

GROUND FISH MANAGEMENT TEAM (GMT) REPORT
ON CONSIDERATION OF FINAL INSEASON ADJUSTMENTS

The Council requested that the GMT further consider inseason adjustments to commercial fisheries. The GMT processed those requests and provides the following considerations and recommendations.

Open Access

Sablefish Daily Trip Limit (DTL) 36°- 40°10' N Lat.

The GMT evaluated this year's sablefish catch attainment relative to the open access (OA) harvest guideline for the area north of 36° N latitude in the QSM report. Current catches are on track and the fishery is projected to attain their full allocation. Providing a modest increase in the bi-monthly DTL limit (i.e., 100 lbs) risks exceeding the open access allocation. The GMT notes the highest sablefish catches occur in periods 4 and 5 and therefore expect sablefish catches to increase over the current period. Although the GAP indicated that this fishery operates at 300 fm at this time of the year, the GMT does not have any data in which to assess bycatch rates. **Therefore, with one of the highest catch periods remaining and the lack of any extra available yelloweye in the scorecard, the GMT does not recommend increasing the DTL bi-monthly limit.**

Limited Entry Non-Whiting Trawl

Based on the most recent catch data, target species catches in the non-whiting trawl fishery are progressing more slowly than anticipated. Under status quo management measures it is anticipated that the catch of all target species will be less than the allowable catch level (see Table 4). Based on this information, as well as the status of other fisheries, the GMT considered inseason adjustments to the non-whiting trawl fishery that would increase catch levels without exceeding the OYs.

Impacts of Re-opening the Shoreward Areas North of Cape Alava and between Humbug Mt and Cape Arago

During the initial inseason session, changes to the California recreational fishery were adopted by the Council which resulted in a revised scorecard (Agenda Item G.3.b Supplemental GMT Report Attachment 2). In this scorecard, the canary balance is 3.4 mt. Based on this information, the GMT explored options that would re-open the areas off Washington and Oregon that were closed to the non-whiting trawl fishery in April. Reopening these areas take an additional 1.7 mt of canary rockfish but are not expected to increase yelloweye impacts. Table 5 reflects the changes in the RCA adjustments. This table shows that those areas closed earlier this year would be open to 75 fathoms starting October 1 through the end of the year.

Trip Limit Adjustments

The GMT analyzed options that would increase opportunities for sablefish, Dover sole, shortspine thornyheads, Other Flatfish, petrale sole in the north, longspine thornyheads in the south, and southern slope rockfish. Table 6 outlines proposed cumulative limit adjustments to the non-whiting trawl fishery. These actions are expected to take 0.3 mt of canary.

Total Canary Impacts from Non-Whiting Trawl Adjustments

The combined analysis shows that if those areas shoreward of the trawl RCA north of Cape Alava and between Humbug Mountain and Cape Arago were re-opened, and if limits to the above mentioned target species were increased, the non-whiting trawl impacts to canary rockfish would be increased from 8.1 metric tons to 10.1 metric tons, leaving 1.4 metric tons available as a remainder in the scorecard (Table 7).

Limited Entry Trawl Whiting

The Council asked the GMT to consider and respond to several questions regarding the potential re-opening of the whiting season. The questions and responses are detailed below.

What amount of canary, widow, and darkblotched mortality could be expected with the 150 fm line?

The GMT discussed methods to estimate the amount of canary rockfish that might be taken if the whiting fishery re-opened deeper than 150 fm to further assist the Council in assessing risk. First, we calculated the amount of canary that would be taken if the sector specific bycatch rates observed in the 2007 fishery thus far were applied to the amount of whiting left in each sector’s allocation. This calculation results in an estimated canary catch of 1.68 mt needed to prosecute the remaining 50,055 mt of whiting (Table 1).

Table 1. Estimated canary impacts based on 2007 bycatch rates and remaining whiting allocations. Data from this table was taken from Agenda Item G.2.b (NMFS Preliminary Report #6 – 2007 Whiting Fishery)

Sector	Whiting Catch (mt)	Canary Catch (mt)	Canary Rate	Whiting Allocation (mt)	Whiting Left (mt)	Projected Canary (mt)
Shoreside	67,897	2.01	0.00003	87,398	19,501	0.58
Catcher Proc.	42,330	1.62	0.00004	70,751	28,421	1.09
Mothership	47,809	0.35	0.00001	49,942	2,133	0.02
Total	158,036			208,091	50,055	1.68

Since this calculation reflects a fishery that occurred without depth restrictions and includes the accelerated canary bycatch rates that occurred at the end of the shoreside season, the GMT suggests that this estimate might be considered as a high bound estimate for a fishery restricted deeper than 150 fm. If the fishery were limited to depths greater than 150 fm the increase in canary bycatch rates observed during the last week of the 2007 season would diminish since canary encounters are less frequent in deeper waters.

