

GROUNDNFISH MANAGEMENT TEAM REPORT ON MANAGEMENT
RECOMMENDATIONS FOR 2009-2010 GROUNDNFISH FISHERIES – PART I

ABC/OY TABLES

The Groundfish Management Team (GMT) has compiled a table of preliminary acceptable biological catch (ABC) and optimum yield (OY) values for the 2009 and 2010 management cycle, based on the results of new stock assessments and rebuilding analyses (attached tables).

For species that are not overfished, and for which there is new information from this assessment cycle, the GMT has presented the Scientific and Statistical Committee (SSC) and Council with a single ABC based on the base model for most assessments. OY alternatives are specified in order to not exceed that ABC, but may be lower based on the alternative states of nature included in the assessment tables. This is based on the assumption that alternative ABC values should not exceed the ABC values provided in base assessment models.

Overfished Species

A range of alternatives are included in Tables 1 and 2 and the rationale for those alternatives is provided in Attachment 1. Alternatives include OYs based on the spawning biomass per recruit (SPR) harvest rates associated with the '07-'08 OYs, status quo SPRs, as well as variations necessary to adequately encompass a range of reasonable alternatives. For reference purposes the GMT has identified the 2009-2010 OY of overfished species that is associated with the status quo SPR:

<u>Species</u>	<u>Metric Tons</u>
• POP	195
• Widow	516
• Canary	155
• Yelloweye	ramp-down
• Bocaccio	295
• Cowcod	2
• Darkblotched	303

Blue Rockfish

The blue rockfish stock assessment is geographically confined to California north of Point Conception. Due to the considerable uncertainty within the blue rockfish assessment, the GMT is not recommending setting an independent ABC/OY, but keeping blue rockfish within the minor nearshore rockfish complex south. However, Alternative 3 shows a separate blue rockfish OY for south of 40° 10' based on the base model with a 40:10 adjustment, and including a contribution from South of Point Conception based on the status quo. Alternative 4 is based on setting the OY equal to the ABC (essentially, this represents adoption of the high productivity model as constrained by the base model ABC). This alternative is included based on the STAT

Team's recommendation that the high productivity scenario is more plausible than the low productivity scenario. Trip limits will be set by the states to prevent negative impacts on other stocks in the minor nearshore rockfish complexes.

Black Rockfish

North

Based on Council guidance from September 2007, only the base model OY is included for analysis. In order to account for the geographic differences between management and assessment areas, 3% of the ABC and OY from the northern assessment is transferred to the south. This percentage is based on recent catch history from 1999-2006.

South

Due to uncertainties in the new combined OR/CA model, the GMT requested a constant catch series (800, 1,000, and 1,200 mt) to better inform a low alternative OY. The results of a constant catch series indicated that depletion levels resulting from a constant catch of 800 mt did not differ from that of the current low OY alternative (870 mt). The high constant catch (1,200 mt) did not differ from the base case OY (1,379). The constant catch of 1,000 mt did result in a depletion level that was intermediate to the low and base case OY alternatives. The GMT therefore recommends that an OY alternative be added for the 1,000 mt constant catch series.

Sablefish

The GMT discussed the applicability of using swept area biomass estimates from the shelf/slope survey data to construct an OY alternative for the Conception Area. The 2003-2006 average from the combined shelf/slope survey results in 28% of the sablefish biomass occurring in the Conception Area. The GMT also notes that although recent catches in the Conception Area have been on the order of 200 mt per year, historical landings have been considerably greater. Total landings of sablefish in the Conception area averaged approximately 1,900 tons between 1976 and 1984, and peaked at 5,064 tons in 1979. Over 95% of the catch in these early years was taken in pot fisheries.

The GMT notes 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 (CCA) to recent catches. The GMT also notes that the Cowcod Conservation Area closes a significant amount of the Conception Area to fishing, and that 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). The Alternative 2 Conception area OY, which is based on the swept-area biomass approach, includes a precautionary reduction of 50% to account for the uncertainty inherent in using a short time-series of relative abundance for setting the OY.

