

GROUNDFISH MANAGEMENT TEAM REPORT ON CONSIDERATION OF INSEASON ADJUSTMENTS IN 2005 AND 2006 GROUNDFISH FISHERIES

The Groundfish Management Team (GMT) reviewed several inseason management issues for the remainder of 2005 and for 2006. Management issues for 2005 include higher than anticipated catch of petrale sole and conforming recreational management measures. Management issues for 2006 are as follows: adjustments to the sablefish daily-trip-limit (DTL) fishery, adjustments to the limited entry trawl fishery, adjustments to fixed gear shelf rockfish limits, adjustments to the canary rockfish reserve for the limited entry trawl fishery, adjustments to the black rockfish limits for the limited entry open access fixed gear fisheries, adjustments to Rockfish Conservation Area (RCA) boundaries, and adjustments to recreational management measures. It is the GMT's goal to begin 2006 with conservative enough management measures to avoid drastic harvest reductions and/or closures in the later part of the year. Because of timing issues, there is a possibility that the 2007 – 2008 Biennial Specifications and Management Measures may not be effective on January 1, 2007. Should this occur, conservative management measures for January and February of 2006 would facilitate any harvest reductions that may be necessary in 2007 until the biennial specifications become effective. Discussion of these management issues and recommendations for Council consideration are outlined below.

LIMITED ENTRY TRAWL FISHERIES IN 2005

The GMT reviewed Pacific Fisheries Information Network Quota Species Monitoring (PacFIN QSM) data through October 22, 2005, and acknowledges that the catch of petrale sole is 2,783 mt (2,685 mt landed and 98 mt discard), which is 0.8% above the 2005 Acceptable Biological Catch/Optimum Yield (ABC/OY) of 2,762 mt. The groundfish fishery management plan defines overfishing as exceeding the ABC, therefore, the petrale sole stock is subject to overfishing. The GMT considered management measures that could be used to eliminate further catches of petrale sole through the end of the year. Unfortunately, there appear to be no additional management measures available to completely eliminate catch of petrale sole. However, management measures designed to reduce the catch of petrale sole that were implemented in October, such as trip limit reductions and moving the trawl RCA into deeper water, should substantially reduce petrale sole catch for the remainder of the year.

In order to identify risk to the stock resulting from allowing fisheries with petrale bycatch in December, the GMT reviewed historical petrale sole annual landings data by fishery and landings that have occurred during December. These data show that the limited entry bottom trawl fishery is expected to result in the highest petrale sole mortality relative to other fisheries through the remainder of the year. Under current management measures, the GMT anticipates an additional 5 – 10 mt (which is an additional 0.2% - 0.35% over the ABC) of non-tribal petrale sole catch (landings plus discard) will be taken by the limited entry bottom trawl fishery in November and December. With the additional non-tribal catch, the catch of petrale sole in 2005 is predicted to exceed the petrale sole ABC by 0.9% – 1.1%. However, the GMT received notification today that the Makah Tribe reopened their bottom trawl fishery, effective November 1, which could potentially catch an additional 20-30 mt of petrale sole. The Makah fishery has taken 22 mt of petrale sole to date. While the GMT is not endorsing any particular management option, we did discuss options to reduce additional catch of petrale sole. Closing fisheries will likely reduce any additional catch of petrale. However, the GMT cautions that the expectation of

a total fishery closure in December may result in a race for fish, which has the potential to increase the catch of petrale sole catch in November in excess of that would otherwise occur. Additionally, the GMT notes that the recent catch of petrale sole has been under substantially under its ABC for the past several years. The estimated ex-vessel value of the trawl fishery in December under current regulations is approximately \$600-\$800K.