The GMT also notes that shifting all effort outside 150 fm will likely reduce the frequency and magnitude of canary catches, but will not eliminate canary impacts entirely.

In order to estimate potential canary savings from a fishery prosecuted deeper than 150 fm, the GMT examined canary bycatch rates in the 2004-2006 at-sea whiting fishery by depth. Assuming similar rates in the shore-based fishery, canary bycatch rates deeper than 150 fm for the total fishery were 41.1% of the rate for tows conducted in a fishery without a depth restriction. Applying this rate to the 1.68 mt estimated from an all-depth fishery results in an estimated catch of 0.69 mt of canary rockfish in the fishery if the remaining whiting OY is taken.

Additionally, the GMT reviewed the NMFS trawl survey results and found that the occurrence of canary rockfish in the trawl survey drops off substantially at depths deeper than 100 fathoms (as shown in the figure below), though it should be noted that this survey uses bottom trawl gear which has a different interaction with groundfish species than midwater trawl gear.

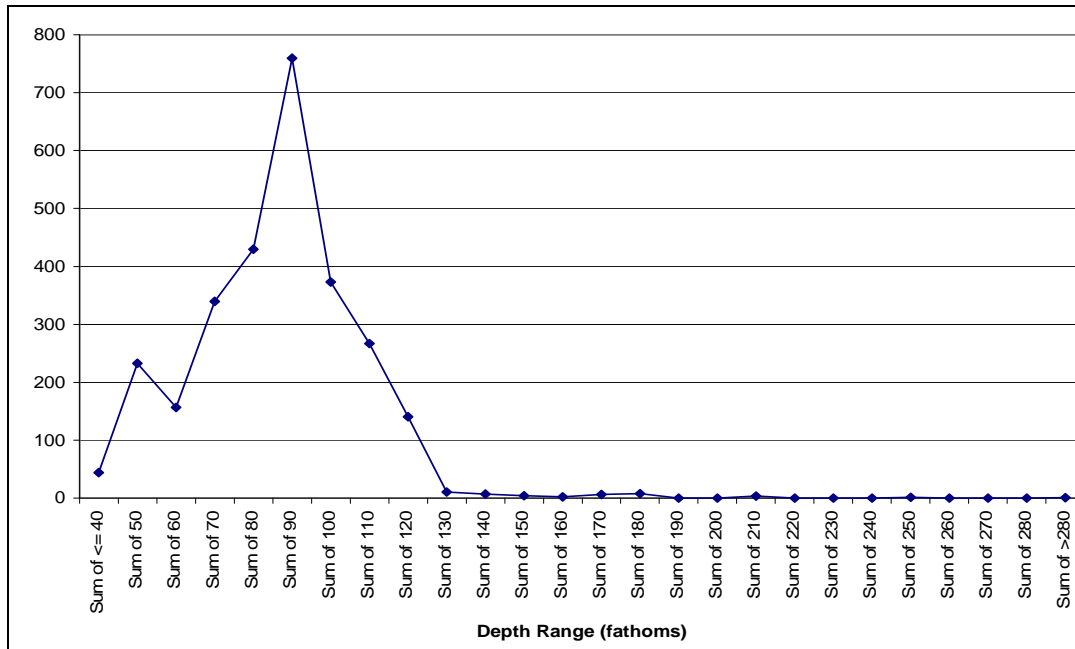


Figure 1. Depth-Based Catch of Canary Rockfish in the NMFS Trawl Survey

The GMT implemented a similar methodology as that used for canary to determine the amount of widow and darkblotched rockfish that might be taken if the whiting fishery re-opened. We calculated the amount of widow and darkblotched that would be taken if the sector specific bycatch rates observed in the 2007 fishery thus far were applied to the amount of whiting left in each sector’s allocation without the implementation of a 150 fm restriction. This calculation results in an estimated widow catch of 77.35 mt and an estimated 4.98 mt of darkblotched rockfish needed to prosecute the remaining 50,055 mt of whiting without a 150 fathom restriction (Table 2).

