

GROUND FISH MANAGEMENT TEAM REPORT ON THE BIENNIAL MANAGEMENT
PROCESS FOR 2013-2014 GROUND FISH FISHERIES—PART I

Introduction

In our first report under this agenda item, the Groundfish Management Team (GMT) focused on considerations for setting the range of annual catch limits (ACLs) for rebuilding stocks with additional discussion for setting annual catch targets (ACTs). In that report, we focused on the Council's guidance to maintain as much similarity to the 2011-12 harvest policies as possible. We attempt to summarize some key points from that statement here, while also addressing a few new considerations and some minor corrections and omissions to that report.

We also add discussion of setting ACLs for non-rebuilding stocks, again, focused on that same guidance of maintaining as much similarity to the 2011-12 harvest policies as possible. We also touch on some issues that are outstanding with setting overfishing limit (OFLs) for stocks within the Other Fish complex, and then address some miscellaneous issues.

Before beginning the discussion of individual issues, we suggest a path for the Council to follow over the three main groundfish agenda items focused on the 2013-2014 cycle: E.4, E.5, and E.9. Council staff recommended the three agenda items because there are multiple interrelated issues and analyses scheduled for consideration as part of the 2013-14 process, even with the limited scope that the Council is seeking.

Proposed Plan for Agenda Items E.4, E.5, and E.9

A rough outline of the schedule we suggest is given in the box below. Agenda Item E.5 was scheduled and intended as relatively short agenda item where the Council provides guidance but does not recommend action. Nonetheless, we recommend taking up certain issues at that time for consideration and guidance for follow-up in Agenda Item E.9.

The Council's main objective is to leave this meeting with a range of alternatives, including a preliminary preferred alternative (PPA) in some cases, that structure the draft Environmental Impact Statement (DEIS) and other analyses to provide the Council with the information necessary and desired for making final recommendations of the 2013-14 harvest specifications and management measures. At this meeting, focusing on the range of alternatives is key because adding new alternatives in April and June 2012, beyond the range analyzed in the DEIS, is likely to jeopardize the January 1 start date that is the reason for the narrowed in scope and frontloaded 2013-14 process.

Agenda Item E.4

- Provide guidance on the range of ACL alternatives to be considered for the rebuilding plans that must be revised (canary, POP, widow), and for any plan that the Council chooses to revise.
- For stocks allocated during the biennial cycle (i.e., not subject to Amendment 21), should the same proportions from 2012 be used or would the Council like to consider other alternatives? These alternatives could be brought forward under E.5 and E.9.
- ACL overages reported in the 2010 Total Mortality Report.
- Considering status of widow rockfish and appropriate ACLs.
- Non-rebuilding ACLs.
- Guidance requested on Other Fish OFLs.
- Minor corrections to the first GMT statement.

Agenda Item E.5

- If requested under E.4, the GMT will provide more information on alternative sector allocations for the Council to consider in refining the range of rebuilding ACLs.
- The GMT reports back to the Council on the effectiveness of managing blackgill rockfish, dogfish, greenspotted rockfish within their existing stock complexes, a summary of the team's Agenda Item E.9 report.
- The GMT will present new information on the effectiveness of stock complex ACLs at controlling catch of the component stocks.
- The GMT will present information on set-aside estimates, after updating those based on the Council's recommendations on the EFPs consider under Agenda Item E.3.

Agenda Item E.9

- Consider any new information requested under Agenda Item E.4 or E.5.
- Identify range of management measures alternatives for analysis, including:
 - Guidance on blackgill split between limited entry and open access fixed gear sectors.
 - Consider measures for controlling catch of longnose skate and dogfish.
 - Identify 2013-14 allocation alternatives for non-rebuilding species, including minor shelf rockfish and potentially longnose and dogfish
 - Guidance on the two-year split between the limited entry and open access fixed gear sectors for the sablefish south ACL.
 - Confirm or alter the 2012 harvest guidelines (HG) for
 - Blue rockfish in California
 - Formal catch sharing agreements between states (e.g., black rockfish in CA and OR)
 - State specific recreational HGs (e.g., yelloweye and canary rockfish)
 - Catch accounting between LE and OA

2010 Estimates of Totality Mortality

The West Coast Groundfish (WCGOP) Estimated Discard and Catch of Groundfish Species in the 2010 US West Coast Fisheries reports (aka Total Mortality Reports) were published in this Briefing Book ([Agenda Item E.2.c, NWFSC Report](#)). We do not offer detailed summary and discussion of those estimates here except in regards to the two estimated overages of the optimum yield (OY) harvest level that were recorded in 2010 for darkblotched rockfish and longnose skate.

With longnose skate, the result was expected, given performance in 2009. However, the GMT was waiting for detailed WCGOP data to inform appropriate management measures. Longnose skate is discussed more below with more detailed with even more detailed analysis scheduled for Agenda Item E.9.