TABLE 1. NON-TRIBAL PETRALE SOLE LANDINGS BY FISHERY, YEAR, AND EXPECTATIONS FOR THE MONTH OF DECEMBER (UNITS IN METRIC TONS)

Sector	Fishery	Gear	Year					December
			2000	2001	2002	2003	2004	Estimate
Limited Entry	LE Groundfish	B-trawl	1,866.4	1,820.7	1,763.8	1,949.0	1,873.8	5.9
		Mwtr-Trawl	3.9	2.8	0.4	0.0	0.8	0.0
		Pot	0.0	0.1	0.0	0.0	0.0	0.0
		Longline	0.4	0.5	0.7	0.5	1.1	trace
Open Access	OA Groundfish	Bottom Troll	0.0	0.0	0.0	0.0	0.0	0.0
		Pot	0.0	0.0	0.0	0.0	0.0	0.0
		Net	0.0	0.1	0.0	0.0	0.0	0.0
		Jig	0.0	0.0	0.0	0.0	0.0	0.0
		Longline	0.0	0.0	0.1	0.1	0.0	0.0
		Pole	0.0	0.0	0.0	0.0	0.0	0.0
	California Halibut	Troll	0.0	0.2	0.1	0.0	0.0	0.0
		Hook & Line	0.0	0.0	0.0	0.0	0.0	0.0
		Net	0.0	0.0	0.0	0.0	0.0	trace
	Pink shrimp	Trawl	0.2	0.3	0.2	0.1	0.8	trace
		Trawl	2.0	2.2	0.9	0.2	0.0	0.0
		Trawl	0.2	0.9	0.0	0.5	0.0	0-0.1
	Spot Prawn	Trawl	0.3	0.3	0.2	0.0	0.0	0.0
		Pot	0.0	0.0	0.0	0.0	0.0	0.0
	Pacific Halibut	Longline	0.0	0.0	0.0	0.0	0.0	0.0
	Dungeness Crab	Pot	0.0	0.0	0.0	0.0	0.0	0.0
	Cal Sheephead	Pot	0.0	0.0	0.0	0.0	0.0	0.0
	HMS	Pole	0.0	0.0	0.0	0.0	0.0	0.0
		Longline	0.0	0.0	0.0	0.0	0.0	0.0
	CPS	Net	0.0	0.0	0.0	0.0	0.0	0.0
Salmon	Troll	0.0	0.0	0.0	0.0	0.0	0.0	

RECREATIONAL FISHERIES IN 2005

Oregon

The GMT discussed recreational inseason management for the remainder of 2005 and identified the need for federal recreational regulations to conform to the most recent adjustments to Oregon’s recreational regulations. Due to projected attainment of Oregon’s recreational black rockfish harvest guideline, the Oregon Department of Fish and Wildlife (ODFW) took action on October 18, 2005, to close recreational groundfish fishing in the ocean and estuary boat fisheries shoreward of 40 fm and to prohibit retention of black rockfish in both the ocean and estuary boat fisheries at any depth. This federal inseason action is effective through December 31, 2005. The groundfish fishery seaward of 40 fm remains open. Shore based fisheries (angling from jetties, beaches, rock formations, or piers, and divers originating from shore) remain open under previous regulations.

California

The GMT notes that NOAA Fisheries staff will correct an error in the current 2005 federal regulations regarding open months within the recreational RCA for the area between 40°10' N. latitude and 36° N. latitude so that section §660.384 (c) (3) (i) (A) (2) reads as follows:

Between 40°10' N. latitude and 36° N. latitude, recreational fishing for all groundfish (except "other flatfish" as specified in paragraph (c) (3) (iv) of this section) is prohibited seaward of the 20 fm (37 m) depth contour along the mainland coast and along islands and offshore seamounts from July 1 through December 31; and is closed entirely from January 1 through June 30 (i.e., prohibited seaward of the shoreline). Closures around the Farallon Islands (see paragraph (c) (3) (i) (C) of this section) and Cordell Banks (see paragraph (c) (3) (i) (D) of this section) also apply in this area.

LIMITED ENTRY TRAWL FISHERIES IN 2006

The trawl bycatch model was updated with bycatch and discard rates based on new West Coast Groundfish Observer Program (WCGOP) data from September 2004 through April 2005. During 2005, selective flatfish gear was required shoreward of the trawl RCA north of 40°10' N. latitude

The GMT analyzed adjustments to trawl RCA boundaries and bimonthly limits for the main target species (sablefish, thornyheads, Dover sole, petrale sole, other flatfish, arrowtooth, slope rockfish, and splitnose) for 2006. The GMT conferred with the Groundfish Advisory Subpanel (GAP) on these changes, and is forwarding the attached option as the GMT's preferred alternative for 2006 inseason adjustments. Of note, the GMT has proposed splitting the period 1 limit into one month cumulative limits to address the fact that biennial regulations may not be in place in time for the 2007 fishery, and that if this is the case, 2007 management will revert to 2006 regulations until regulations are in place. By splitting period 1 into one month limits, catches are likely to be restricted to a degree that won't compromise the fishery later in the year if there are substantial reductions to OYs for managed species, petrale sole in particular, while allowing the flexibility to adjust limits in February. A description of the proposed changes and changes to other species is included in the following sections.