Table 2. Estimated widow and canary impacts based on 2007 bycatch rates and remaining whiting allocations. Data from this table was taken from Agenda Item G.2.b (NMFS Preliminary Report #6 – 2007 Whiting Fishery)

	Whiting Catch (mt)	Widow Catch	Widow Rate	D.Blotch Catch (mt)	D.Blotch Rate	Whiting Allocation (mt)	Whiting Left (mt)	Projected Widow (mt)	Projected D.Blotch (mt)
S.S	67,897	90.27	0.00133	0.8	0.00001	87,398	19,501	25.93	0.23
C.P	42,330	71.74	0.001695	6.73	0.00016	70,751	28,421	48.17	4.52
M.S.	47,809	72.99	0.001527	5.25	0.00011	49,942	2,133	3.26	0.23
Total	158,036					208,091	50,055	77.35	4.98

The GMT discussed developing a depth-based estimate of widow rockfish that would show the amount of widow expected to be taken if a 150 fathom line were to be implemented. Based on the distribution and variability of the widow rockfish catch in the whiting fishery, the GMT believes that a model of depth related savings (as was done for canary rockfish) was not appropriate and therefore did not pursue that methodology further. However, it may be reasonable to assume the darkblotched catch rate will increase if the fishery operates outside 150 fathoms.

When the Council chose to manage the whiting fishery with bycatch limits, the intent was to close the fishery when the bycatch limit is reached. This methodology was chosen because projecting bycatch estimates can be difficult and could result in premature closure of the fishery. This year, the whiting fishery was closed when the widow bycatch limit of 220 mt was estimated to have been reached. The post-season estimate indicated that the bycatch limit was exceeded by 21.6 mt. If the Council chooses to re-open the whiting fishery and the fishery experiences similar widow rockfish encounters, it may be reasonable to assume the limit could be exceeded by 21.6 mt again. Therefore, the GMT recommends that any Council action take into account the magnitude of potential bycatch limit overages in order to protect against exceeding an OY.

Explore Early and End of Season Bycatch Patterns

Some insight of fishery bycatch trends over time is also documented in the 2007 Environmental Assessment that accompanied the emergency rule to restrict participation in the whiting fishery (Emergency rule to implement measures to prohibit entry of new vessels to the directed fishery for Pacific Whiting in the Exclusive Economic Zone off the West Coast in 2007: Environmental Assessment and Regulatory Impact Review). Bycatch rate trends by fishery and over time are described for widow, and for other rebuilding species and recently rebuilt species (“other species” is primarily canary and darkblotched rockfish, but also includes Pacific Ocean perch, yelloweye, bocaccio, and lingcod). For data collected from the shoreside whiting fleet between 2004 and 2006, widow rockfish bycatch rates are highly variable with a notable trend towards lower bycatch rates late in the season. However, for “other” rebuilding species there is no obvious trend; possibly as declines in the bycatch of shelf rockfish (e.g., canary) are often associated with increased bycatch of slope species (e.g., darkblotched). Similarly, both mothership and catcher-processor sectors show highly variable bycatch rates over time, although both have a tendency towards reduced bycatch rates of both widow and other rebuilding rockfish throughout the course of the season.

The GMT evaluated an early and late season changes in bycatch rates across years. The GMT had difficulty teasing out the early season learning curve from the biological changes related to seasonality in fish aggregations, and therefore the GMT is unable to estimate the effect of the learning curve on bycatch rates. However, by utilizing the 2007 bycatch rates from the entire year in the projected impacts of re-opening the fishery, the learning curve effect is inherently incorporated.

In conclusion, given our best attempts to analyze bycatch trends in the whiting fishery, it is difficult to predict bycatch events and provide the Council with an explicit recommendation for the amount of canary that could be taken in a fall whiting fishery. The GMT recommends that any Council action take into account the magnitude of potential bycatch limit overages in light of the remaining OYs and the current bycatch limit management structure.

Estimate of Undocumented Discard

The Council requested that the GMT revisit and attempt to quantify the undocumented discard identified that the Enforcement Consultants’ report (Agenda Item G.3. c, Supplemental EC Report). After further discussion, the GMT again concluded that it was not possible to quantify the bycatch that may have occurred from other potential illegal activity in the 2007 whiting fishery. The general lack of quantitative information available to the team, the ongoing nature of investigations, and the assumptions the team would be required to make in the analysis, make assessing the impact impossible. However, the team notes that there is a likelihood that some undocumented amount of mortality may have occurred for all three bycatch limit species.

What Fisheries Could be Impacted by Canary Overages?

Table 3 outlines the West Coast fisheries that could be impacted by the whiting fishery exceeding the canary bycatch limit.