Although the GMT does not have a model to inform sablefish bycatch impacts in the Conception Area, we note that this should not preclude the analysis of a higher OY. Various steps could be taken to provide greater safeguards against impacts to overfished species if such an OY is adopted. Implementing a deeper depth restriction in that area could reduce overfished species impacts. Sablefish is a very important stock that is currently listed in the precautionary zone. Due to the above factors and uncertainties, the GMT recommends a 50% precautionary reduction to the survey catch option for the southern Conception Area OY, which results in 1,315 metric tons.

Longnose skate

Due to uncertainty in the assessment the GMT recommends that longnose skate remain with Other Fish and managed under status quo, but identify a point of concern based on proposed alternatives.

Cabazon (off California)

The GMT discussed the 2005 cabazon assessment and considered the averaging of the OYs that was done starting in 2007. The GMT believes that consideration should be given to year-specific OYs of cabazon because of the additional opportunity provided to fisheries in 2010. The GMT has identified this option under Alternative 3.

PFMC

11/6/07

TABLE 2-1a. GMT-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009 and 2010. (Overfished stocks in CAPS; Stocks with new assessments in bold).

Stock	No Action Alternative			2009 and 2010 Action Alternatives (ave. 2009-10 OYs)						
	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
Lingcod - coastwide b/	6,706	5,853		5,278	4,829					
N of 42° (OR & WA)			5,558			4,383	4,383			
S of 42° (CA)			612			612	671			
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	9,392	9,392			
N of 36° (Monterey north)			5,723			9,063	6,762			
S of 36° (Conception area)			210			329	1,315			
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	134	169	195	982
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	367	516	4,195	
CANARY ROCKFISH	172	179	44	937	940	0	55	95	155	630
Chilipepper Rockfish	2,700	2,700	2,000	3,037	2,576	2,000	2,099	2,807		
BOCACCIO	602	618	218	793	793	0	223	295	475	
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			1,600				
Shortspine Thornyhead - S of 34°27'			421			412				
Longspine Thornyhead - coastwide	3,953	3,860		3,766	3,671					
Longspine Thornyhead - N of 34°27'			2,220			2,203				
Longspine Thornyhead - S of 34°27'			476			390				
COWCOD	36	36	4	13	14	0	2	4	8	
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	162	303	321	388
YELLOWEYE	47	47	Ramp-down c/	31	32	0	13	Ramp-down c/	15	
Black Rockfish (WA)	540	540	540	490	464	477				
Black Rockfish (OR-CA)	725	719	722	1,454	1,303	876	1,000	1,393		
Blue Rockfish (CA S of 40° 10')	Managed under the Minor Nearshore Rockfish South complex			223	221	Managed under minor NS south		182	202	
Minor Rockfish North	3,680	3,680	2,270	3,680	3,680	2,270				
Nearshore Species			142			152	155			
Shelf Species			968			968				
Slope Species			1,160			1,160				
Minor Rockfish South	3,403	3,403	1,904	TBD d/	TBD d/	1,970				
Nearshore Species			564			630	650	442		
Shelf Species			714			714				
Slope Species			626			626				
California scorpionfish	374	319	175	277	249	101	175			
Cabezon (off CA only)	94	94	69			69	74	69 in 2009 79 in 2010		
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	12,036				
Petrale Sole (coastwide) b/	2,917	2,919	2,499	2,811	2,751	2,413				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	902	1,349	3,349		
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	10,690			
Starry Flounder	1,221	1,221	890	1,509	1,578	0				
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/				
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.

d/ TBD = to be determined. ABCs are decided by the SSC and OYs are decided by the Council