Petrale Sole

In order to avoid exceeding the petrale sole ABC in 2006 and to allow for year round fishing opportunities, the GMT analyzed establishing cumulative limits in the bottom trawl fishery during periods 1 and 6. Previously, petrale sole landings were unlimited in periods 1 and 6.

Canary Rockfish

Based on landings of canary rockfish in the 2005 fishery and discard rate estimates from the WCGOP, the mortality of canary rockfish in the limited bottom trawl sector is higher than originally predicted for the year. In order to reduce mortality of canary rockfish in the 2006 fishery, the GMT modeled options that expand the size of the trawl RCA north of 40°10' N. latitude by moving the shoreward boundary from 100 fm to 75 fm during periods 2 and 5, and this reduces the amount of catch occurring shoreward of the RCA in areas north of 40°10' N. latitude

When modeling catch projections for 2006, the GMT was concerned with the uncertainty associated with canary rockfish catch projections. This uncertainty is due to higher than anticipated bottom trawl landings of canary rockfish during 2005 based on preseason fishery modeling and modeling that occurred during the early part of 2005. Preseason, the bycatch model had predicted that the canary rockfish impacts in the limited entry trawl fishery would be less than 6.0 mt; however, based upon guidance from the GMT, the Council decided to use a placeholder of 8.0 mt in the bycatch scorecard to account for uncertainty in the model (i.e., projected impacts plus a 2.0 mt reserve). By applying the discard rates from the WCGOP inseason, the bycatch model projected that the limited entry trawl fishery caught 9.5 mt of canary rockfish by the end of September 2005 (and the closure from the shoreline to 250 fms beginning October 1 is anticipated to effectively keep canary impacts at this level through the end of 2005). Using the revised bycatch rates from the WCGOP, which includes data through April 2005, the proposed limited entry trawl trip limits for 2006 would result in an estimated canary rockfish impact of 8.3 mt. When these revised bycatch rates are used in conjunction with 2005 management measures, the bycatch model is able to closely approximate the amount of canary rockfish estimated to be taken during 2005. However, the updated model does not include new bycatch data beyond Period 2 in 2005. Therefore, the GMT is still concerned with the degree of uncertainty in projections of the catch of overfished species with selective flatfish trawl gear and acknowledges that the Council may want to consider establishing a reserve for limited entry trawl for canary rockfish. If so, then the GMT would appreciate guidance on the amount of the reserve.

Slope Rockfish Between 40°10' N. latitude and 38° N. latitude

Darkblotched rockfish are not distributed uniformly along the coast. Densities of darkblotched rockfish are highest in waters off Washington and northern Oregon, with a gradient of decreasing density extending to the south. Only about 3% of the National Marine Fisheries Service triennial bottom trawl survey's cumulative catch-per-unit-effort of darkblotched rockfish occurs south of 38° N. latitude. This observation of decreased density led to implementation of a management line at 38° N. latitude that allows slope management south of that latitude to be separated from management actions needed to rebuild darkblotched, and allows management between 40°10' N. lat and 38° N. latitude to be intermediate to areas south of 38° N. lat and north of 40°10' N. latitude. Slope rockfish management measures during 2005 are summarized below.

	South of 38°	38° - 40°10'	North of 40°10'
2-month limit	40,000 lbs	4,000-20,000 lbs	4,000 lbs
Seaward RCA line	150 fm	150-200 fm	200 fm