Table 3. Fisheries that could be impacted by canary overages in the whiting fishery

Fishery	Canary Metric Tons through the end of the year (prior to Final Inseason)	Expected Closure Date
2007 Canary OY	44.0	
Limited Entry Trawl- Non-whiting	8.1	
-Shoreward of RCA		on going
Limited Entry Fixed Gear		
Sablefish	1.1	on going
Non-Sablefish		on going
Open Access: Directed Groundfish		
Sablefish DTL	0.2	
Nearshore (North of 40°10' N. lat.)	1.7	on going
Nearshore (South of 40°10' N. lat.)		on going
Other	1.0	on going
Open Access: Incidental Groundfish		
Pink shrimp	0.1	Close Oct. 31
Ridgeback prawn	0.1	Close Oct. 31
Salmon troll	0.2	Bubble fisheries
Recreational Groundfish		
WA	5.7	on going
OR		on going
CA	10.1	on going

Note: most of the estimated canary impacts have been taken by October 1.

How Soon Could the Whiting Fishery be Closed?

In recent years, the whiting fishery has been closed upon attainment of the whiting sector allocations. The GMT discussed with NMFS staff what methods were used in July 2007 to close the whiting season in a timely manner after reaching the 2007 widow bycatch limit. Upon NMFS receiving catch estimates indicating that the bycatch limit has been reached, they issued a notice that the fleet had 24 hours to stop fishing, (i.e. have gear stowed, and 48 hours to be back in port). NMFS would use similar procedures, as used in July 2007, to issue 24 hour notices to close the whiting fishery if a bycatch limit is estimated to have been reached.

Finally, the GMT comments that the scorecard is an estimate of projected catch. It is likely that the actual catch number will be somewhat different than the point estimate indicated in the scorecard. Therefore, the GMT would like to reiterate that some precaution is warranted in setting management measures because of the inherent uncertainty involved in predicting overfished species mortality.

GMT Recommendations

1. Consider adjustments to the non-whiting trawl fishery RCA boundaries in the area north of Cape Alava and between Humbug Mountain and Arago (Table 5).
2. Adopt trip limit changes to the non-whiting trawl fishery as outlined in Table 6 for implementation as close as possible to October 1.
3. Consider re-opening of the whiting fishery based on the additional GMT analysis presented in this report.

Table 4. Predicted Catch of Select Groundfish in the Non-Whiting Trawl Fishery Under Status Quo Management Measures

		North	South	Total	OY/HG/ Allocation
Rebuilding Species	Canary	7.1	1.0	8.1	
	POP	73.2	-	73.2	
	Drkbltch	191.8	30.3	222.0	
	Widow	1.6	0.0	1.6	
	Bocaccio	-	23.9	23.9	
	Yelloweye	0.4	0.0	0.4	
	Cowcod	-	1.4	1.4	
Target Species	Sablefish	1,769	369	2,138	2,651
	Longspine	651	322	827	2,220
	Shortspine	864	202	853	1,634
	Dover	7,845	1,750	9,595	16,500
	Arrowt'ht	3,510	89	3,599	5,800
	Petrale	1,961	395	2,356	2,499
	Other Flat	1,089	422	1,510	4,884
	Slope Rock	131	155	286	1,786

Table 5. Proposed RCA Boundaries for the Non-Whiting Trawl Fishery North of 40°10' N. Lat. Rockfish Conservation Area North of 40 deg 10 min Lat

	Jan-Feb	March-April	May-June	Jul-Aug	Septembr-Octobr	Nov-Dec
North of Alava			shore-150		shore-200	75-200*
Alava - Leadbetter			75-150		75-200	75-200*
Leadbetter - OR/WA Border			60-150		60-200	75-200*
OR/WA Border - Cascade Head	75-250*	75-250	75-150	75-200		75-200*
Cascade Head - Humbug Mt			75-200			75-200*
Humbug Mt - Cape Arago			shore-200			75-200*
Cape Arago - 40 deg 10 min Lat			75-200			75-200*

