

GROUND FISH MANAGEMENT TEAM REPORT ON BIENNIAL MANAGEMENT  
SPECIFICATIONS FOR 2013-14, PART II — STOCK COMPLEX EVALUATION

*Introduction*

The Council has been considering analysis of the Groundfish Fishery Management Plan (FMP) complexes throughout the 2011-12 and 2013-14 processes. These analyses are recommended by the revised National Standard 1 guidelines and the general goals and objectives of the FMP. In September 2011, the Council recommended, after reviewing some analysis of stock complex vulnerability, to leave further consideration until after the 2013-14 process so as to accomplish the narrow scope and January 1, 2013 start date.

In September, the Council also asked the Groundfish Management Team (GMT) to evaluate whether blackgill rockfish south of 40°10 N. latitude, greenspotted rockfish, and dogfish could be adequately managed within their current complexes with some modifications to management measures (e.g., sorting requirements, fixed gear trip limits adjustments). Our evaluation of that question is reported in [Agenda Item E.9.b, GMT Report 2](#). In sum, we responded that all three stocks could be managed within their complexes using various management measures. The one issue we noted was with blackgill and the individual fishing quota (IFQ) fishery where the Council's management options are more limited because it is more challenging to target management measures specifically at individual stocks within an IFQ management unit (e.g., quota shares and quota pounds are issued for the minor slope rockfish south of 40°10 N. latitude complex). Blackgill are also distributed deeper, meaning adjustments to the rockfish conservation area boundaries (RCA) has little effect unless the seaward boundaries were expanded substantially.

The Council's narrow scope for 2013-14 is focused on keeping step with the 2011-12 harvest specifications and management measures, except to address best available data (e.g., stock assessments, rebuilding analysis, and fisheries data) and "conservation concerns" that cannot be addressed through existing management measures. Such concern includes the ability to control catch to annual catch limits (ACL) and other targets with the existing management measures available in regulation and the FMP.

The annual estimates of total mortality that are used to track management performance have been produced only at the stock complex ACL level (with some exceptions). Earlier this year, the GMT made a request to the West Coast Groundfish Observer Program (WCGOP) to produce annual mortality estimates, by sector, for the individual stocks managed within complexes. We received that data just prior to this meeting. The analysis below shows that catch rises to that conservation concern level, at least in the minor slope rockfish complexes. We are currently analyzing the recreational catch data from all three states, and data for the shoreside whiting sector, to evaluate if there are concerns with any of the stock complexes where recreational catch is significant (recreational catch of slope rockfish is very small). We will present that analysis to the Council in Agenda Item E.9.

Under Agenda Item E.9, the Council will need either to re-affirm the September decision to maintain the current complexes or to provide new alternatives for analysis in the 2013-14 draft Environmental Impact Statement.

### *Evaluating Overfishing of the Component Stocks*

As the Council works to make progress in better aligning the stock complexes with the National Standard 1 guidelines, one of the primary questions that should be addressed is the degree to which the complexes prevent overfishing. Under the FMP and National Standard guidelines, overfishing is gauged by comparing catch to the overfishing limit (OFL) and acceptable biological catch (ABC) harvest specifications for each stock.

The GMT examined the total mortality estimates provided by WCGOP and PacFIN data for sectors not included in those estimates (e.g., the at-sea trawl sectors) to compare catch against the 2013-14 OFLs and ABCs. Again, we are currently adding the recreational catch estimates to complete the analysis for Agenda Item E.9. Because the data that was provided was provided on a coastwide basis, we had to combine the north and south OFLs and ABCs together for those complexes with a geographic break.

An initial evaluation of the WCGOP and PacFIN data for all the stock complexes seems to indicate that the minor slope complexes have the highest number and magnitude of species where either the average or maximum catch was higher than the contributing OFLs. This is consistent with the groundfish vulnerability analysis that demonstrated the slope rockfishes complex had the most numbers of notably vulnerability species.

### *Slope Rockfish Complex*

Based on the preliminary investigation of groundfish removals, three slope species in particular have consistently experienced catches higher than their OFL contributions: aurora, rougheye, and shortraker rockfishes (Table 1). These estimates do not include catch from shoreside whiting or recreational fisheries. Shoreside whiting will bump up catch of some species like rougheye, yet recreational catches will not.

These three species also exhibit high vulnerability scores (PSA scores of 2.10, 2.27 and 2.25, respectively) demonstrating they are of management concern. In particular, the PSA productivity scores of these species are low, indicating low resilience to overfishing and underscoring the need for management measures that effectively control catch to their respective OFLs and ABCs.

More detailed explorations of these data sets may be possible over the winter; however, as shown in Table 1, this first examination clearly identifies the conservation concern. We have been unable to explore the geographic breakdown of catch in detail yet expect that the minor slope rockfish north complex is of most concern. Over 99% of the OFLs and ABCs for rougheye and shortraker are apportioned to that complex. Aurora rockfish is more evenly split between the north and south complexes and so will have to be looked at closely.

