

GMT STATEMENT ON FINAL HARVEST LEVELS AND OTHER SPECIFICATIONS FOR 2003

The Groundfish Management Team discussed the range of considered groundfish harvest levels for 2003 management and the implications of the varying total catch optimum yields (OYs) for each of the nine stocks with alternative specifications. The *Initial Draft Environmental Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis For Proposed Groundfish Acceptable Biological Catch and Optimum Yield Specifications and Management Measures For The 2003 Pacific Coast Groundfish Fishery* (Annual Specifications EIS; Exhibit C.3, Attachment 1) provides some of the scientific explanation for alternative harvest specifications. However, further GMT discussion of the management implications of alternative harvest levels may be fruitful for Council considerations. Additionally, the GMT discovered an error in the sablefish specifications. The attached Revised Table 2.1-1 is a revision of the table that appeared in the Annual Specifications EIS. The following summary of alternative harvest specifications and their management implications is provided for consideration.

Lingcod

The alternative lingcod OYs are based on probabilities of rebuilding within T_{MAX} that correspond to the 80%, 60%, and 50% trajectories for *Low OY*, *Medium OY*, and *High OY*, respectively. The Allocation Committee met in August and specified a preference for the *Medium OY* value of 651 mt, which is consistent with the interim Council rebuilding strategy for lingcod. The GMT notes that it is unlikely that any of the considered lingcod harvest levels, including *Low OY*, will be attained in 2003 due to the anticipated binding constraints on fisheries operating on the shelf imposed by the need to rebuild bocaccio, canary rockfish, cowcod, and yelloweye rockfish. Preliminary evidence suggests that lingcod rebuilding is on track to rebuild within ten years in accordance with the interim Council lingcod rebuilding measures, which also alleviates any concern for lingcod.

Pacific Whiting

The Pacific whiting OYs are not ranged according to a rebuilding analysis since one has not been adopted by the Council. All three harvest levels the GMT recommended for consideration assume a medium level of recruitment for the 1999 year class. The *Low OY* is the current OY, which is the default $F_{40\%}$ harvest rate with the 40-10 adjustment applied to the estimated 2002 biomass. The *Medium OY* is derived using the more conservative $F_{45\%}$ harvest rate with the 40-10 adjustment, but applied to projected 2003 biomass. The *High OY* is derived using the default $F_{40\%}$ harvest rate with the 40-10 adjustment applied to the projected 2003 biomass.

Sablefish

The alternative sablefish OYs are derived from the 2002 assessment update and reflect alternative explanations for the poor recruitment observed in the 1990s. The *Low OY* harvest level is derived using an $F_{60\%}$ harvest rate under a density-dependence hypothesis and resampling of the 1992-2001 recruits to determine future recruitment. This harvest alternative was requested by the GMT in May in an effort to identify a harvest rate that would provide greater assurance of stock increase over the next 5-10 years, assuming average recruitment after the 1999 and 2000 year classes. The *Medium OY* alternative is based on the default $F_{45\%}$ harvest rate under a density-dependence hypothesis (resampling of 1992-2001 recruits). The *High OY* alternative is based on the default $F_{45\%}$ harvest rate under an environmental regime shift hypothesis (resampling of 1975-2001 recruits). Previous versions of the alternative harvest levels table prepared by the GMT depicted slightly lower harvest levels under these alternatives. The Team discovered the conversion of the OY derived for the assessed area north of Pt. Conception (34°27' N. lat.) to the management area north of 36° N. lat. incorrectly subtracted the entire Conception area OY. This mistake is corrected in the attached Revised Table 2.1-1.