TABLE 2-1b. GMT-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2009. (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
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							
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	9,795			
N of 36° (Monterey north)			5,723			9,452	7,052			
S of 36° (Conception area)			210			343	1,371			
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	130	164	189	971
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	4,338	
CANARY ROCKFISH	172	179	44	937	940	0	55	95	155	637
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	468	
Splitnose Rockfish	615	615	461	615	615	461				
Yellowtail Rockfish	4,585	4,510	4,548							
Shortspine Thornyhead - coastwide	2,488	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		3,766	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	8	
S of 36° (Conception area)	17	17								
N of 36° (Monterey area)	19	19								
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	159	300	318	385
YELLOWEYE	47	47	Ramp-down c/	31	32	0	13	17	15	
Black Rockfish (WA)	540	540	540	490	464	490				
Black Rockfish (OR-CA)	725	719	722	1,469	1,317	920	1,469			
Blue Rockfish (CA)	Managed under the Minor Nearshore Rockfish South complex			TBD d/	TBD d/	TBD d/				

Minor Rockfish North	3,680	3,680	2,270	3,680	3,680	2,270				
Nearshore Species			142			142				
Shelf Species			968			968				
Slope Species			1,160			1,160				
Minor Rockfish South	3,403		1,904	TBD d/	TBD d/	TBD d/				
Nearshore Species			564			TBD d/				
Shelf Species			714			714				
Slope Species			626			626				
California scorpionfish	374	319	175	277	249					
Cabezon (off CA only)	94	94	69			69	74	69		
Dover Sole	28,522	28,442	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				
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	901	1,349	3,428		
Arrowtooth Flounder	5,800	5,800	5,800	11,267	10,112	5,245	11,267			
Starry Flounder	1,221	1,221	890	0	1,578	0				
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/				
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 2-1c. GMT-recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2010. (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
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)			612			612	656			
Pacific Cod	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	8,988			
N of 36° (Monterey north)			5,723			8,673	6,471			
S of 36° (Conception area)			210			315	1,258			
PACIFIC OCEAN PERCH	900	911	150	1,160	1,173	0	137	173	200	992
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	4,051	
CANARY ROCKFISH	172	179	44	937	940	0	55	95	155	623
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	482	
Splitnose Rockfish	615	615	461	615	615	461				
Yellowtail Rockfish	4,585	4,510	4,548							
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'			476			385				
COWCOD	36	36	4	13	14	0	2	4	8	
S of 36° (Conception area)	17	17								
N of 36° (Monterey area)	19	19								
DARKBLOTCHED	456	487	290 (2007) 330 (2008)	437	440	0	165	306	323	390
YELLOWEYE	47	47	Ramp-down c/	31	32	0	14	14	15	
Black Rockfish (WA)	540	540	540	490	464	464				
Black Rockfish (OR-CA)	725	719	722	1,454	1,303	831	1,317			
Blue Rockfish (CA)	Managed under the Minor Nearshore Rockfish South complex			TBD d/	TBD d/	TBD d/				

Minor Rockfish North	3,680		2,270						
Nearshore Species			142						
Shelf Species			968						
Slope Species			1,160						
Minor Rockfish South	3,403		1,904	TBD d/	TBD d/	TBD d/			
Nearshore Species			564			TBD d/			
Shelf Species			714			714			
Slope Species			626			626			
California scorpionfish	374	319	175	277	249				
Cabezon (off CA only)	94	94	69			69	74	79	
Dover Sole	28,522	28,442	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			
Longnose Skate	Managed under the Other Fish complex			3,428	3,269	902	1,349	3,269	
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	0	0			
Other Flatfish	6,731	6,731	4,884	6,731	6,731	4,884			
Other Fish	14,600	14,600	7,300						
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 2009-2010 optimum yield alternatives recommended by the GMT for analysis.

