	15,000	8,000	8,000	50,000	90,000	50,000	90,000	1,500
LARGE	2	75	250	15,000	8,000	8,000	50,000	90,000	30,000	90,000	1,500
FOOTROP	3	75	250	15,000	8,000	8,000	50,000	90,000	30,000	90,000	1,500
	4	100	250	15,000	8,000	8,000	50,000	90,000	30,000	90,000	1,500
	5	75	250	15,000	8,000	8,000	50,000	90,000	30,000	90,000	1,500
	6	75	200*	15,000	8,000	8,000	50,000	90,000	50,000	90,000	1,500
NORTH	1	75	200*	5,000	3,000	3,000	40,000	90,000	16,000	90,000	1,500
SFFT	2	75	250	8,000	3,000	3,000	40,000	90,000	25,000	90,000	1,500
	3	75	250	8,000	3,000	3,000	40,000	90,000	25,000	90,000	1,500
	4	100	250	8,000	3,000	3,000	40,000	90,000	25,000	90,000	1,500
	5	75	250	8,000	3,000	3,000	40,000	90,000	25,000	90,000	1,500
	6	75	200*	5,000	3,000	3,000	40,000	90,000	16,000	90,000	1,500
38 - 40 10	1	100	200*	15,000	8,000	8,000	50,000	90,000	50,000	10,000	15,000
	2	100	200	15,000	8,000	8,000	50,000	90,000	30,000	10,000	15,000
	3	100	200	15,000	8,000	8,000	50,000	90,000	30,000	10,000	15,000
	4	100	200	15,000	8,000	8,000	50,000	90,000	30,000	10,000	10,000
	5	100	200	15,000	8,000	8,000	50,000	90,000	30,000	10,000	10,000
	6	100	200*	15,000	8,000	8,000	50,000	90,000	50,000	10,000	15,000
SOUTH 38	1	100	150	15,000	8,000	8,000	50,000	90,000	50,000	10,000	40,000
	2	100	150	15,000	8,000	8,000	50,000	90,000	30,000	10,000	40,000
	3	100	150	15,000	8,000	8,000	50,000	90,000	30,000	10,000	40,000
	4	100	150	15,000	8,000	8,000	50,000	90,000	30,000	10,000	40,000
	5	100	150	15,000	8,000	8,000	50,000	90,000	30,000	10,000	40,000
	6	100	150	15,000	8,000	8,000	50,000	90,000	50,000	10,000	40,000

splitnose limits equal to slope rock
set chilipepper limits with small footrope to 5,000 lbs in the south

Open Access Nearshore Fishery

The open access nearshore model will be constrained by the amount of yelloweye under this option. Under a 20 mt OY, yelloweye impacts are 1.8 mt. No additional opportunities could be provided without further impacting yelloweye.

Limited Entry Trawl Fishery for Pacific Whiting

The amount of Pacific whiting accessed under this option assumes that bycatch limits for widow rockfish are set at levels that do not affect other fisheries. The widow OY under this option is expected to result in an overall catch of Pacific whiting that is slightly less than 300,000 mt, but greater than status quo (2008 OY).

Option 2

Opportunities under Option 2 tend to restrict hook and line and midwater fisheries. Recreational fisheries, the fixed gear sablefish fishery, and the nearshore commercial groundfish fishery are restricted because of yelloweye. Measures to reduce impacts include additional YRCAs, more restrictive recreational RCAs, and reductions in bag limits. Trawl fisheries are heavily restricted on the shelf, with regionally based closures. Slope opportunities in the trawl fishery are similar to status quo with near full attainment of sablefish and petrale sole OYs. The Pacific whiting fishery is limited to a whiting catch that is less than 200,000 mt.

Option 2.

Projected Mortality by Sector	Bocaccio	Canary	Cowcod	Drk	POP	Widow	Yelloweye
LE Trawl- Non-Whiting	11.1	4.7	1.1	243.9	94.2	7.3	0.1
LE Trawl- Whiting		2.8		10.7	1.8	300.0	
Total OA: Directed	4.2	2.0	0.1	0.2	0.0	0.5	1.4
Sablefish DTL		0.0		0.2	0.0	0.1	0.2
Nearshore (N of 40 10)		1.0	0.1			0.4	1.1
Nearshore (S of 40 10)	0.1	1.0				0.0	0.0
Other	4.1						0.1
LE Fixed Gear	13.4	1.1	0.1	1.3	0.2	0.3	1.0
Rec: WA projected impacts		0.7					1.9
Rec: WA harvest guideline							
Rec: OR projected impacts		2.0					1.9
Rec: OR harvest guideline							
Rec: CA projected impacts	27.5	7.4	0.0			3.8	1.2
Rec: CA harvest guideline	66.3	9.0	0.2			8.1	1.2
Sub-Total (excludes HGs)	56.1	20.7	1.3	256.1	96.2	311.9	7.6
NON-CHANGEABLES							
LE Trawl- Tribal Whiting		0.8			0.4	2.1	0.0
Tribal		3.4			3.7	40.0	2.3
OA: Incidental	1.3	2.2				0.4	0.6
Research	3.0	7.3	0.2	3.0	3.0	3.0	3.0
EFP		0.4	0.2				0.1
Sub-Total	4.3	14.1	0.4	3.0	7.1	45.5	6.0
Grand Total	60.4	34.8	1.7	259.1	103.3	357.4	13.6
OY	218	44	2	300	189	371	14

Washington Recreational

The Washington recreational fishery portion of the shared harvest guideline for yelloweye rockfish under this option is 2.0 mt. Depth restriction periods would be extended and additional restrictions to lingcod retention from status quo would be implemented to meet the yelloweye harvest guidelines under Option 2. Status quo RCAs, bag limits, and length limits would remain in place. (Specific management measures under this option are described in Option 1 in the WDFW Report, Agenda Item H.5.b, April 2008).

Oregon Recreational

Option 2 includes shorebased fisheries targeting or incidentally encountering groundfish year round, and the ocean boat fishery is limited to depths shoreward of 30 fm. The marine fish daily bag limit is 9 fish, but other bag and length limits remain status quo. The status quo Stonewall Bank YRCA remains in place. Restrictions on groundfish retention in the all-depth halibut fishery are status quo. (Specific management measures under this option are described in Option 1 in the ODFW Report, Agenda Item H.5.b, April 2008).