Darkblotched rockfish bycatch rates observed between 38° N. latitude and 40°10' N. latitude for all depths greater than 150 fm are considerably lower than for the same depth range north of 40°10' N. latitude. However, when bycatch rates in this depth range between 38° N. latitude and 40°10' N. latitude are compared to bycatch rates from depths greater than 200 fm north of 40°10' N. latitude, they are similar. The GMT is not comfortable applying both the higher cumulative limit amount and a shallower trawl RCA from the area south of 38° N. latitude to the area between 38° N. latitude and 40°10' N. latitude. Cumulative limits on the order of 20,000 lbs per 2 months could likely be accommodated if the seaward trawl RCA boundary were set at 200 fm. However, if the seaward trawl RCA boundary were set at 200 fm, access to slope rockfish species might also prove problematic. Alternatively, a slope rockfish cumulative limit of 8,000

lbs per 2 months could be provided in conjunction with a seaward trawl RCA boundary set at 150 fm. For management measures in this area, the tradeoff is between adjusting slope rockfish cumulative limits or adjusting the position of the trawl RCA. The GMT continues to support management measures for this area that are intermediate to those in the areas north of 40°10' N. latitude and south of 38° N. latitude. The GMT discussed this tradeoff with the GAP and industry. The GMT recommends a slope rockfish cumulative limit of 8,000 lbs per 2 months and a seaward trawl RCA boundary of 150 fm for the area between 40°10' N. latitude and 38° N. latitude during 2006.

Chilipepper Rockfish south of 40°10' N. latitude

The GMT received a request to analyze an increase in the chilipepper limit for areas south of 40°10' N. latitude, seaward of the RCA. Chilipepper limits were increased in 2004, and currently include a 12,000 lbs per 2 months limit during the summer months. However, industry members have stated that this limit is not large enough to warrant targeting on this stock, and that traveling to areas where chilipepper are known to occur in high abundance requires substantial fuel cost. The GMT struggled with identifying and analyzing a chilipepper limit that would result in acceptable limits of bycatch of bocaccio, which co-occur with chilipepper. While members of the industry have stated that a limit on the order of 25,000 to 40,000 lbs per 2 months would be needed to warrant targeting of chilipepper, the GMT lacks sufficient information to identify potential bycatch impacts resulting from such limits, primarily because there are insufficient observations in the WCGOP during times when vessels were targeting chilipepper. Although industry could presumably target chilipepper in the future while carrying an observer (thereby increasing the amount of information in the WCGOP), the current 12,000 lbs per two month limits can be achieved in as few as one or two tows. The means that even if the amount of observer data were to be increased during times when chilipepper are being targeted, it is likely that the amount of information would still be limited. The GMT notes that the exempted fishing permit (EFP) process may be the best mechanism for acquiring information sufficient to adequately manage chilipepper opportunities, and recommends that members of industry explore developing an EFP proposal appropriate for obtaining information to manage this segment of the fishery. Additionally, the GMT plans to revisit this item next year to explore opportunities for possibly acquiring data for use in managing the fishery.

Lingcod

The GMT reviewed available catch and discard information pertaining to lingcod in the limited entry bottom trawl fishery. This information shows that there are considerable discards of lingcod in the limited entry bottom trawl fishery and believes that allowing increased retention of lingcod in the limited entry bottom trawl fishery and believes that allowing increased retention of lingcod can be accommodated. In 2005, north of 40°10'N latitude, the selective flatfish trawl limits were 800 lbs per two months for periods 1, 2, 5, and 6 and were 1,000 lbs per two months for periods for 3 and 4. The large and small footrope limits for 2005 were 500 lbs per two months. South of 40°10'N latitude, the small footrope limits were 800 lbs per two months for periods 1, 2, 5, and 6 and were 1,000 lbs per two months for periods 3 and 4. The large footrope limits were the same as north of 40°10' N latitude. While the GMT is concerned that a substantial increase in the lingcod limit may encourage targeting of lingcod and additional bycatch of overfished species (which tend to reside in areas of similar rocky habitat), the GMT believes that a modest increase in lingcod retention can be accommodated and recommends that lingcod limits in this fishery be increased to 1,200 lbs per two months coastwide for all trawl gear types.

