

THE EFFECT OF INCORPORATING DISCARD RATES FROM THE NMFS OBSERVER PROGRAM  
INTO THE INSEASON EVALUATION OF OPTIMUM YIELD (OY) ATTAINMENT IN 2003

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Since the June Council meeting, discard data from the first year of NMFS observation have been incorporated into the bycatch model, for the purpose of estimating the total catch of target species. Because the focus of the initial effort was to develop management alternatives for 2004 in time for inclusion in the NEPA decision document, the inseason implications of incorporating discard rates into analysis of the 2003 fishery could not be explored in time for inclusion in the briefing book. However, the Council's decision on whether to incorporate these new data at this time will be very important in determining trip limit recommendations for the remainder of the year. The following discussion is not intended to advocate a position on whether or not to apply the new data inseason, but to clarify implications of either choice for 2003 management.

Table 1 provides an overview of several key parameters relating to landings and catch of the DTS species. The first row for each species shows the cumulative landings reported via PacFIN's QSM system through the first four 2-month periods of the year. Projected cumulative landings from a recent model of the 2003 fishery, that includes target species discards, are shown in the second row. The percentage difference between the first and second rows is presented in the third row. It should be noted that for all four species, the current reported landings for the first 4-6 months of the year, having been updated based on fish tickets that have been submitted, are now higher than the amounts originally reported by the 'soft' data system. The italicized values for periods 4 and 5 of row 1 represent the model projections through those periods, adjusted by the percentage difference between cumulative landings and projections through period 4.

The fourth row for each species represents the estimated total catch calculated using the projected landed catch (row 2) and the observer-based discard rates. The final row adjusts the projected total catches using the same percentage by which projected and reported landings differed. Amounts in this row through periods 5 and 6 are based on the assumption that the difference observed between cumulative landings and projections through period 4 will continue through years end.

In the rows with actual and projected landings, the column after period 6 shows the percentage attainment of the landed catch OYs, as specified using management's existing discard assumptions. Even taking into account higher than expected landings over the first 4 periods, only shortspine would be in need of remedial action to reduce landings over the last 2-3 months.

In the rows with and unadjusted and adjusted projected total catches, the column after period 6 shows the percentage attainment of the total catch OYs. By applying the new discard data to the entire year, only longspine would not be expected to exceed the available total catch OY, without adjustment of trip limits. The situation is most dire in the case of shortspine, where the total catch would be expected to exceed not only the OY, but also the ABC. In fact, given the series of adjusted total catches through period 4, adding even the unadjusted projected catch for period 5 would produce a total exceeding the ABC by the end of that period. As a result, a decision to apply the new discard rates in determining 2003 inseason status would likely require closure of the fishery outside of 150 fm by or before the end of period 5.

If the Council/NMFS elect to continue managing for the existing landed catch targets for these species, reductions in the shortspine trip limit would still be required in order to keep shortspine landings from exceeding 751 mt. The degree of those reductions would depend on what assumptions are made regarding model performance during periods 5 and 6. Since the trip limits during period 5 are not specified in monthly amounts, it will therefore not be possible to effectively reduce expected landings before period 6, all of the

required adjustment must occur during period 6.

If it is assumed that the model would continue to project 15% low for the remainder of the year, then only 57 mt of shortspine would remain for period 6. Further, to account for the assumed under-projection, this would represent only about 49 mt of projected landings. In order to achieve this amount, the shortspine limit would have to be reduced to **900 lb per 2-months**, from the current 2,400 lb, for period 6. With this degree of reduction, limits for the remaining DTS species would also need to be lowered to address discard concerns.

If model projections for periods 5 and 6 are close to actual landings, period 6 limits could be set so as to achieve 77 mt of projected landings. This would require that the shortspine trip limit be reduced to **1,500 lb per 2-months**, from the current 2,400 lb, for period 6. It should be noted that period 5 landings should be reasonably well known by the time of the November Council meeting. Therefore, the more conservative 900 lb limit could be adopted for period 6 in September, and then raised in November, if the current model projections for period 5 are accurate.