Season

Month												Yelloweye RF (mt)	Canary RF (mt)
J	F	M	A	M	J	J	A	S	O	N	D		
Open <30 fm												1.9	2.0

California Recreational

Under these OY options, the season length for the Northern and North-Central North of Pt. Arena Management areas are reduced by 1 month, and North-Central South of Pt. Arena Management Areas season is reduced by two months to prevent the catch of yelloweye rockfish from exceeding the harvest guideline. In this option, cowcod OY would be 2 mt and the California recreational HG for cowcod would be reduced to 0.15 mt. The RecFISH model has projected the Cowcod catch to be 0.1 mt in 2007 under the status quo 60 fm depth restriction, but the average catch in 2005, 2006 and 2007 is 0.2 mt, which would exceed the harvest guideline under this option. Thus, with the 0.15 mt HG under the 2 mt OY, actions may need to be taken to reduce the depth restriction to 50 or 40 fms to bring the cowcod catch below the harvest guideline. The fishery has remained below the current 0.3 mt HG under the 4 mt OY in 2005, 2006 and 2007.

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	---	Open <20fm		---	---	---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm		---	---	---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm				---	---	---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 40fm									

NOTES AND KEY:

RCG = Rockfish, cabezon, greenlings

--- = Closed to boat-based fishing for RCG

In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

(All other regulations are as described in Appendix B)

Limited Entry Non-Whiting Trawl Fishery

Opportunities for non-whiting trawl activity is heavily restricted in the northern shoreward areas compared to status quo. Under this option, areas shoreward of the trawl RCA in the north are closed for all months except for period 4. The shoreward RCA boundary in the south is set to 75 fm in periods 1, 2, and 6. Seaward opportunities north and south are similar to status quo. Trip limits are shown in the following table.

OPTION: 2

SUBAREA	BIMO	INLINE	OUTLINE	SABLE	LONGSP	SHORTSP	DOVER	OTR FLAT	PETRALE	ARRWTTH	SLP RK
NORTH	1	0	200*	20,000	22,000	14,000	90,000	110,000	115,000	150,000	4,000
LARGE	2	0	200	20,000	22,000	14,000	90,000	110,000	50,000	150,000	4,000
FOOTROP	3	0	150 WA/	20,000	22,000	14,000	90,000	110,000	30,000	150,000	4,000
	4	75	200 OR	20,000	22,000	14,000	90,000	110,000	30,000	150,000	4,000
	5	0	200	20,000	22,000	14,000	90,000	110,000	50,000	150,000	4,000
	6	0	200*	20,000	22,000	14,000	90,000	110,000	115,000	150,000	4,000
NORTH	1	0	200*								
SFFT	2	0	200								
	3	0	150 WA/								
	4	75	200 OR	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	5	0	200								
	6	0	200*								
38 - 40 10	1	75	150	20,000	22,000	14,000	90,000	110,000	115,000	10,000	15,000
	2	75	150	20,000	22,000	14,000	90,000	110,000	50,000	10,000	15,000
	3	100	150	20,000	22,000	14,000	90,000	110,000	30,000	10,000	15,000
	4	100	150	20,000	22,000	14,000	90,000	110,000	30,000	10,000	10,000
	5	100	150	20,000	22,000	14,000	90,000	110,000	50,000	10,000	10,000
	6	75	150	20,000	22,000	14,000	90,000	110,000	115,000	10,000	15,000
SOUTH 38	1	75	150	20,000	22,000	14,000	90,000	110,000	115,000	10,000	40,000
	2	75	150	20,000	22,000	14,000	90,000	110,000	50,000	10,000	40,000
	3	100	150	20,000	22,000	14,000	90,000	110,000	30,000	10,000	40,000
	4	100	150	20,000	22,000	14,000	90,000	110,000	30,000	10,000	40,000
	5	75	150	20,000	22,000	14,000	90,000	110,000	50,000	10,000	40,000
	6	75	150	20,000	22,000	14,000	90,000	110,000	115,000	10,000	40,000

splitnose limits equal to slope rock
vessels using selective flatfish gear in the north in periods 1, 2, 3, 5, and 6 are not held to a lower limit

Open Access Nearshore Fishery

This option is driven by the low amount of yelloweye available to the open access nearshore fishery. Depth restrictions of 20 fm north of 40°10' N lat. would be required as well as an approximate 30% reduction in catch to stay within the amount of yelloweye available to this fishery.

Limited Entry Trawl Fishery for Pacific Whiting

Assuming bycatch limits for widow rockfish are set in a manner that do not affect other fisheries, the amount of widow rockfish OY in this option restricts whiting harvests to less than 200,000 mt, which is less than status quo (2008).

Option 3

Option 3 results in restrictions to all fisheries except perhaps pot fisheries, but only if differential regulations are adopted that redistribute effort between longline and pot fisheries. Recreational, commercial hook and line, bottom trawl, and Pacific whiting fisheries all are more heavily restricted than under status quo. Several fisheries experience relatively large reductions in opportunity (recreational, nearshore commercial, and bottom trawl) with adverse impacts that are more concentrated in areas north of San Francisco.

Option 3.

Projected Mortality by Sector	Bocaccio	Canary	Cowcod	Dark	POP	Widow	Yelloweye
LE Trawl- Non-Whiting	10.1	4.6	1.0	131.0	32.0	7.9	0.1
LE Trawl- Whiting		2.8		10.7	1.8	300.0	
Total OA: Directed	4.2	2.0	0.1	0.2	0.0	0.5	1.4
Sablefish DTL		0.0		0.2	0.0	0.1	0.2
Nearshore (N of 40 10)		1.0	0.1			0.4	1.1
Nearshore (S of 40 10)	0.1	1.0				0.0	
Other	4.1						0.1
LE Fixed Gear	13.4	1.1	0.1	1.3	0.2	0.3	1.0
Rec: WA projected impacts		0.7					1.9
Rec: WA harvest guideline							
Rec: OR projected impacts		2.0					1.9
Rec: OR harvest guideline							
Rec: CA projected impacts	27.5	7.4	0.0			3.8	1.2
Rec: CA harvest guideline	66.3	9.0	0.2			8.1	1.2
Sub-Total (excludes HGs)	55.1	20.6	1.2	143.2	34.0	312.4	7.5
NON-CHANGEABLES							
LE Trawl- Tribal Whiting		0.8			0.4	2.1	0.0
Tribal		3.4			3.7	40.0	2.3
OA: Incidental	1.3	2.2				0.4	0.6
Research	3.0	7.3	0.2	3.0	3.0	3.0	3.0
EFP		0.4	0.2				0.1
Sub-Total	4.3	14.1	0.4	3.0	7.1	45.5	6.0
Grand Total	59.4	34.7	1.6	146.2	41.1	357.9	13.5
OY	218	44	2	300	189	371	14

Washington Recreational

The Washington recreational fishery portion of the shared harvest guideline for yelloweye rockfish under this option is 2.0 mt. Depth restriction periods would be extended and additional restrictions to lingcod retention from status quo would be implemented to meet the yelloweye harvest guidelines under Option 3. Status quo RCA's, bag limits and length limits would remain in place. (Specific management measures for this option correspond to Option 1 in the WDFW Report Agenda Item H.5.b)

Oregon Recreational

Option 3 includes shorebased fisheries targeting or incidentally encountering groundfish year round, and the ocean boat fishery is limited to depths shoreward of 30 fm. The marine fish daily bag limit is 9 fish, but other bag and length limits remain status quo. The status quo Stonewall Bank YRCA remains in place. Restrictions on groundfish retention in the all-depth halibut fishery are status quo.