LIMITED ENTRY AND OPEN ACCESS FIXED GEAR FISHERIES IN 2006

Sablefish North of 36° N. latitude

In recent years, the sablefish daily trip limit (DTL) fishery north of 36° N. latitude has caught less than their allocation. As a result the GMT believes that some liberalization of the DTL fishery can be accommodated. In 2005, the DTL limits for January – September were 300 lbs per day, or 1 landing per week up to 900 lbs, not to exceed 3,600 lbs per 2 months. These DTL limits were increased for October through December to 500 lbs per day, or 1 landing per week up to 1,500 lbs, not to exceed 9,000 lbs per 2 months. The GMT is concerned with the inability to control effort in this fishery and recommends a cautious approach to liberalizing this fishery. The GMT analyzed two options including 1) maintaining the previously scheduled daily limit of 300 lbs per day, raising the weekly limit to 1,000 lbs, and raising the two month limit to 5,000 lbs, and 2) raising the daily limit to 400 lbs, raising the weekly limit to 1,200 lbs, and raising the two month limit to 4,800 lbs. The GMT believes that radical changes in effort are mostly driven by changes in the daily and weekly limit, and as a result the GMT believes there is a greater risk of needing to restrict the fishery later in the year under option 2. While the GMT believes total catch can be effectively managed under either option, having to restrict the fishery later in the year means that there would be an inequitable distribution of catch and revenues because fisheries in the southern areas start earlier than fisheries in the north.

Shelf Rockfish, Shortbelly, and Widow Rockfish South of 34°27' N. latitude

The GMT received a request to increase the shelf rockfish, shortbelly, and widow rockfish limit in this area from 2,000 lbs per two months to 3,000 lbs per two months for limited entry fixed gear and from 500 lbs per two months to 750 lbs per two months for open access fixed gear during 2006. In 2005, these increases were implemented inseason for periods 4 through 6. After analyzing the landings during 2005, the GMT believes that the requested increase can be accommodated for the entire year in 2006. Therefore, the GMT recommends that shelf rockfish, shortbelly, and widow rockfish limits south of 34°27' N. latitude be set at 3,000 lbs per 2 months for limited entry fixed gear and to 750 lbs per 2 months for open access during 2006.

Black Rockfish between 40°10' N latitude and the OR/CA Border (42° N latitude)

The GMT received a request to increase the black rockfish limit to 6,000 lbs per two months between 40°10' N latitude and 42° N latitude for limited entry and open access fixed gear. In 2005, the black rockfish limit was increased to 6,000 lbs per 2 months in this area for periods 3 through 6. A review of landed catch occurring after this change revealed no unacceptable impacts to black rockfish catch (particularly with respect to black rockfish state harvest guidelines and commercial/recreational catch sharing), and therefore the GMT recommends that black rockfish limits be increased to 6,000 lbs per 2 months in the area between 40°10' N latitude and the OR/CA border.

WASHINGTON RECREATIONAL FISHERIES IN 2006

In August, the Washington Department of Fish and Wildlife (WDFW) took inseason action by emergency rule to close the Washington recreational bottomfish fisheries deeper than a line approximating 30 fm north of Leadbetter Pt. as the canary and yelloweye rockfish catches were approaching the state's recreational harvest targets for those species. As the state recreational harvest targets are annual targets which are used to stay within joint WA/OR annual harvest guidelines, the GMT recommends that the 30 fm closure be removed for the 2006 Washington

recreational fishery, beginning January 1, 2006. WDFW plans to bring forward inseason proposals at the March 2006 meeting to help ensure that the Washington recreational fishery does not exceed the canary or yelloweye rockfish harvest target, and the 30 fm depth closure will remain available as an inseason action item should the canary or yelloweye rockfish harvest target be approached.

OREGON RECREATIONAL FISHERIES IN 2006

To slow the harvest of black rockfish, the Oregon Department of Fish and Wildlife (ODFW) took action in July 2005 to reduce the daily recreational marine fish bag limit from 8 fish to 5 fish. ODFW took additional action in August 2005 to prohibit retention of cabezon in the recreational ocean boat, due to attainment of the annual state harvest guideline for cabezon. The federal and state harvest guidelines are set on an annual basis, and the inseason actions taken in 2005 were in response to attainment of harvest guidelines set for the 2005 fishing year. It is the recommendation of the GMT that the recreational bag limit regulations that were in place in January 2005 are implemented in January 2006 to allow fisheries access to harvest. ODFW anticipates taking federal inseason action in March, pending Commission approval of regulations defining the 2006 recreational fishery. As the federal and state harvest guidelines are approached in 2006, ODFW expects to take inseason actions similar in nature to those taken in 2005. The regulations that were in place in January 2005 read as follows:

“The bag limits for each person engaged in recreational fishing in the EEZ seaward of Oregon are two lingcod per day, which may be no smaller than 24 in (61 cm) total length; and 10 marine fish per day, which excludes Pacific halibut, salmon, tuna, perch species, sturgeon, sanddabs, lingcod, striped bass, and baitfish (herring, smelt, anchovies, and sardines), but which includes rockfish, greenling, cabezon, and other groundfish species. The minimum size limit for cabezon retained in the recreational fishery is 16 in (41 cm) and for greenling is 10 in (26 cm). Taking and retaining canary rockfish and yelloweye rockfish is prohibited.”