Note: a "*" indicates petrale areas

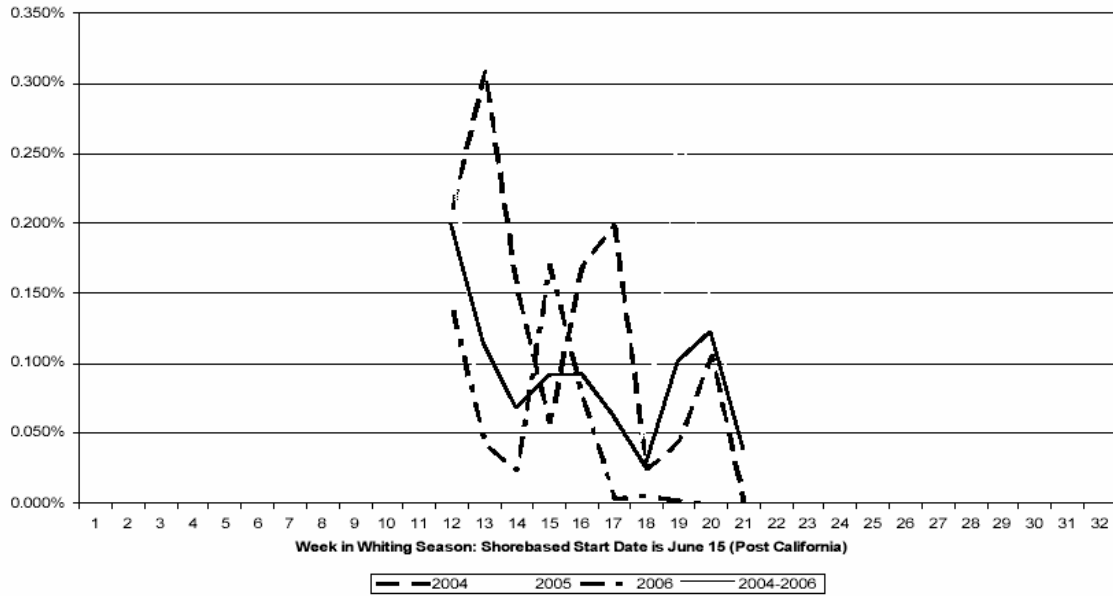
Table 6. Proposed Cumulative Limit Adjustments to the Non-Whiting Trawl Fishery

Area	Period	Shoreward Seaward		Sable	Longspine	Shortsp	Dover	Othr Flat	Petrale	Arrow'th	Slope Rock	
		Line	Line									
N 40 10	1	75	150	13,000	22,000	7,500	80,000	110,000	50,000	100,000	4,000	
	2			13,000	22,000	7,500	80,000	110,000	30,000	100,000	4,000	
	3			15,000	22,000	10,000	60,000	110,000	20,000		1,500	
	4	see attached table		15,000	25,000	10,000	60,000	110,000	20,000	Combined		1,500
	5		200	22,000	25,000	12,000	95,000	150,000	20,000	with Other		1,500
	6	75	200*	22,000	25,000	12,000	95,000	150,000	40,000	Flat		1,500
North Select Flatfish	1	75	150	5,000	3,000	3,000	40,000	90,000	16,000	90,000	4,000	
	2			8,000	3,000	3,000	40,000	90,000	25,000	90,000	4,000	
	3			5,000	3,000	3,000	38,000	70,000	20,000		1,500	
	4	see attached table		5,000	3,000	3,000	38,000	70,000	20,000	Combined		1,500
	5		200	5,000	3,000	3,000	38,000	70,000	15,000	with Other		1,500
	6	75	200*	5,000	3,000	3,000	25,000	30,000	8,000	Flat		1,500
38 to 40 10	1	100	150	14,000	22,000	7,500	70,000	110,000	50,000	10,000	15,000	
	2	100	150	14,000	22,000	7,500	70,000	110,000	30,000	10,000	15,000	
	3	100	150	14,000	22,000	7,500	70,000	110,000	25,000		15,000	
	4	100	150	14,000	22,000	7,500	80,000	110,000	25,000	Combined		10,000
	5	100	150	22,000	25,000	13,000	95,000	150,000	25,000	with Other		10,000
	6	100	150	22,000	25,000	13,000	95,000	150,000	50,000	Flat		15,000
S 40 10	1	100	150	14,000	22,000	7,500	70,000	110,000	50,000	10,000	40,000	
	2	100	150	14,000	22,000	7,500	70,000	110,000	30,000	10,000	40,000	
	3	100	150	14,000	22,000	7,500	70,000	110,000	25,000		40,000	
	4	100	150	14,000	22,000	7,500	80,000	110,000	25,000	Combined		40,000
	5	100	150	22,000	25,000	13,000	95,000	150,000	25,000	with Other		55,000
	6	100	150	22,000	25,000	13,000	95,000	150,000	50,000	Flat		55,000