Season

Month												Yelloweye RF (mt)	Canary RF (mt)
J	F	M	A	M	J	J	A	S	O	N	D		
Open <30 fm												1.9	2.0

California Recreational

Same as in Option 2.

Limited Entry Non-Whiting Trawl Fishery

The non-whiting trawl fishery under Option 3 is closed in areas shoreward of the trawl RCA in the north for all months except for period 4. The shoreward RCA boundary in the south is set to 75 fm in periods 1, 2, and 6. Seaward boundaries are set to 250 fm north of 40°10' N. lat. and to 200 fm between 40°10' N. lat. and 38° N. lat. Trip limits are set at levels shown in the following table.

OPTION: 3

SUBAREA	BIMO	INLINE	OUTLINE	SABLE	LONGSP	SHORTSP	DOVER	OTR FLAT	PETRALE	ARRWTTH	SLP RK
NORTH	1	0	200*	11,000	6,000	5,000	30,000	110,000	50,000	50,000	1,500
LARGE	2	0	250	11,000	6,000	5,000	30,000	110,000	30,000	50,000	1,500
FOOTROP	3	0	250	11,000	6,000	5,000	30,000	110,000	30,000	50,000	1,500
	4	75	250	11,000	6,000	5,000	30,000	110,000	30,000	50,000	1,500
	5	0	250	11,000	6,000	5,000	30,000	110,000	30,000	50,000	1,500
	6	0	200*	11,000	6,000	5,000	30,000	110,000	50,000	50,000	1,500
NORTH	1	0	200*								
SFFT	2	0	250								
	3	0	250								
	4	75	250	5,000	3,000	3,000	25,000	50,000	16,000	50,000	1,500
	5	0	250								
	6	0	200*								
38 - 40 10	1	75	200*	30,000	30,000	30,000	100,000	110,000	70,000	10,000	15,000
	2	100	200	30,000	30,000	30,000	100,000	110,000	30,000	10,000	15,000
	3	100	200	30,000	30,000	30,000	100,000	110,000	30,000	10,000	15,000
	4	100	200	30,000	30,000	30,000	100,000	110,000	30,000	10,000	10,000
	5	75	200	30,000	30,000	30,000	100,000	110,000	30,000	10,000	10,000
	6	75	200*	30,000	30,000	30,000	100,000	110,000	70,000	10,000	15,000
SOUTH 38	1	75	150	30,000	30,000	30,000	100,000	110,000	70,000	10,000	40,000
	2	100	150	30,000	30,000	30,000	100,000	110,000	30,000	10,000	40,000
	3	100	150	30,000	30,000	30,000	100,000	110,000	30,000	10,000	40,000
	4	100	150	30,000	30,000	30,000	100,000	110,000	30,000	10,000	40,000
	5	75	150	30,000	30,000	30,000	100,000	110,000	30,000	10,000	40,000
	6	75	150	30,000	30,000	30,000	100,000	110,000	70,000	10,000	40,000

splitnose limits equal to slope rock
vessels using selective flatfish gear in the north in periods 1, 2, 3, 5, and 6 are not held to a lower limit

Open Access Nearshore Fishery

This option is similar to Option 2, and the low amount of yelloweye available to this fishery would require the same depth restrictions and decreases in catch.

Limited Entry Trawl Fishery for Pacific Whiting

The amount of whiting expected to be harvested under Option 3 is equivalent to that under Option 2. Less than 200,000 mt of whiting are expected to be harvested under this option, which is less than status quo (2008).

Option 4

Option 4 results in a combined suite of measures that are less restrictive than other options. Combined opportunities are greatest under this option, fixed gear fisheries that are similar to status quo, trawl fisheries that are similar to status quo on the slope and similar to the start of 2007 on the shelf, and Pacific whiting fisheries that have the ability to harvest slightly more whiting than under status quo. For Washington and California, recreational fisheries are similar to status quo. However, in Oregon reductions to the Pacific halibut fishery are necessary to reduce yelloweye impacts.

Option 4.

Projected Mortality by Sector	Bocaccio	Canary	Cowcod	Drk	POP	Widow	Yelloweye
LE Trawl- Non-Whiting	12.3	24.5	1.3	235.2	88.0	8.2	0.9
LE Trawl- Whiting		4.2		16.2	2.8	450.0	
Total OA: Directed	4.2	3.3	0.1	0.2	0.1	0.7	2.2
Sablefish DTL		0.1		0.2	0.1	0.1	0.3
Nearshore (N of 40 10)		1.7	0.1			0.6	1.8
Nearshore (S of 40 10)	0.1	1.5				0.0	
Other	4.1						0.1
LE Fixed Gear	13.4	1.4	0.1	1.2	0.3	0.9	1.7
Rec: WA projected impacts		1.2					2.5
Rec: WA harvest guideline							
Rec: OR projected impacts		2.8					3.2
Rec: OR harvest guideline							
Rec: CA projected impacts	53.3	8.0	0.1			6.5	2.1
Rec: CA harvest guideline	87.6	31.7	0.3			11.3	2.1
Sub-Total (excludes HGs)	83.1	45.4	1.6	252.8	91.2	466.2	12.5
NON-CHANGEABLES							
LE Trawl- Tribal Whiting		1.1			0.5	2.7	0.0
Tribal		3.4			3.7	40.0	2.3
OA: Incidental	1.3	2.2				0.4	0.6
Research	3.0	7.3	0.2	3.0	3.0	3.0	3.0
EFP		0.4	0.2				0.1
Sub-Total	4.3	14.4	0.4	3.0	7.2	46.1	6.0
Grand Total	87.4	59.8	2.0	255.8	98.4	512.3	18.5
OY	288	155	4	300	189	522	20

Washington Recreational

Washington recreational fishery measures do not require a departure from status quo (2008 management measures) in order to stay within the Council specified catch-sharing arrangements for yelloweye rockfish under Option 4.

Oregon Recreational

Option 4 assumes there is a reduction in the recreational halibut catch limit. This reduction comes either as a result of reduced halibut OY as per the stock assessment or limitations on access to the available OY. Shorebased fisheries targeting or incidentally encountering groundfish are allowed year round. Depth closures (seaward of 40-fathoms), compared to status quo, occur only during one month. Marine and flatfish bag limits are status quo, though the lingcod bag limit increases from 2 to 3 fish. The status quo Stonewall Bank RCA remains in place. Restrictions on groundfish retention in the all-depth halibut fishery are status quo.