The GMT is not recommending a specific harvest level but does note the STAR-light Panel advice that "given that (1) Q is poorly determined and that (2) at this time there is no compelling scientific basis to select between the two states of nature (density-dependent vs. regime shift), the review panel concluded that a precautionary adjustment that would lower the "risk neutral" sablefish OY is warranted, in order to reduce the possibility of over-harvesting the resource." The GMT is concerned that a harvest level as high as the *Medium OY* risks driving stock spawning biomass down near the overfished threshold if we do not continue to see recruitments

that are as large as 1999 or 2000. Precaution is also warranted due to the expected delays in conducting the next assessment if the Council proceeds with multi-year management.

Pacific Ocean Perch

The Pacific ocean perch OY alternatives range probabilities of 80%, 70%, and 50% of rebuilding within T_{MAX} for *Low OY*, *Medium OY*, *High OY*, respectively. The Team notes that it is unlikely that any of the OYs will be attained in 2003 due to expected measures to constrain darkblotched rockfish mortality.

Widow Rockfish

The range of widow rockfish harvest alternatives corresponds to rebuilding probabilities of 80%, 60%, and 50% under the *Low OY*, *Medium OY* (= *Alloc. Cm. OY*), and *High OY* alternatives, respectively with the *Medium OY* consistent with the Council's interim rebuilding strategy. The *Medium OY* harvest level of 832 mt conforms to the Council's adopted interim strategy for rebuilding the stock and may provide a winter opportunity for a midwater trawl fishery after anticipated bycatch in the at-sea fishery is taken into account. Therefore, the GMT recommends the 60% probability option of 832 mt, as the expected bycatch of widow in other targeted fisheries is approximately 250 mt which provides a significant buffer against unanticipated mortalities, and provides for a midwater opportunity in a portion of period 6. Using the T_{MID} option (which is equivalent to the 80% probability) produces an OY of 656 mt. This *Low OY* alternative would not provide both a midwater opportunity and an adequate buffer against unanticipated mortalities and possible increased effort. A higher harvest level would provide flexibility for scheduling a midwater trawl opportunity and an adequate buffer between expected catches and the OY. Not providing a midwater trawl opportunity in 2003 would reduce widow/yellowtail exvessel revenue by about \$600,000-\$750,000.

Canary Rockfish

The range of canary rockfish harvest alternatives correspond to rebuilding probabilities of 80%, 60%, and 50% under the *Low OY*, *Medium OY*, and *High OY* alternatives, respectively. The GMT is primarily concerned with the bycatch implications under the considered catch sharing options. The GMT supports Council consideration of canary rockfish catch sharing for 2003 that is higher on the commercial end than 50%. Catch sharing of canary that is 60% commercial:40% recreational would provide for an overall higher OY at the 60% probability level (44 mt vs. 41 mt). The increase in OY is due to the tendency of recreational fisheries to take smaller fish. This creates a greater "per-ton" impact over the course of rebuilding. Not only would this provide for commercial trawl fisheries which would otherwise be constrained, it would also provide for anticipated canary rockfish mortalities associated with proposed exempted fisheries (EFPs) for 2003. As an example, under a 60:40 split, the recreational portion of the OY would be reduced from 19 mt to 16 mt. The additional 3 mt from the recreational share plus the 3 mt from the increased OY under 60:40 sharing would provide most of what the Team believes would be needed to accommodate valuable experimental fisheries in 2003. However, the GMT notes that the current preferred state recreational management proposals cannot be accommodate under the 50:50 catch sharing option (as they produce mortalities in the 21 mt range); therefore, these proposals must be significantly restructured to meet the appropriate OY targets.

Bocaccio

The GMT could not recommend an OY for bocaccio given the lack of any available harvest under rebuilding in the revised rebuilding analysis.

Darkblotched Rockfish

The darkblotched OYs reviewed with their associated probabilities of rebuilding within T_{MAX} were as follows: *Low OY* (~92%), *2001 OY* (~88%), *Alloc. Cm. OY* (80%), *Medium OY* (70%), and *High OY* (50%). The consequence of managing for the lower OYs are that the trawl fishery would be constrained for a greater portion of the year outside of 250 fm. Smaller vessels would be most affected since they may not be able to effectively fish in deeper water. Opportunities to fish flatfish in shallower water could also be more constrained due to projected bycatch of young darkblotched rockfish inside 100 fm. Some of these vessels could be forced out of the fishery with no viable economic incentives. The GMT believes the T_{MID} value of 172 mt (*Alloc. Cm. OY*) provides a reasonable balance for rebuilding the stock while lessening the potential adverse economic impacts to the limited entry trawl sector.