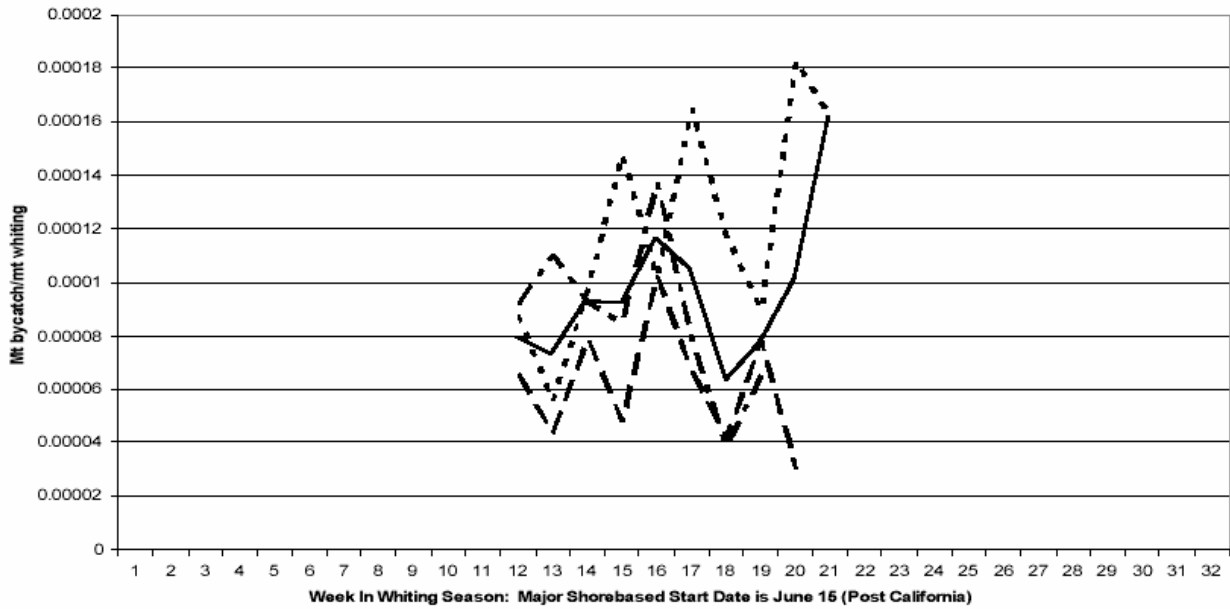
Table 7. Rebuilding species impacts and target species catches under proposed inseason management actions for the non-whiting trawl fishery.

	Species	North	South	Total	Harvest Target
Rebuilding Species	Canary	9.0	1.1	10.1	
	POP	79.6	0.0	79.6	
	Darkblotched	209.7	32.4	242.1	
	Widow	1.7	0.0	1.8	
	Bocaccio	0.0	25.2	25.2	
	Yelloweye	0.4	0.0	0.4	
	Cowcod	0.0	1.4	1.4	
Target Species	Sablefish	2,178	442	2,620	2,651
	Longspine	651	322	973	2,220
	Shortspine	942	266	1,208	1,634
	Dover	8,626	1,890	10,516	16,500
	Arrowtooth	3,510	89	3,599	5,800
	Petrale	2,021	395	2,416	2,499
	Other Flat	1,142	493	1,635	4,884
Slope Rock	131	156	287	1,786	