Season

Month													Yelloweye RF (mt)	Canary RF (mt)
J	F	M	A	M	J	J	A	S	O	N	D			
Open all depth						<40 fm	Open all depth						3.2	2.8

California Recreational

Same as in Option 1.

Limited Entry Non-Whiting Trawl Fishery

Opportunities for non-whiting trawl fisheries include the use of 75 fm and 100 fm shoreward RCA in the north. Seaward boundaries set are at 150 fm and 200 fm north of 40°10' N. lat. and at 150 fm south of 40°10' N. lat. Trip limits are set at levels in the following table.

OPTION: 4

SUBAREA	BIMO	INLINE	OUTLINE	SABLE	LONGSP	SHORTSP	DOVER	OTR FLAT	PETRALE	ARRWTTH	SLP RK
NORTH	1	75	200*	18,000	22,000	14,000	110,000	110,000	40,000	150,000	4,000
LARGE	2	75	200	20,000	22,000	14,000	110,000	110,000	30,000	150,000	4,000
FOOTROP	3	75	150 WA/	20,000	22,000	14,000	110,000	110,000	30,000	150,000	4,000
	4	100	200 OR	20,000	22,000	14,000	110,000	110,000	30,000	150,000	4,000
	5	75	200	20,000	22,000	14,000	110,000	110,000	30,000	150,000	4,000
	6	75	200*	18,000	22,000	14,000	110,000	110,000	40,000	150,000	4,000
NORTH	1	75	200*	5,000	3,000	3,000	40,000	90,000	16,000	90,000	4,000
SFFT	2	75	200	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	3	75	150 WA/	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	4	100	200 OR	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	5	75	200	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	6	75	200*	5,000	3,000	3,000	40,000	90,000	16,000	90,000	4,000
38 - 40 10	1	100	150	18,000	22,000	14,000	110,000	110,000	40,000	10,000	15,000
	2	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	15,000
	3	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	15,000
	4	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	10,000
	5	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	10,000
	6	100	150	18,000	22,000	14,000	110,000	110,000	40,000	10,000	15,000
SOUTH 38	1	100	150	18,000	22,000	14,000	110,000	110,000	40,000	10,000	40,000
	2	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	40,000
	3	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	40,000
	4	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	40,000
	5	100	150	20,000	22,000	14,000	110,000	110,000	30,000	10,000	40,000
	6	100	150	18,000	22,000	14,000	110,000	110,000	40,000	10,000	40,000

splitnose limits equal to slope rock
set chilipepper limits with small footrope to 5,000 lbs in the south

Open Access Nearshore Fishery
This option is similar to Option 1. Management would remain status quo but no additional opportunities could be provided without further impacting yelloweye.

Limited Entry Trawl Fishery for Pacific Whiting
Opportunities for participants in the Pacific whiting fishery are the same under Option 4 as Option 1. Harvest of whiting under this option may approach 300,000 mt.

Options 5 and 5b

Option 5 a and b results in a series of impacts that are somewhat moderate compared to Options 1 through 4. Opportunities for recreational and fixed gear fisheries are constrained somewhat in some cases while opportunities for bottom trawl fisheries are similar to status quo on the slope and somewhat less restrictive than status quo on the northern shelf, but slightly more so on the shelf in the south. Opportunities in the Pacific whiting fishery are dependent on widow; the lower widow OY constrains opportunities to a harvest that is less than status quo (2008).

Option 5a.

Projected Mortality by Sector	Bocaccio	Canary	Cowcod	Drk	POP	Widow	Yelloweye
LE Trawl- Non-Whiting	10.3	15.3	1.0	224.0	83.3	7.6	0.6
LE Trawl- Whiting		4.2		16.2	2.8	450.0	
Total OA: Directed	4.2	2.7	0.1	0.2	0.1	0.6	2.0
Sablefish DTL		0.1		0.2	0.1	0.1	0.3
Nearshore (N of 40 10)		1.6	0.1			0.5	1.6
Nearshore (S of 40 10)	0.1	1.0				0.0	
Other	4.1						0.1
LE Fixed Gear	13.4	1.1	0.1	1.3	0.2	0.3	1.0
Rec: WA projected impacts		1.1					2.5
Rec: WA harvest guideline							
Rec: OR projected impacts		2.5					2.6
Rec: OR harvest guideline							
Rec: CA projected impacts	28.9	8.3	0.0			4.2	1.7
Rec: CA harvest guideline	66.3	17.4	0.2			8.0	1.7
Sub-Total (excludes HGs)	56.8	35.1	1.2	241.7	86.4	462.8	10.4
NON-CHANGEABLES							
LE Trawl- Tribal Whiting		1.1			0.5	2.7	0.0
Tribal		3.4			3.7	40.0	2.3
OA: Incidental	1.3	2.2				0.4	0.6
Research	3.0	7.3	0.2	3.0	3.0	3.0	3.0
EFP		0.4	0.2				0.1
Sub-Total	4.3	14.4	0.4	3.0	7.2	46.1	6.0
Grand Total	61.1	49.5	1.6	244.7	93.6	508.9	16.4
OY	218	105	2	300	164	522	17

Option 5b.

Projected Mortality by Sector	Bocaccio	Canary	Cowcod	Drk	POP	Widow	Yelloweye
LE Trawl- Non-Whiting	10.3	15.3	1.0	224.0	83.3	7.6	0.6
LE Trawl- Whiting		2.8		10.7	1.8	300.0	
Total OA: Directed	4.2	2.7	0.1	0.2	0.1	0.6	2.0
Sablefish DTL		0.1		0.2	0.1	0.1	0.3
Nearshore (N of 40 10)		1.6	0.1			0.5	1.6
Nearshore (S of 40 10)	0.1	1.0				0.0	
Other	4.1						0.1
LE Fixed Gear	13.4	1.1	0.1	1.3	0.2	0.3	1.0
Rec: WA projected impacts		1.1					2.5
Rec: WA harvest guideline							
Rec: OR projected impacts		2.5					2.6
Rec: OR harvest guideline							
Rec: CA projected impacts	28.9	8.3	0.0			4.2	1.7
Rec: CA harvest guideline	66.3	17.4	0.2			8.0	1.7
Sub-Total (excludes HGs)	56.8	33.7	1.2	236.2	85.4	312.8	10.4
NON-CHANGEABLES							
LE Trawl- Tribal Whiting		0.8			0.4	2.1	0.0
Tribal		3.4			3.7	40.0	2.3
OA: Incidental	1.3	2.2				0.4	0.6
Research	3.0	7.3	0.2	3.0	3.0	3.0	3.0
EFP		0.4	0.2				0.1
Sub-Total	4.3	14.1	0.4	3.0	7.1	45.5	6.0
Grand Total	61.1	47.8	1.6	239.2	92.5	358.3	16.4
OY	218	85	2	300	164	371	17

Washington Recreational

Washington recreational fishery measures do not require a departure from status quo (2008 management measures) in order to stay within the Council specified catch-sharing arrangements for yelloweye rockfish under Option 5.