CALIFORNIA RECREATIONAL FISHERIES IN 2006

The GMT recommends that the 2006 federal groundfish regulations for the area south of 34° 27' N. latitude be revised so that Sec. 660.384 (c) (3) (i) (A) (4) reads as follows:

(4) South of 34°27.00' N. latitude, recreational fishing for all groundfish (except California scorpionfish as specified below in this paragraph and in paragraph (v) and “other flatfish” as specified in paragraph (c)(3)(iv) of this section) is prohibited seaward of a boundary line approximating the 60-fm (110-m) depth contour from March 1 through August 30 and November 1 through December 31 along the mainland coast and along islands and offshore seamounts; and is prohibited seaward of a boundary line approximating the 30-fm (55-m) depth contour from September 1 through October 31; except in the CCAs where fishing is prohibited seaward of the 20-fm (37-m) depth contour when the fishing season is open (see paragraph (c)(3)(i)(B) of this section). Recreational fishing for all groundfish (except “other flatfish”) is closed entirely from January 1 through February 28 (i.e., prohibited seaward of the shoreline). Recreational fishing for California scorpionfish south of 34°27.00' N. latitude is prohibited seaward of a boundary line approximating the 30-fm (55-m) depth contour from October 1 through October 31, and seaward of the 60-fm (110-m) depth contour from November 1 through December 31, except in the CCAs where fishing is prohibited seaward of the 20-fm (37-m) depth

contour when the fishing season is open. Recreational fishing for California scorpionfish south of 34°27.00' N. latitude is closed entirely from January 1 through September 30 (i.e., prohibited seaward of the shoreline). Coordinates for the boundary line approximating the 30-fm (55-m) and 60-fm (110-m) depth contours are specified in Sec. 660.391 and Sec. 660.392.

This change is expected to alleviate confusion among recreational anglers on what depths are open to fishing and provide for a more enforceable depth restriction. An impact analysis, using projected catch estimates for 2006 (based on 2004 California Recreational Fisheries Survey estimates), indicates that this change will not significantly increase groundfish catches in this area during this time period and can be accommodated within the current harvest targets.

GMT RECOMMENDATIONS FOR 2005

1. Provide guidance to address overfishing on petrale sole for December 2005.
2. Implement adjustments in the Oregon recreational ocean and estuary boat fisheries (40 fm seaward boundary of the recreational RCA, prohibit retention of black rockfish) to conform with state adjustments implemented in October, effective through December 31, 2005.
3. Adopt corrected recreational regulations for California as detailed in this report.

GMT RECOMMENDATIONS FOR 2006

1. Adopt proposed changes to trawl RCA boundaries as described in option 3
2. Adopt proposed changes to trawl cumulative limits for sablefish, thornyheads, Dover sole, petrale sole, other flatfish, arrowtooth, slope rockfish, and splitnose as described in option 3.
3. Consider establishing a reserve in the scorecard for canary rockfish in the limited entry bottom trawl fishery, and specify the amount.
4. Increase limits for lingcod in the coastwide for the limited entry trawl fishery to 1,200 lbs per two months (for all gear types).
5. Select an option for the limited entry fixed gear and open access fixed gear DTL fishery for sablefish north of 36° N latitude
6. Adopt limited entry fixed gear and open access fixed gear shelf rockfish, shortbelly, and widow rockfish limits south of 34°27' N latitude
7. Adopt limited entry fixed gear and open access fixed gear black rockfish limits between 40°10' N latitude and 42°.
8. Remove the 30 fm depth closure in the Washington recreational fishery, beginning January 1, 2006.
9. Adopt recreational regulations for Oregon and California as detailed in this report.