If the Council wishes to follow the approach set for dogfish, blackgill, and greenspotted—i.e., to attempt management of the stocks within their current complexes—the management measures options for controlling catch would be similar to those discussed for blackgill in GMT Report 1 under Agenda Item E.9. These options include lowering the ACL for the complex, large trip limit reductions, scientific sorting requirements, harvest guidelines, and modifications to the seaward RCA boundary. As with blackgill, the options for managing catch of these three species within the IFQ fishery are limited. The GMT did not have time to fully discuss the implications of the various alternatives or to explore how catch breaks out between the sectors.

Options for restructuring complexes are twofold. First, the stocks of highest concern could be removed and managed with individual ACLs. Alternatively, the Council could consider removing species with the large or disproportionate complex contributions to reduce the overall complex OFL/ABC thereby reducing the likelihood that species with lower complex contributions would be harvested at the higher levels. We have not had time to discuss the relative pros and cons of these various approaches.

Again, our recommendation here is to highlight the issue in case the Council wishes to provide guidance to direct the team towards further analysis and preparations for Agenda Item E.9.

Table 1. Comparison of Contributing Harvest Specifications with Draft Mortality Estimates for Species in the Slope Rockfish Complex, Coastwide

Slope Rockfish Species N&S	PSA Vulnerability Score	PSA Productivity Scores	Coastwide OFL (contribution) a/		Coastwide ABC (presumptive) b/		Average Mortality (2004-2010) c/	Maximum Mortality (2004-2010) c/	Difference Between OFL and Mortality				Difference Between ABC and Mortality			
			2013	2014	2013	2014			+ / - Average		+ / - Maximum		+ / - Average		+ / - Maximum	
									2013	2014	2013	2014	2013	2014	2013	2014
<i>Aurora</i>	2.10	1.33	41.5	41.5	35	35	64.4	85.9	-22.9	-22.9	-44.4	-44.4	-29.9	-29.9	-51.3	-51.3
<i>Bank</i>	2.02	1.25	520.4	520.4	474	474	84.2	271.0	436.2	436.2	249.4	249.4	389.7	389.7	202.8	202.8
<i>Blackgill</i>	2.08	1.22	134.7	138.7	123	126	120.6	163.2	14.1	18.1	-28.5	-24.5	2.0	5.7	-40.6	-36.9
<i>Redbanded</i>	2.02	1.28	55.7	55.7	46	46	24.3	41.5	31.4	31.4	14.2	14.2	22.2	22.2	5.0	5.0
<i>Rougheye</i>	2.27	1.17	71.5	71.5	60	60	115.8	256.8	-44.3	-44.3	-185.3	-185.3	-56.2	-56.2	-197.2	-197.2
<i>Sharpchin</i>	2.05	1.36	224.3	224.3	187	187	16.5	48.3	207.8	207.8	176.0	176.0	170.6	170.6	138.8	138.8
<i>Shortraker</i>	2.25	1.22	18.8	18.8	16	16	35.0	68.4	-16.2	-16.2	-49.6	-49.6	-19.3	-19.3	-52.7	-52.7
<i>Splitnose</i>	1.82	1.28	2623	2721.1	898	932	281.3	344.4	2341.7	2439.8	2278.6	2376.7	617.1	650.6	554.0	587.6
<i>Yellowmouth</i>	1.96	1.61	193.2	193.2	161	161	7.2	13.7	186.0	186.0	179.5	179.5	153.3	153.3	146.8	146.8

	Draft Mortality Estimates for Several Commercial Fisheries d/						
	2004	2005	2006	2007	2008	2009	2010
<i>Aurora</i>	85.9	58.6	77.0	66.4	52.7	67.4	31.0
<i>Bank</i>	119.3	28.8	38.4	31.8	98.7	59.7	14.9
<i>Blackgill</i>	146.3	93.1	116.8	58.1	68.9	131.4	163.2
<i>Redbanded</i>	21.8	18.3	23.5	25.1	28.4	24.3	41.5
<i>Rougheye</i>	68.9	68.3	89.3	124.4	131.2	171.4	256.8
<i>Sharpchin</i>	27.0	13.2	1.9	9.4	5.1	14.0	9.5
<i>Shortraker</i>	68.4	20.6	10.5	49.0	57.2	30.5	30.2
<i>Splitnose</i>	344.4	234.5	274.9	294.1	272.1	323.9	203.3
<i>Yellowmouth</i>	10.8	8.0	2.3	11.1	2.7	3.2	4.4

a/ OFLs and OFL contributions for these species are the sum of Northern and Southern areas for each species from Agenda Item E.4.a, Attachment 1, Nov 2011

b/ ABCs and ABC contributions for these species are the sum of Northern and Southern areas for each species from Agenda Item E.4.a, Attachment 3, Nov 2011

c/ Mortality estimates from the years 2004-2010 are illustrated here because some data are not yet included for 2002 and 2003; different combinations or ranges of years may be considered as desired.

d/ Unless otherwise noted, the values in these columns are derived by summing together WCGOP mortality estimates (landings + discard estimates) from the following commercial fishery sectors: Limited Entry Non-Whiting Trawl Fishery; Limited Entry Fixed Gear Primary Sablefish Fishery; Limited Entry Fixed Gear sablefish DTL Fishery; Nearshore Fishery; Open Access Fishery; Pink Shrimp Fishery; California Halibut Fishery ; and landings estimates from Tribal at-sea data from NorPac and Tribal shorebased PacFin data. The Shoreside Whiting Landings are not yet included.