Oregon Recreational

Option 5 includes shorebased fisheries targeting or incidentally encountering groundfish year round. Relative to status quo, four instead of six months require seaward of 40-fathom depth closures. Daily bag and length limits remain status quo. The status quo Stonewall Bank YRCA remains in place. Restrictions on groundfish retention in the all-depth halibut fishery are status quo.

Season

Month												Yelloweye RF (mt)	Canary RF (mt)
J	F	M	A	M	J	J	A	S	O	N	D		
Open all depth					Open <40 fm				Open all depth			2.6	2.5

California Recreational

Under this OY option, the season length for the North and North-Central North of Pt. Arena Management Areas are further reduced by half of the economically valuable summer month of August to prevent the catch of yelloweye rockfish from exceeding the harvest guideline. In this option, cowcod OY would be 2 mt and the California recreational HG for cowcod would be reduced to .15 mt. The RecFISH model has projected the cowcod catch to be .1 mt in 2007 under the status quo 60 fm depth restriction, but the average catch in 2005, 2006 and 2007 is .2 mt, which would exceed the harvest guideline under this option. Thus, with the .15 metric ton HG under the 2 mt OY, actions may need to be taken to reduce the depth restriction to 50 or 40 fms to bring the cowcod catch below the harvest guideline. The fishery has remained below the current .3 mt HG under the 4 mt OY in 2005, 2006 and 2007.

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	---	Open <20fm----Aug 15			---	---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm----Aug 15			---	---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm						---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 40fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

(All other regulations are as described under Appendix B)

Limited Entry Non-Whiting Trawl Fishery

Opportunities for non-whiting trawl harvesters under this option include closing the area shoreward of the RCA north of Cape Alava for the entire year. Shoreward RCA boundaries in the north are set at 75 fm for the year. Shoreward RCA boundary in the south are set at 75 fm in periods 1, 2, and 6. Seaward boundaries are set at 150 fm and 200 fm north of 40°10’ N. lat. and at 150 fm south of 40°10’ N. lat. Trip limits are set at levels shown in the following table.

OPTION: 5

SUBAREA	BIMO	INLINE	OUTLINE	SABLE	LONGSP	SHORTSP	DOVER	OTR FLAT	PETRALE	ARRWTTH	SLP RK
NORTH	1		200*	20,000	22,000	14,000	100,000	110,000	50,000	150,000	4,000
LARGE	2		200	20,000	22,000	14,000	100,000	110,000	30,000	150,000	4,000
FOOTROP	3	75 fm	150 WA/	20,000	22,000	14,000	100,000	110,000	30,000	150,000	4,000
	4	(close	200 OR	20,000	22,000	14,000	100,000	110,000	30,000	150,000	4,000
	5	north of	200	20,000	22,000	14,000	100,000	110,000	30,000	150,000	4,000
	6	Alava)	200*	20,000	22,000	14,000	100,000	110,000	50,000	150,000	4,000
NORTH	1		200*	5,000	3,000	3,000	40,000	90,000	16,000	90,000	4,000
SFFT	2		200	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	3	75 fm	150 WA/	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	4	(close	200 OR	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	5	north of	200	8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000
	6	Alava)	200*	5,000	3,000	3,000	40,000	90,000	16,000	90,000	4,000
38 - 40 10	1	75	150	20,000	22,000	14,000	100,000	110,000	50,000	10,000	15,000
	2	100	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	15,000
	3	100	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	15,000
	4	100	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	10,000
	5	75	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	10,000
	6	75	150	20,000	22,000	14,000	100,000	110,000	50,000	10,000	15,000
SOUTH 38	1	75	150	20,000	22,000	14,000	100,000	110,000	50,000	10,000	40,000
	2	100	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	40,000
	3	100	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	40,000
	4	100	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	40,000
	5	75	150	20,000	22,000	14,000	100,000	110,000	30,000	10,000	40,000
	6	75	150	20,000	22,000	14,000	100,000	110,000	50,000	10,000	40,000

splitnose limits equal to slope rock
set chilipepper limits with small footrope to 5,000 lbs in the south

Open Access Nearshore Fishery

This option is similar to Option 1. Management would remain status quo but no additional opportunities could be provided without further impacting yelloweye.

Alternative Recreational Harvest Guideline Evaluation

In November 2007, the Council gave the GMT direction for initial analyses of recreational impacts between states based on the 2007 harvest guidelines. At this meeting, the Council requested that the GMT analyze a sharing agreement between states based on the 2006 harvest guidelines. As evidenced by the 8 mt California recreation catch estimate, the California recreational model projection of 1.7 mt used to apportion the OY for season analysis under-projected the catch for the California recreational fishery.

Table 4. Yelloweye Apportionment for Different OY Alternatives

YE OY	**14 mt**		**17 mt**		**20 mt**	
State	**2007 HG (mt)**	**2006 HG (mt)**	**2007 HG (mt)**	**2006 HG (mt)**	**2007 HG (mt)**	**2006 HG (mt)**
Washington	2.0	1.7	2.8	2.4	3.6	3.0
Oregon	1.9	1.6	2.6	2.2	3.4	2.8
California	1.2	1.8	1.7	2.6	2.1	3.2

Washington Recreational

The alternative recreational harvest guideline analysis would require the most restrictive recreational management measures for the Washington recreational fisheries, in order to

meet the 1.6 mt yelloweye guideline under this option. Depth restriction periods would be extended and recreational bottomfishing would be prohibited from mid August through mid-April of the following year with the exception of a small open area on the north coast. Lingcod retention would be restricted with a prohibition to retain lingcod south of 46°58 N. Lat. (Specific management measures for this option correspond to Option 2 in the WDFW Report Agenda Item H.5.b)

The 2.4 and 3.0 mt harvest guidelines, associated with the 17 and 20 mt yelloweye OY, respectively, under this option do not require a departure from status quo (2008 management measures).

Oregon Recreational

Models to the lowest yelloweye rockfish OY option of 14 mt, with an Oregon harvest guideline of 1.7 mt, demonstrate the impacts on opportunity resulting from this scenario. Shorebased fisheries targeting or incidentally encountering groundfish are allowed for only 5 months (May-Sept), shoreward of 25 fm. This is a significant departure from status quo. Bag and length limits are status quo. The status quo Stonewall Bank RCA remains in place. Restrictions on groundfish retention in the all-depth halibut fishery are status quo.