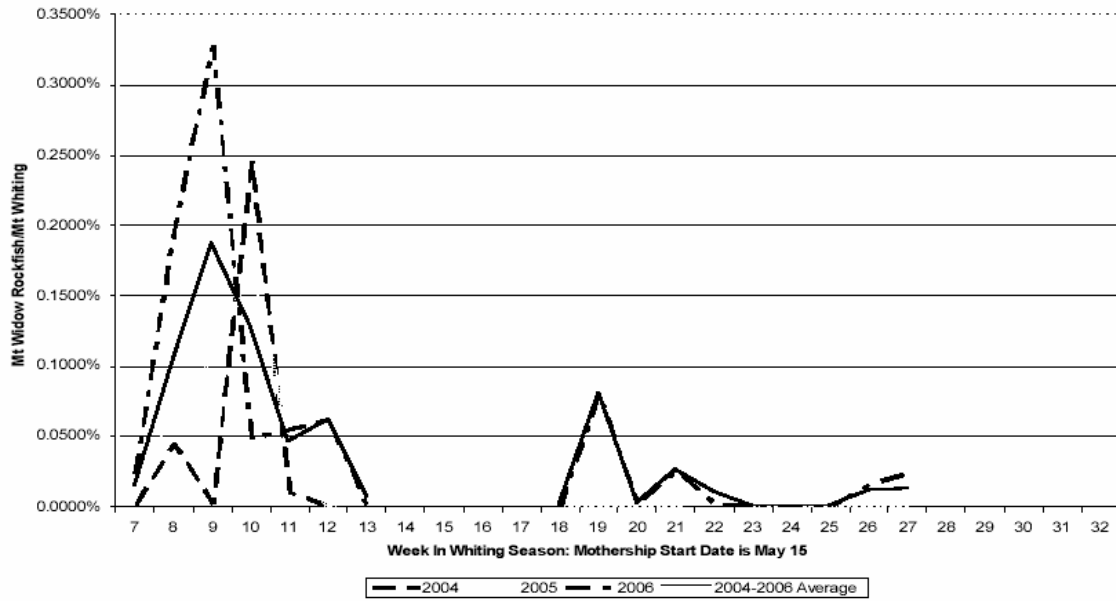
Shorebased Weekly Widow Bycatch Rates



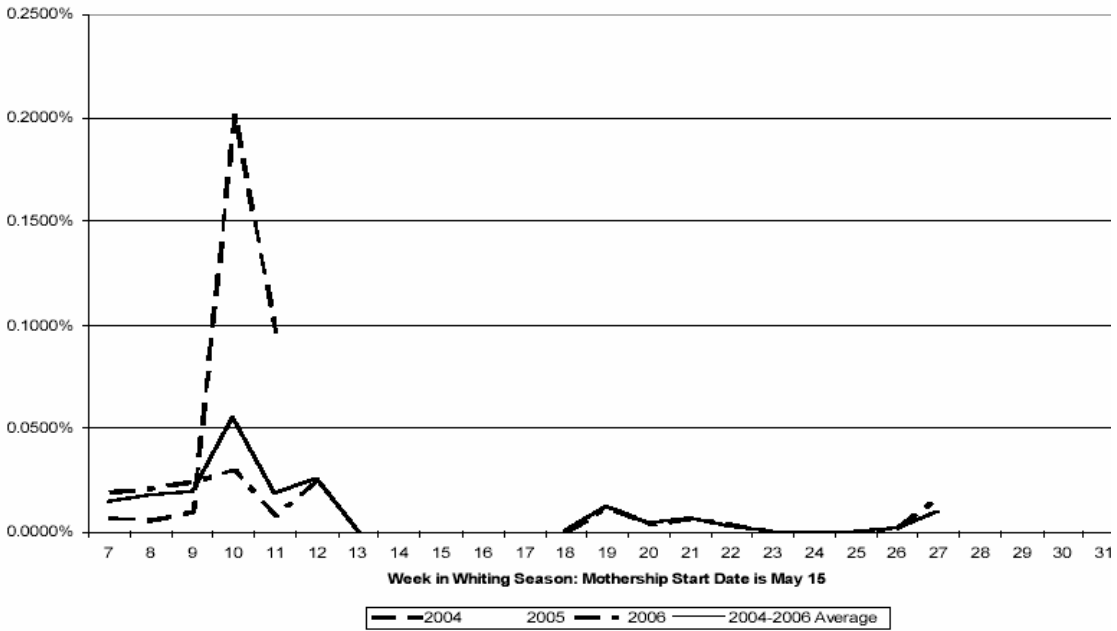
Shorebase Non-Widow Overfished Species Weekly Bycatch Rate