Inseason implementation of the new discard rates would not create an early attainment situation for other flatfish target species.

Table 1.--Comparison of reported DTS landed catch with projected landings from the bycatch model, and projected total catch, calculated using discard rates from the NMFS observer program.

	Bi-monthly period						OY attainment	OY (mt) landed total	ABC (mt)
	1	2	3	4	5	6			
<b>Sablefish</b>									
Reported or <i>anticipated (per. 5/6)</i> mts	227	508	1,042	1,370	<b>1,855</b> <sup>1</sup>	<b>2,177</b> <sup>1</sup>		2,352	
Projected landed catch (mt) from model	206	491	912	1,284	1,739	2,040			
Difference between projected and reported <sup>2</sup>	-10%	-3%	-14%	-7%	[-7%]	[-7%]			
Projected total catch (mt) from model <sup>3</sup>	293	726	1,473	2,166	2,811	3,250			
Total catch adjusted by projected/actual ratio <sup>4</sup>	<b>323</b>	<b>750</b>	<b>1,683</b>	<b>2,311</b>	<b>2,999</b>	<b>3,468</b>		3,031	OY + up to 1,700
<b>Longspine THDS</b>									
Reported or <i>anticipated (per. 5/6)</i> mts	194	465	923	1,132	<b>1,497</b> <sup>1</sup>	<b>1,740</b> <sup>1</sup>		2,020	
Projected landed catch (mt) from model	181	435	830	1,047	1,385	1,610			
Difference between projected and reported <sup>2</sup>	-7%	-7%	-11%	-8%	[-8%]	[-8%]			
Projected total catch (mt) from model <sup>3</sup>	224	537	1,025	1,292	1,708	1,986			
Total catch adjusted by projected/actual ratio <sup>4</sup>	<b>240</b>	<b>574</b>	<b>1,139</b>	<b>1,397</b>	<b>1,847</b>	<b>2,147</b>		2,461	2,461
<b>Shortspine THDS</b>									
Reported or <i>anticipated (per. 5/6)</i> mts	119	254	452	545	<b>694</b> <sup>1</sup>	<b>822</b> <sup>1</sup>		751	
Projected landed catch (mt) from model	111	243	383	474	604	715			
Difference between projected and reported <sup>2</sup>	-7%	-5%	-18%	-15%	[-15%]	[-15%]			
Projected total catch (mt) from model <sup>3</sup>	170	364	575	712	906	1,076			
Total catch adjusted by projected/actual ratio <sup>4</sup>	<b>183</b>	<b>381</b>	<b>679</b>	<b>818</b>	<b>1,041</b>	<b>1,237</b>		939	988
<b>Dover sole</b>									
Reported or <i>anticipated (per. 5/6)</i> mts	1,020	2,260	3,660	4,542	<b>5,738</b> <sup>1</sup>	<b>6,741</b> <sup>1</sup>		7,006	
Projected landed catch (mt) from model	983	2,156	3,176	4,496	5,679	6,672			
Difference between projected and reported <sup>2</sup>	-4%	-5%	-15%	-1%	[-1%]	[-1%]			
Projected total catch (mt) from model <sup>3</sup>	1,133	2,543	3,712	5,237	6,590	7,735			
Total catch adjusted by projected/actual ratio <sup>4</sup>	<b>1,175</b>	<b>2,666</b>	<b>4,278</b>	<b>5,292</b>	<b>6,658</b>	<b>7,815</b>		7,318	8,388

Notes: <sup>1</sup> Anticipated cumulative tonnage for periods 5 and 6 represents the cumulative projection of the model multiplied by the ratio of reported-to-projected cumulative tons as of period 4.

<sup>2</sup> Bracketed differences shown for periods 5 and 6 represent the assumption that the difference observed, as of period 4, will continue through the years end.

<sup>3</sup> Projected total catch amounts represent the projected model landings, transformed by discard rates from the NMFS Observer Program.

<sup>4</sup> Adjusted total catch amounts represent the projected model catches multiplied by the ratio of reported-to-projected (or anticipated) landed catch through each period.