Season

Month												Yelloweye RF (mt)	Canary RF (mt)
J	F	M	A	M	J	J	A	S	O	N	D		
CLOSED				Open <25 fm					CLOSED			1.6	1.7

Options 2 and 3, outlined above would be necessary to achieve harvest guideline levels in the 17 and 20 mt yelloweye rockfish OY alternatives.

California Recreational

The season and depth restrictions resulting from the status quo recreational HG apportionment using 2007 projected impacts is followed by the season and depth restrictions resulting from the apportionment of the OY using 2006 harvest guidelines at 14, 17 and 20 mt OYs for comparison of these catch sharing methods. The ramp down of the OY will necessitate implementation of the following management measures in the California Recreational fishery in 2009 and 2010. All options were evaluated using the following regulations unless otherwise noted:

- A 6 fish Rockfish Cabezon and Greenling RCG bag limit in the North and North-Central north of Pt. Arena Management Areas and 10 fish bag limit in the remainder of the state with a 1 fish sublimit for cabezon, 2 fish sublimit for greenlings statewide.
- Five YRCAs proposed for 2008 off the ports of Fort Bragg, Shelter Cove and Crescent City, from which ~70% of the California recreational yelloweye rockfish catch in 2007 originated.

- Use of the management line at Pt. Arena in the division of the North-Central Management Area into the North-Central North and North Central South Management Areas.

14 mt OY

California Recreational Season and Depth Restrictions under the 14 mt OY, 2007 Status Quo HG Catch Sharing (1.2 mt HG)

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	---	Open <20fm		---	---	---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm		---	---	---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm				---	---	---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 40fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

California Recreational Season and Depth Restrictions under the 14 mt OY, 2006 HG Alternative Catch Sharing (1.8 mt HG)

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	Open <20fm				---	---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm Close Aug 15			---	---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm					---	---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 40fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

17 mt OY

California Recreational Season and Depth Restrictions under the 17 mt OY, 2007 Status Quo HG Catch Sharing (1.7 mt HG)

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	---	Open <20fm----Aug 15			---	---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm----Aug 15			---	---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm						---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 40fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

California Recreational Season and Depth Restrictions under the 17 mt OY, 2006 HG Alternative Catch Sharing (2.6 mt HG)

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	Open <20fm					---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm				---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm						---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 40fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

20mt OY

California Recreational Season and Depth Restrictions under the 20 mt OY, 2007 Status Quo HG Catch Sharing (2.1 mt HG)

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	---	Open <20fm			---	---	---	---
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm			---	---	---	---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm						---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 60fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

California Recreational Season and Depth Restrictions under the 20 mt OY, 2006 HG Alternative Catch Sharing (3.2 mt HG)

RCG SEASON BY REGION

Region	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
North Region	---	---	---	---	Open <20fm							
North Central N. of Pt. Arena	---	---	---	---	---	Open <20fm						---
North Central S. of Pt. Arena	---	---	---	---	---	Open <30fm						---
South Central - Monterey	---	---	---	---	Open <40fm							---
South Central - Morro Bay	---	---	---	---	Open <40fm							---
South Region	---	---	Open < 60fm									

NOTES AND KEY:
RCG = Rockfish, cabezon, greenlings
--- = Closed to boat-based fishing for RCG
In the South Region, CA scorpionfish is open 12 months: 0-40 fm January-February, 0-60 fm in March-December.

Note: This option would allow the North-Central Management Area North of Pt. Arena return to its status quo 10 fish bag limit.

Supplemental State Reports

For the preliminary proposed range of commercial and recreational management measures in the Supplemental State Reports (Agenda Items H.5.b), the GMT has identified several issues of potential concern for consideration.

Spatial Management and RCAs

The GMT encourages the use of YRCAs and cold spots as a method to reduce yelloweye impacts. However, complex area management options could present an enforcement concern (e.g. cold spots and weekend prohibitions on lingcod in the Supplemental WDFW Report). The GMT encourages the states to continue to develop their proposals in cooperation with enforcement agents.

Oregon and California have both proposed use of new latitudinal management lines for inseason closures. These are not available for NMFS conforming action until analyzed as routine inseason management measures.

Relaxing the California commercial RCA (i.e., allowing access to deeper water) from the border to Pt. Conception may result in increased yelloweye and canary impacts, so the GMT recommends analyzing available information to quantify these impacts.

Retention

All states have proposed options allowing retention of lingcod in commercial fisheries during winter periods presently closed to protect nesting males. Likewise, Oregon and California have proposed increases in their recreational bag limits for lingcod. The GMT is concerned that this could result in increased targeting of lingcod, which may increase yelloweye and canary bycatch. Additionally, south of Cape Blanco the lingcod stock is estimated to be in the precautionary zone and increasing lingcod mortality may be a concern. The GMT also notes that only the option for commercial retention seaward of the RCA in Washington can be quantified with available observer data.

The GMT has concerns with any options that allow for retention of overfished species (e.g., boccaccio, canary, yelloweye). Such options could increase targeting, rather than just allowing for decreased wastage or reducing pressure on other stocks. Also, such retention may not meet the legal requirement of accounting for the needs of the fishing community while rebuilding overfished stocks in as short a time as possible.

The Team also discussed WDFW North Coast bottomfish Options 1-3, all of which allow for retention of bottomfish during days that halibut fishing is open. Removing the potential for mixed targeting strategies (e.g., prohibiting bottomfish retention during halibut trips) may provide for savings in overfished species impacts and should be analyzed. In the current WDFW proposal, the tradeoff between yelloweye rockfish impacts from mixed targeting are accounted for by earlier depth closures. This strategy was developed through WDFW public meetings and industry input.

Re-submersion Devices

Re-submersion devices are mentioned as potential discard mortality reduction measures for both Oregon and California recreational fisheries. A coordinated review of existing data and/or field investigations should be undertaken to accurately quantify any savings. GMT encourages the use of such devices for their potential savings of overfished species mortalities, but notes that mandatory requirements are likely neither enforceable nor quantifiable.

GMT Recommendations

1. The GMT would like confirmation that the Council intends to set a coastwide lingcod OY as has been standard practice.
2. The GMT recommends that the Council forward for analysis any potential management lines for use of routine inseason management in the nearshore commercial fisheries for the 2009/2010 analyses.