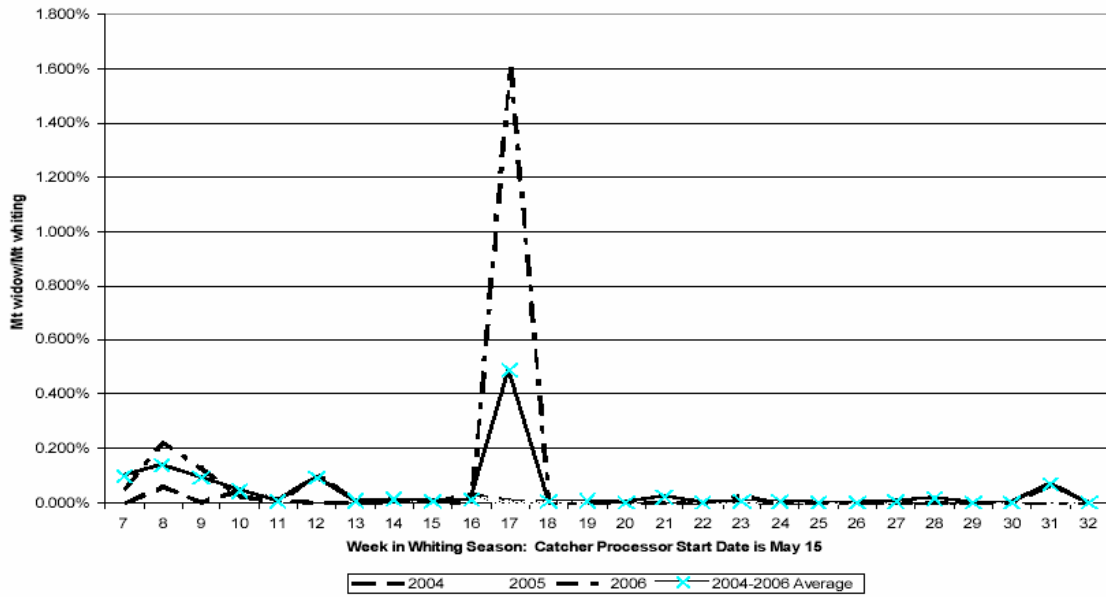
Mothership Widow Weekly Bycatch Rates



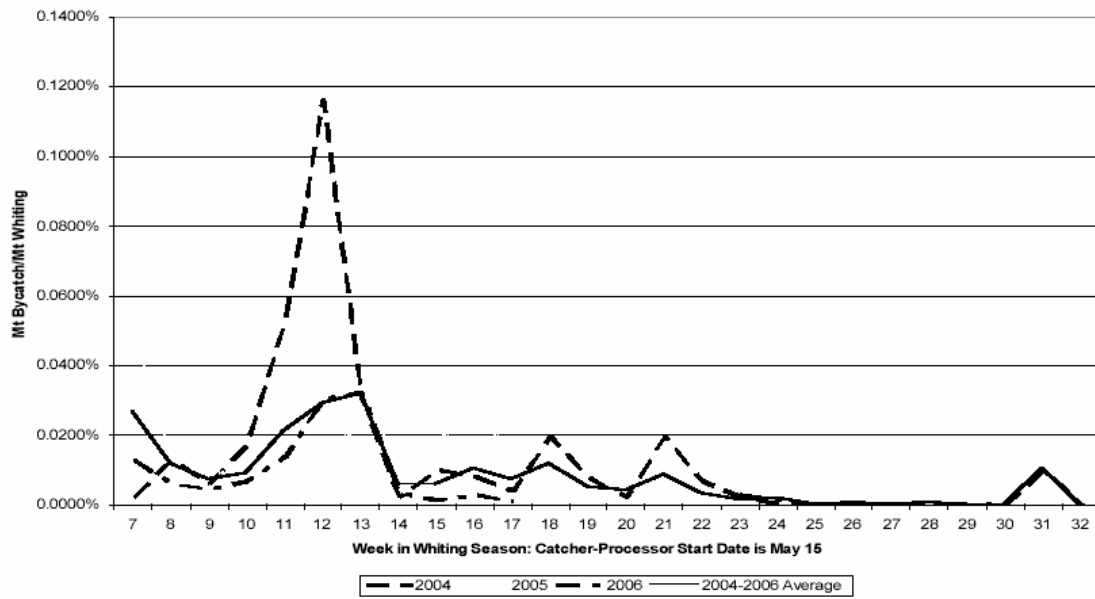
Mothership Weekly Bycatch Rates of Non-Widow Overfished Species



Catcher-Processor Weekly Widow Bycatch Rates



Catcher-Processor Non-Widow Overfished Species Weekly Rate



2007 Projected mortality impacts (mt) of overfished groundfish species Prior to Final Inseason

9/11/07

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	23.9	8.1	1.4	222.0	73.2	1.6	0.4
Limited Entry Trawl- Whiting							
At-sea whiting motherships a/		4.0		12.8	1.9	241.6	0.0
At-sea whiting cat-proc a/			0.0				
Shoreside whiting a/			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		1.3	0.4		2.8
Sablefish	13.4		0.0			0.0	
Non-Sablefish			0.1			0.5	
Open Access: Directed Groundfish		1.0					
Sablefish DTL	0.0	0.2	0.1	0.2	0.1	0.0	0.3
Nearshore (North of 40°10' N. lat.)	0.0	1.7		0.0	0.0	0.5	1.5
Nearshore (South of 40°10' N. lat.)	0.0			0.0	0.0		
Other	10.6			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					6.0
OR						1.4	
CA	53.2		10.1	0.1			9.0
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	3.7	0.2	3.8	3.6	0.9	1.9
TOTAL	104.4	40.6	1.9	240.1	83.5	301.9	22.9
2007 OY	218	44.0	4.0	290	150	368	23
Difference	113.6	3.4	2.1	49.9	66.5	66.1	0.1
Percent of OY	47.9%	92.3%	47.5%	82.8%	55.7%	82.0%	99.4%
Key	= either not applicable; trace amount (<0.01 mt); or not reported in available data						

a/ Non-tribal whiting numbers reflect actual catches through July 26 based on September 7, 2007 NMFS report

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 updated August 2007. Canary and yelloweye updated Sept. 10, 2007. Estimate based on combination of actual 2006 catches and projected 2007 catch.