Yelloweye Rockfish

The *Low OY* is based on the older rebuilding analysis considered in June which was called into question due

to the lack of Washington catch and age data. The *Medium OY* alternative is the Status Quo 13.5 mt specified in 2002 and the *High OY* alternative conforms to a 50% probability of rebuilding within T_{MAX} as determined in the new rebuilding analysis. The GMT considered the implications of managing for a coastwide yelloweye rockfish OY. The Team is concerned that targeting of yelloweye would likely occur in areas where the stock is more depressed, leading to local depletion. Given the uncertainty in the assessment and the current ability to manage for these low levels of available harvest, the Team recommends a lower harvest level and would prefer a level closer to *Medium OY*. This would be consistent with recommended management measures such as no retention regulations in all recreational and commercial line fisheries to discourage targeting and alleviate concerns regarding localized depletion.

The Team endorses the upper end of the 14-22 mt updated rebuilding OY range supported by the SSC provided that it not be treated as a target. Due to the data inputs and uncertainty in the current model, the Team feels it would be appropriate to adopt management measures designed to achieve the harvest close to *Medium OY* (13.5 mt). This approach provides a buffer between the management target and the OY to allow for unanticipated (or unmeasurable) yelloweye mortality associated with zero retention management measures. This is similar to the approach we have used in the past for POP in which the OY has not been considered a target and fisheries were modeled to keep mortality to unavoidable incidental levels.

REVISED TABLE 2.1-1. Acceptable biological catches (ABCs) and total catch optimum yield (OY) alternatives (mt) for 2003 for the West Coast under the Council-proposed alternatives. (Overfished stocks in CAPS).

Stock	2002 ABCs/OYs		2003 ABCs and OY Alternatives					Council OY
	ABC	No Action OY	ABC	Low OY	Medium OY	High OY	Alloc. Cm. OY	
LINGCOD	745	577	841	555	651	725	651	To be specified at the Sept Council meeting
Pacific Cod <i>as is</i>	3,200	3,200	3,200		3,200			
PACIFIC WHITING	166,000	129,600	188,000	129,600	148,200	173,600	148,200	
Sablefish								
North of Conception	4,644	4,367	8,209	4,477	7,455	8,187	5,000	
Conception INPFC area	333	229	441	233	323	346	249	
PACIFIC OCEAN PERCH	640	350	689	311	377	496	377	
Shortbelly Rockfish <i>as is</i>	13,900	13,900	13,900			13,900		
WIDOW ROCKFISH	3,727	856	3,871	656	832	916	832	
CANARY ROCKFISH								
(50% Comm.-50% Rec.)	228	93	256	30	41	45	41	
(80% Comm.-20% Rec.)			309	38	52	57		
(20% Comm.-80% Rec.)			218	20	34	37		
Chilipepper Rockfish <i>as is</i>	2,700	2,000	2,700			2,000		
BOCACCIO¹	122	100	198	0	5.8	≤20	≤20	
Splitnose Rockfish	615	461	615			461		
Yellowtail Rockfish <i>as is</i>	3,146	3,146	3,146			3,146		
Shortspine Thornyhead <i>is</i>	1,004	955	1,004			955		
Longspine Thornyhead	2,461	2,461	2,461			2,461		
S. of Pt. Conception	390	195	390			195		
COWCOD (S. Concep)	5	2.4	5			2.4		
N. Concep & Monterey	19	2.4	19			2.4		
DARKBLOTCHED	187	168	205	100	184	205	172	
YELLOWEYE²	27	13.5	52	2.1	13.5	27	22	
Minor Rockfish North <i>as is</i>	4,795	3,115	4,795			3,115		
Minor Rockfish South <i>as is</i>	3,506	2,015	3,506			2,015		
Remaining Rockfish North	2,727		2,727					
Black	1,115		1,115					
Bocaccio	318		318					
Chilipepper - Eureka	32		32					
Redstripe	576		576					
Sharpchin	307		307					
Silvergrey	38		38					
Splitnose	242		242					
Yellowmouth	99		99					
Remaining Rockfish South	854		854					
Bank	350		350					
Blackgill	343		343					
Sharpchin	45		45					
Yellowtail	116		116					
Other Rockfish North	2,068		2,068					
South	2,652		2,652					
Dover Sole	8,510	7,440	8,510			7,440		
English Sole	3,100		3,100					
Petrale Sole	2,762		2,762					
Arrowtooth Flounder	5,800		5,800					
Other Flatfish	7,700		7,700					
Other Fish	14,700		14,700					