Appendix A

Table 1. Summary of Rebuilding OYs and Reference Points

POP	**Alt 1 OY**	**Alt 2 OY**	**Alt 3 OY**	**Alt 4 OY**
2009 OY (mt)	**0**	130	164	189
Ttarget	**2010**	2010	2011	2011
SPR	**F=0**	90.3%	88.0%	86.4%
Tmax	**N/A**	2037	2037	2037
Pmax	**N/A**	95.6%	95.0%	94.4%

Widow	**Alt 1**	**Alt 2**	**Alt 3**
2009 OY (mt)	**0**	371	522
Ttarget	**2009**	2009	2009
SPR	**F=0**	96.4%	95.0%
Tmax	**N/A**	2031	2031
Pmax	**N/A**	100.0%	100.0%

Canary	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**
2009 OY (mt)	**0**	35	44	85	105	155
Ttarget	**2019**	2020	2020	2020	2020	2021
SPR	**F=0**	97.3%	96.2%	93.6%	92.2%	88.7%
Tmax	**N/A**	2041	2041	2041	2041	2041
Pmax	**N/A**	75%	75%	75%	75%	75%

Boccacio	**Alt 1**	**Alt 2**	**Alt 3**
2009 OY (mt)	**0**	218	288
Ttarget	**2020**	2022	2023
SPR	**F=0**	82.6%	77.7%
Tmax	**N/A**	2033	2033
Pmax	**N/A**	???	???

Cowcod	**Alt 1**	**Alt 2**	**Alt 3**
2009 OY (mt)	**0**	2	4
Ttarget	**2061**	2065	2072
SPR	**F=0**	90.0%	82.1%
Tmax	**2098**	2098	2098
Pmax	**0.784**	72.4%	66.2%

Darkblotched	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**
2009 OY (mt)	**0**	159	229	300
Ttarget	**2018**	2022	2025	2030
SPR	**F=0**	75.6%	67.7%	60.7%
Tmax	**N/A**	2040	2040	2040
Pmax	**N/A**	97.7%	91.0%	76.7%

Yelloweye	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**
2009 OY (mt)	**0**	13	17	15
Ttarget	**2049**	2082	2082	2090
SPR	**F=0**	71.9%	66.3%	69.3%
Tmax	**N/A**	2090	2090	2090
Pmax	**N/A**	69.5%	68.9%	50.0%

Appendix B - California Recreational Groundfish Fishery Regulations and Projected Impacts on OFS in 2009 and 2010

Of the overfished species, yelloweye rockfish constrains the season length in the North and North-Central Management Areas, while cowcod becomes depth restriction limiting in the South Management Area under a 2 mt cowcod OY. The following depth restrictions would need to be put in place in order to reduce the catch of yelloweye below the harvest guideline in addition to the season and depth restrictions shown under each option provided above.

Daily Bag Limit:
Rockfish Cabezon and Greenling (RCG) North and North-Central north of Pt. Arena Management Areas: 6 fish, 10 fish in the balance of the state.
Cabezon: 1 fish sublimit within RCG
Greenlings: 2 fish sublimit within RCG
Bocaccio N. of 40deg 10': 2 fish sublimit within RCG
Bocaccio S. of 40deg 10': 1 fish sublimit within RCG
Lingcod: 2 fish

Minimum Length Limits:
Cabezon: 15 inches
Greenlings: 12 inches
Bocaccio: 10 inches
Lingcod: 24 inches

Additional Management Measures:
The ramp down of the OY will necessitate implementation of the following management measures in addition to the status quo management measures in the California Recreational fishery in 2008, 2009 and 2010:

- Five YRCAs proposed for 2008 off the ports of Fort Bragg, Shelter Cove and Crescent City from which ~70% of the catch in 2007 originated.
- Use of the management line at Pt. Arena in the division of the North-Central Management Area into the North-Central North and North Central South Management Areas.
- A six fish bag limit in the reduced season lengths.

Appendix C - Summary of Overfished Species Combinations for Analysis

TABLE 1. Range of Overfished Species Optimal Yields, by Area and Species.

		Shelf to Slope Impacts				
		Higher-Lower	Lower-Higher	Lower-Lower	Higher-Higher	Mixed
Area	**Species**	**Option 1 (mt)**	**Option 2 (mt)**	**Option 3 (mt)**	**Option 4 (mt)**	**Option 5 a/b (mt)**
Northern Shelf	Canary	155	44	35	155	85 or 105
	Yelloweye	20	14	14	20	17
Southern Shelf	Bocaccio	288	218	218	288	218
	Cowcod	4	2	2	4	2
Slope	POP	130	189	130	189	164
	Darkblotched	159	300	159	300	300
Pelagic	Widow	522	371	371	522	371 or 522
Note: option 5a and 5b vary widow and canary in concert						

Summary of Options Provided in Table 1

- Option 1 is intended to show the effect of providing relatively more opportunity on the shelf and in midwater fisheries and relatively less opportunity on the slope.
- Option 2 is intended to show the effect of providing relatively more opportunity on the slope and relatively less opportunity on the shelf and in midwater fisheries.
- Option 3 is intended to show the effect of being relatively restrictive on the shelf, slope, and in midwater fisheries.
- Option 4 is intended to show the effect of providing relatively more opportunity along the shelf and slope and in midwater fisheries.
- Option 5 is intended to show further trade-offs between rebuilding OYs that may not be captured by Options 1 through 4.

TABLE 2-1a. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2009 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2008 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Lingcod - coastwide b/	6,706	5,853		5,278	4,829	5,205	5,278					5,278
N of 42º (OR & WA)			5,558			4,593	4,593					4,593
S of 42º (CA)			612			612	685					685
Pacific Cod	3,200	3,200	1,600	3,200	3,200	1,600						1,600
Pacific Whiting (U.S.)	612,068 (2007 U.S. & Can.)	400,000 (2008 U.S. & Can.)	269,545 (2008)	To be determined in March 2009	To be determined in March 2010	134,773	269,545	404,318				
Sablefish (Coastwide)	6,210	6,058	5,934	9,914	9,217	9,795	8,423	6,250				8,423
N of 36º (Monterey north)			5,723			9,452	7,052	5,233				7,052
S of 36º (Conception area)			210			343	1,371	1,018				1,371
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	130	164	189			189
Shortbelly Rockfish	13,900	13,900	13,900	6,950	6,950	3,475	6,950	~~13,900~~				6,950
WIDOW ROCKFISH	5,334	5,144	368	7,728	6,937	0	371	522				371
CANARY ROCKFISH	172	179	44	937	940	0	35	44	85	105	155	Ttarget=2021
Chilipepper Rockfish	2,700	2,700	2,000	3,037	2,576	2,000	2,099	3,037				2,885
BOCACCIO	602	618	218	793	793	0	218	288				
Splitnose Rockfish	615	615	461	615	615	461						461
Yellowtail Rockfish	4,585	4,510	4,548	4,562	4,562	4,562						4,562
Shortspine Thornyhead - coastwide	2,488	2,463		2,437	2,411							
Shortspine Thornyhead - N of 34º27'			1,634			1,608						1,608
Shortspine Thornyhead - S of 34º27'			421			414						414
Longspine Thornyhead - coastwide	3,953	3,860		3,766	3,671							
Longspine Thornyhead - N of 34º27'			2,220			2,231						2,231
Longspine Thornyhead - S of 34º27'			476			395						395
COWCOD	36	36	4	13	14	0	2	4				
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	159	229	300			Ttarget=2030
YELLOWEYE	47	47	Ramp-down c/	31	32	0	13	17	15	20	20	17
Black Rockfish (WA)	540	540	540	490	464	490						490
Black Rockfish (OR-CA)	725	719	722	1,469	1,317	920	1,000	1,469				1,000