Stock	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY
Lingcod - coastwide					
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 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; Note: 2009-10 ave. OY > 2010 ABC			
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			
S of 36 (Conception area)	3.5% of coastwide OY, which is the status quo apportionment	28% of the coastwide OY (based on 2003-06 ave. estimated swept-area biomass from the NWFSC shelf-slope survey) with a 50% precautionary adjustment due to assessment uncertainty			
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%	SPR = F54.8%; Ttarg = 2017 (Ttarg in the rebuilding plan); Pmax =65%
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%	SPR = F65%; Ttarg = 2009; Pmax = 100%	
CANARY ROCKFISH	T (@ F=0) = 2019	SPR = F95.8%; Ttarg = 2020; Pmax = 75.0%	SPR = F92.9%; Ttarg = 2020; Pmax = 75.0%	Status quo SPR = F88.7%; Ttarg = 2021; Pmax = 74.9%	SPR = F62%; Ttarg = 2035 (longest allowable rebuilding time under NS1 guidelines); Pmax = 50%
Chilipepper Rockfish	Status quo	Long-term equilibrium MSY at F50%	OY= ABC, stock depletion at B67% in 2009 and B65% in 2010 under base model		
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%	SPR = 66.4% (HR that predicts current Ttarget as the median rebuilding time); Ttarget = 2026; Pmax = x%	
Splitnose Rockfish	Status quo				
Yellowtail Rockfish	OY = ABC projected from 2005 assessment				
Shortspine Thornyhead - coastwide	No coastwide OY (status quo)				
Shortspine Thornyhead - N of 34°27'	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 34°27'	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 34°27'	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 34°27'	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%	SPR = F63.8%; Ttarg = 2089 (closest to max. allowable rebuilding time which corresponds to a Pmax = 50%); Pmax = 53.3%	
DARKBLOTCHED	T (@ F=0) = 2018	SPR = F75.6%; Ttarg = 2022; Pmax = 97.7%	Status quo SPR = F60.7%; Ttarg = 2030; Pmax = 76.7%	SPR = F59.2% (HR that produces the 0708 ave. OYs); Ttarg = 2031; Pmax = 76.2%	SPR = F53.7%; Ttarg = 2040 (= Tmax); Pmax = 50%
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 low productivity model scenario; with the addition of 3% of the northern ABC to account for the portion of the stock estimated between Cape Falcon and the Columbia River.	OY under the medium productivity scenario (base case); with the addition of 3% of the northern ABC to account for the portion of the stock estimated between Cape Falcon and the Columbia River.			
Blue Rockfish (CA)	Managed under minor NS south		Represents 173 mt from central portion of 40:10 base case scenario plus 9 mt from original 94-99 Pt Conception South contribution of blue to minor NS south.	Based on setting the OY equal to the ABC (essentially, adoption of the high productivity model as constrained by the base model ABC)	
Minor Rockfish North	Status quo				
Nearshore Species	Status quo	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		
Shelf Species	Status quo				
Slope Species	Status quo				
Minor Rockfish South	TBD				

Nearshore Species	Based on keeping blue within the minor nearshore complex, and with the OY from 40:10 applied to blue rockfish. contribution	Based on keeping blue rockfish within the minor nearshore, but assuming the high productivity OY (as constrained by the blue rockfish ABC)	Removes blue rockfish contribution (based on historic landings data) from the complex		
Shelf Species	Status quo				
Slope Species	Status quo				
California scorpionfish					
Cabezon (off CA only)	Status quo	Average of 2009-2010 OY from the 2006 base model	Individual 2009-2010 OYs (without averaging) from the 2006 base model		
Dover Sole	Equilibrium MSY 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)				
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%); Note: OY > 2010 ABC		
Arrowtooth Flounder	MSY under the proxy HR (SPR = F40%)	OY = ABC from base model; Note OY > 2010 ABC			
Starry Flounder	Projected OY from 2005 assessment with a 25% precautionary reduction (data-poor assessment)				
Other Flatfish	Status quo				
Other Fish	TBD				
Kelp Greenling HG (OR)	Status quo				