¹The medium and high OYs are not supported by a revised rebuilding analysis (MacCall and He 2002) that is scheduled for SSC review at the September Council meeting. The *Medium OY* alternative is based on the June 2002 version of the rebuilding analysis. The *High OY* and *Alloc. Cm.-Preferred OY* alternatives are based on a recent decision by NOAA Fisheries that bocaccio do not conform to National Standard Guidelines; the harvest limit specified is estimated to achieve rebuilding beyond T_{MAX} and is supported by Magnuson-Stevens Act objectives.

²The *High OY* and *Alloc. Cm.-Preferred OY* alternatives are based on a new rebuilding analysis (Methot et al. 2002) that is scheduled for SSC review at the September Council meeting.

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Preliminary ABCs and OYs for 2003, Council Meeting Draft #1, 9-10-02.

All amounts in metric tons	2003 Total ABC	Optimum Yield (OY)			Open-Access			Limited-entry			Limited-entry			
		2003 Comp.	Rec.	Tribal	Res.	Non-GF	Non-tribal Comm.	Total catch	Landed catch	Total catch	At-sea Bycatch	Landed	Limited-entry	
													FG	Trawl
Lingcod	841	555	461	5.5	3	1.3	419	80	64	340		272		
	841	651	538	5.5	3	1.3	515	98	78	417		334		
	841	725	597	5.5	3	1.3	589	112	90	477		382		
Whiting	188,000	129,600		22,680	200	1,800	104,920				at-sea		shore	
	188,000	148,200		25,000	200	1,800	121,200				60,854		44,066	
	188,000	173,600		25,000	200	1,800	146,600				70,296		50,904	
											85,028		61,572	
Sablefish NoC	8,209	4,477	3,860	448	53.0	18.5	3,932	370	340	3,562	15	2,988	1,612	1,377
	8,209	5,000	4,309	500	53.0	18.5	4,402	414	381	3,989	15	3,346	1,804	1,541
	8,209	7,455	6,417	745	53.0	18.5	6,612	621	572	5,990	15	5,024	2,710	2,315
Conception Area	8,209	8,187	7,046	819	53.0	18.5	7,271	683	629	6,587	15	5,526	2,980	2,545
	441	233	214				233							
	441	249	229				249							
	441	323	297				323							
	441	346	318				346							
Dover sole	8,510	7,440	7,006		62.4	58.0	7,318			7,318		7,006		
English sole	3,100													
Petrale sole	2,762													
Arrowtooth flounder	5,800													
Other flatfish	7,700													
Thornyheads														
Shortspine N. of Pt.C	1,004	955	755	3.0	9.0		941	3	3	939		751		
Longspine	2,461	2,461	2,029		18.0		2,434			2,434		2,020		
Conception	390		195				0			0		195		
Widow	3,871	656	383	45	1.5	0.4	606	18	15	588	160	364		
	3,871	832	530	45	1.5	0.4	782	23	20	759	160	508		
	3,871	916	582	45	1.5	0.4	866	26	22	840	182	557		
											constant rate, mt depends on whiting OY			
POP	689	311	259	0	3.0		308			308		259		
	689	377	314		3.0		374			374		314		
	689	496	414		3.0		493			493		414		
Yellowtail	3,146	3,146	1,978	400	8.0	5.8	2,717	226	189	2,492	300	1,773		
Chilipepper	2,700	2,000	1,682	15			1,985	879	739	1,106		929		
Splitnose (Rosefish)	615	461	387							461		387		