OPTION 3: CHANGES TO TRAWL CUMULATIVE LIMITS AND RCA BOUNDARIES FOR 2006 MANAGEMENT

Option 3

Subarea	Period	RCA Config		Cumulative Limits							
		INLINE	OUTLINE	Sable	Lspine	Sspine	Dover	O'flat	Petrals	Arrowth	Slope Rock
North 40 10	Jan	75	200*	7,000	7,500	2,000	25,000	55,000	30,000	50,000	2,000
	Feb	75	200*	7,000	7,500	2,000	25,000	55,000	30,000	50,000	2,000
	2	75	200	14,000	15,000	4,000	50,000	110,000	30,000	100,000	4,000
	3	100	200	20,000	23,000	5,800	35,000	110,000	30,000	100,000	4,000
	4	100	200	20,000	23,000	5,800	35,000	110,000	30,000	100,000	4,000
	5	75	200	20,000	23,000	5,800	35,000	110,000	30,000	100,000	4,000
N 40 10: If SFFT gear used during period	6	75	200*	14,000	15,000	4,000	35,000	110,000	60,000	100,000	4,000
	Jan	75	200*	2,500	1,500	1,500	10,000	45,000	12,500	40,000	2,000
	Feb	75	200*	2,500	1,500	1,500	10,000	45,000	12,500	40,000	2,000
	2	75	200	7,000	3,000	3,000	28,000	90,000	25,000	80,000	4,000
	3	100	200	13,500	3,000	3,000	28,000	90,000	28,000	80,000	4,000
	4	100	200	13,500	3,000	3,000	28,000	90,000	28,000	80,000	4,000
38 - 40 10	5	75	200	7,000	3,000	3,000	28,000	90,000	28,000	80,000	4,000
	6	75	200*	5,000	3,000	3,000	20,000	90,000	25,000	80,000	4,000
	Jan	75	150	8,500	9,500	2,450	25,000	55,000	30,000	5,000	4,000
	Feb	75	150	8,500	9,500	2,450	25,000	55,000	30,000	5,000	4,000
	2	100	150	17,000	19,000	4,900	50,000	110,000	30,000	10,000	8,000
	3	100	150	17,000	19,000	4,900	35,000	110,000	30,000	10,000	8,000
S 38	4	100	150	17,000	19,000	4,900	35,000	110,000	30,000	10,000	8,000
	5	100	150	17,000	19,000	4,900	35,000	110,000	30,000	10,000	8,000
	6	75	150	17,000	19,000	4,900	35,000	110,000	60,000	10,000	8,000
	Jan	75	150	8,500	9,500	2,450	25,000	55,000	30,000	5,000	20,000
	Feb	75	150	8,500	9,500	2,450	25,000	55,000	30,000	5,000	20,000
	2	100	150	17,000	19,000	4,900	50,000	110,000	30,000	10,000	40,000
S 38	3	100	150	17,000	19,000	4,900	35,000	110,000	30,000	10,000	40,000
	4	100	150	17,000	19,000	4,900	35,000	110,000	30,000	10,000	40,000
	5	100	150	17,000	19,000	4,900	35,000	110,000	30,000	10,000	40,000
	6	75	150	17,000	19,000	4,900	35,000	110,000	60,000	10,000	40,000

note: splitnose limits are equivalent to slope rock limits
 petrale is a sublimit of other flatfish in periods 2-5
 * means that petrale areas are open during the period

MORTALITY IMPACTS FROM PROPOSED TRAWL LIMIT ADJUSTMENTS AND RCA BOUNDARIES

Option 3 Impacts

		North	South	Total	HG
Rebuilding Species	Lingcod	136.3	41.1	177.4	
	Canary	5.7	2.6	8.3	
	POP	62.6	0.0	62.6	
	Darkbltch	112.4	27.9	140.3	
	Widow	0.9	0.1	0.9	
	Bocaccio	-	47.4	47.4	
	Yelloweye	0.2	0.1	0.3	
	Cowcod	-	2.8	2.8	
Target Species	Sablefish	2,246.1	751.9	2,998.1	3,427
	Longspine	155.3	466.4	621.7	2,449
	Shortspine	490.7	321.5	812.3	1,011
	Dover	5,700.1	1,570.3	7,270.4	7,504
	Arrowtooth	5,758.5	30.0	5,788.4	5,800
	Petrals	2,341.4	397.0	2,738.4	2,762
	Other Flat	635.1	676.7	1,311.8	4,090
	Slope Rock	204.6	246.5	451.1	n1160 s639