TABLE 2-1a (continued). Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2009 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Blue Rockfish (CA)	Managed under the Minor Nearshore Rockfish complexes			241	**239**	Managed under minor nearshore rockfish complexes		207	230			Managed under minor nearshore rockfish complexes
Minor Rockfish North	3,680	3,680	2,270	3,678	3,678	2,280	2,283					2,283
Nearshore Species			142			152	155					155
Blue rockfish contribution				28	28	25	28					28
Shelf Species			968			968						968
Slope Species			1,160			1,160						1,160
Minor Rockfish South	3,403		1,904	3,384	3,382	1,970	1,990					1,990
Nearshore Species			564			630	650					650
Blue rockfish contribution				213	211	182	202					202
Shelf Species			714			714						714
Slope Species			626			626						626
California scorpionfish	236	202	175	175	155	111	175					175
Cabezon (off CA only)	94	94	69	106	111	69	74	69				69
Dover Sole	28,522	28,442	16,500	29,453	28,582	16,500						16,500
English Sole	6,773	5,701	6,237	14,326	9,745	14,326						14,326
Petrale Sole (coastwide) b/	2,917	2,919	2,499	2,811	2,751	2,433						2,433
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	11,267					11,267
Starry Flounder	1,221	1,221	890	1,509	1,578	1,004						1,004
Other Flatfish	6,731	6,731	4,884	6,731	6,731	4,884						4,884
Other Fish	14,600	14,600	7,300	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	901	1,349	3,428				
Kelp Greenling HG (OR)			OR HG			OR HG						OR HG

a/ The Council elected to average OY projections for 2007 and 2008. ABCs are year-specific.

b/ Area OYs/HGs are stratified according to the assessment areas and alternatively adjusted by management areas for lingcod and petrale sole.

c/ The yelloweye ramp-down strategy ramps the harvest rate down from the status quo harvest rate and resumes a constant harvest rate strategy in 2011. The 2007-2010 OYs are 23 mt, 20 mt, 17 mt, and 14 mt, respectively under the ramp-down strategy.

TABLE 2-1b. Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2010 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
Lingcod - coastwide b/	6,706	5,853		5,278	4,829	4,785	4,829					4,829
N of 42º (OR & WA)			5,558			4,173	4,173					4,173
S of 42º (CA)			612			612	656					656
Pacific Cod	3,200	3,200	1,600	3,200	3,200	1,600						1,600
Pacific Whiting (U.S.)	612,068 (2007 U.S. & Can.)	400,000 (2008 U.S. & Can.)	269,545 (2008)	To be determined in March 2009	To be determined in March 2010	134,773	269,545	404,318				
Sablefish (Coastwide)	6,210	6,058	5,934	9,914	9,217	8,988	7,729	5,777				7,729
N of 36º (Monterey north)			5,723			8,673	6,471	4,837				6,471
S of 36º (Conception area)			210			315	1,258	941				1,258
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	137	173	200			200
Shortbelly Rockfish	13,900	13,900	13,900	6,950	6,950	3,475	6,950	~~13,900~~				6,950
WIDOW ROCKFISH	5,334	5,144	368	7,728	6,937	0	362	509				
CANARY ROCKFISH	172	179	44	937	940	0	35	44	85	105	155	Ttarget=2021
Chilipepper Rockfish	2,700	2,700	2,000	3,037	2,576	2,000	2,099	2,576				2,447
BOCACCIO	602	618	218	793	793	0	227	302				
Splitnose Rockfish	615	615	461	615	615	461						461
Yellowtail Rockfish	4,585	4,510	4,548	4,562	4,562	4,562						4,562
Shortspine Thornyhead - coastwide	2,488	2,463		2,437	2,411							
Shortspine Thornyhead - N of 34º27'			1,634			1,591						1,591
Shortspine Thornyhead - S of 34º27'			421			410						410
Longspine Thornyhead - coastwide	3,953	3,860		3,766	3,671							
Longspine Thornyhead - N of 34º27'			2,220			2,175						2,175
Longspine Thornyhead - S of 34º27'			476			385						385
COWCOD	36	36	4	13	14	0	2	4				
S of 36º (Conception area)	17	17										
N of 36º (Monterey area)	19	19										
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	165	235	306			Ttarget=2030
YELLOWEYE	47	47	Ramp-down c/	31	32	0	14	14	15	16	17	14
Black Rockfish (WA)	540	540	540	490	464	464						464
Black Rockfish (OR-CA)	725	719	722	1,469	1,317	831	1,000	1,317				1,000

TABLE 2-1b (continued). Preliminary PFMC-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010, including preliminary preferred alternatives. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2010 Action Alternatives								
	2007 ABC a/	2008 ABC a/	2007-08 OY a/	2009 ABC	2010 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Preliminary preferred alternative
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Nearshore Species			142			152	155					155
Blue rockfish contribution				28	28	25	28					28
Shelf Species			968			968						968
Slope Species			1,160			1,160						1,160
Minor Rockfish South	3,403		1,904	3,384	3,382	1,970	1,990					1,990
Nearshore Species			564			630	650					650
Blue rockfish contribution				213	211	182	202					202
Shelf Species			714			714						714
Slope Species			626			626						626
California scorpionfish	236	202	175	175	155	99	155					155
Cabezon (off CA only)	94	94	69	106	111	69	74	79				79
Dover Sole	28,522	28,442	16,500	29,453	28,582	16,500						16,500
English Sole	6,773	5,701	6,237	14,326	9,745	9,745						9,745
Petrale Sole (coastwide) b/	2,917	2,919	2,499	2,811	2,751	2,393						2,393
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	10,112					10,112
Starry Flounder	1,221	1,221	890	1,509	1,578	1,077						1,077
Other Flatfish	6,731	6,731	4,884	6,731	6,731	4,884						4,884
Other Fish	14,600	14,600	7,300	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**	**TBD d/**				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	902	1,349	3,269				
Kelp Greenling HG (OR)			OR HG			OR HG						OR HG

a/ The Council elected to average OY projections for 2007 and 2008. ABCs are year-specific.

b/ Area OYs/HGs are stratified according to the assessment areas and alternatively adjusted by management areas for lingcod and petrale sole.

c/ The yelloweye ramp-down strategy ramps the harvest rate down from the status quo harvest rate and resumes a constant harvest rate strategy in 2011. The 2007-2010 OYs are 23 mt, 20 mt, 17 mt, and 14 mt, respectively under the ramp-down strategy.