Preliminary Catches and OYs for 2003, Council Meeting Draft #1, 9-10-02 (cont.).

All amounts in metric tons	2003		Optimum Yield (OY)						Open-Access			Limited-entry		Limited-entry				
	Total ABC	2003	Total		Tribal	Rec.	2003	Res.	Non-GF	Non-tribal Comm.	%	Total catch	Landed catch	Total catch	At-sea Bycatch	Landed	Trawl	FG
			Catch	Landed														
Canary 50-50%	256	80%	25	17	2.5	11	1	0.07	11	12.3%	1.3	1.1	9	3	5			
			30	22	2.5	13	1	0.07	13	12.3%	1.6	1.4	12	3	7			
			41	32	2.5	19	1	0.07	19	12.3%	2.3	1.9	16	3	11			
			45	36	2.5	21	1	0.07	21	12.3%	2.5	2.1	18	3	13			
Canary 80% C-20%R	309	80%	32	22	2.5	6	1	0.07	23	12.3%	2.8	2.3	20	3	14			
			38	28	2.5	7	1	0.07	28	12.3%	3.4	2.8	24	3	18			
			52	40	2.5	10	1	0.07	39	12.3%	4.8	4.0	34	3	26			
			57	44	2.5	11	1	0.07	43	12.3%	5.3	4.4	37	3	29			
Canary 20% C-80%R	218	80%	20	13	2.5	13	1	0.07	3.2	12.3%	0.4	0.3	3	3	0			
			25	18	2.5	17	1	0.07	4.2	12.3%	0.5	0.4	4	3	1			
			34	27	2.5	24	1	0.07	6.0	12.3%	0.7	0.6	5	3	2			
			37	30	2.5	27	1	0.07	6.6	12.3%	0.8	0.7	6	3	2			
Canary 61% C-39%R	272	60%	44	34	2.5	16	1	0.07	25	12.3%	3.0	2.6	22	3	16			
			0	0					0.2	0	0	0	0	0	0			
Bocaccio	198	60%	5.8	6		5	0.2	1	44.3%	0	0	0	0	0	0			
			20	17		5	0.2	15	44.3%	7	6	8	7	7				
Cowcod (Conception) Cowcod (Monterey) Cowcod (total)	5	60%	2.4	0				0				0	0	0	0			
			19	2.4				0				0	0	0	0			
			24	4.8						0			0	0	0	0		
Darkblotched	205	80%	100	75	0		1.6	98			0	0	98	5	75			
			130	99			1.6	128			0	0	128	5	99			
			172	132			1.6	170			0	0	170	5	132			
			184	142			1.6	182			0	0	182	5	142			
			205	159			1.6	203			0	0	203	5	159			
Yelloweye Coastwide	52	June-low	2.1	2.1			0.6	2			1.1	0.0	2.8		2.2			
			13.5	13.5	3.0	6.3	0.6	4			1.1	0.0	2.8		2.2			
			22	22	3.0	6.3	0.6	12			1.1	0.0	2.8		2.2			
			24	24	3.0	6.3	0.6	14			1.1	0.0	2.8		2.2			
			26	26	3.0	6.3	0.6	16			1.1	0.0	2.8		2.2			
			27	27	3.0	6.3	0.6	17			1.1	0.0	2.8		2.2			