We projected the darkblotched rockfish overage in November 2010, predicting that it would occur upon the receipt of the 2009 bycatch rates at this time last year ([Agenda Item H.3.b, Supplemental GMT, November 2010](#)). The Amendment 20 IFQ and harvest co-op programs were implemented, in large part, to better address such uncertainty in estimates of catch caused by the sampling error, variability, and time lag in the reporting of discards. With the implementation of the Amendment 20 programs this year, the management structure has changed significantly and the probability of an overage occurring has dropped substantially.

Overfishing Limits (OFLs)

A number of stocks managed within stock complexes do not have an OFL identified ([Agenda Item E.4.a, Supplemental Attachment 7](#) and [Supplemental Attachment 8](#)). The issue, which we expect to be addressed by the SSC as part of their Supplemental Report, is that no analyses were produced for these species for review and approval by the SSC. These stocks do not have reliable historical catch streams and so the methodologies used last cycle to set OFLs for many stocks, DCAC and DB-SRA, were not used.¹ Other possible methods that rely less on having a reliable catch stream could be explored. Assuming zero for the OFL is a risk averse strategy for stock complex management and the true OFL for these stocks is almost certainly greater than zero. We have not thoroughly analyzed the impacts of the zero OFLs, yet most of the stocks with OFLs of zero are caught in relatively minor amounts.

The data needed (e.g., trawl survey) and expertise for some of these methods may be beyond what the GMT has access to at this time and would require the time of science centers or state analysts to produce. ***The Council may wish to consider postponing the final recommendation of the Other Fish OFL until April to see if analysis could be produced and reviewed by the SSC on that timeline.*** We do not expect this delay would have a significant impact on analysis of management measures.

¹ See June 2011 Agenda Item E.2.a, Attachment 6: *Assessment Methods for Data-limited Stocks – Report of the Review Panel Meeting* for and explanation of the DCAC and DB-SRA methods to estimating OFLs.

ACLs for rebuilding stocks

The first GMT Report in this Agenda Item offers more detailed discussion on consideration of the analysis of rebuilding ACLs. We were working off two key pieces of guidance in that report, given to us at our October meeting by the 2013-14 Project Team. The first is that the current SPR harvest rate, or alternative harvest strategy, in the rebuilding plan provided the best measure of the status quo policy from 2011-12. The second was that the Council only needs to look at a range of ACLs for those rebuilding plans where that status quo rebuilding policy is being revised. The integrated analysis for 2013-14 could include only a single ACL for those rebuilding plans not being revised.

In this Agenda Item, the GMT suggests that the Council identify which rebuilding plans it intends to revise, and for those that it does, provide guidance on the range of ACLs for analysis. We recommend working off [Agenda Item E.4.a Attachment 4](#), which provides a number of alternatives and basic rebuilding parameters for each rebuilding stock.

The GMT can provide additional information under Agenda Item E.5 and E.9 to assist with the Council in refining that range and in identifying a preliminary preferred ACL (PPA) for each rebuilding plan under Agenda Item E.9.

In setting a range for analysis, the Council is trying to compare and contrast estimated rebuilding times the “needs of fishing communities” and the other factors listed in the Magnuson-Stevens Act. The box following below identifies some GMT suggestions for a range of alternatives. This range is based on our familiarity with the fisheries and modeling bycatch impacts. We recommend catch levels because we have analyzed them before (and therefore have a good understanding of impacts) or because we think they are far enough from status quo levels to provide meaningful contrast in impacts to fishing communities. The uncertainty in projecting catch and effort makes it difficult to draw meaningful conclusions about small differences in catch.

We do not speak here to the reasons why a particular rebuilding plan may be “behind” or “ahead” of the schedule set last time, yet we do again recommend looking at these reasons using the dimensions of stock scale, status, and productivity either later at this meeting or further on in the analysis of 2013-14 harvest specifications and management measures.

Stock	Change Required	Explanation	GMT Recommended “High” Alternative	Explanation	GMT Recommended “Low” Alternative	Explanation
<i>Widow</i>	Yes	Base case model estimates stock to be over $B_{40\%}$.	Discussed below	—	Discussed below	—
<i>POP</i>	Yes	Major change in perception of the stock means T_{target} not achievable under status quo SPR	247/251 mt	Far enough out from recent catch to provide contrast to status quo.	—	—
<i>Canary</i>	Yes	Relatively minor change in estimates of stock status and biology mean that T_{target} is not achievable under status quo SPR	~200 mt	See text below	48mt	Similar to level analyzed in recent EIS analysis.
<i>Darkblotched</i>	No	T_{target} achievable with status quo SPR	—	—	—	No GMT recommendation.
<i>Bocaccio</i>	No	T_{target} achievable with status quo SPR	—	Uncertainty in recent year class may be cause to look at a higher ACL alternative.	—	—
<i>Cowcod</i>	No	Assessment and rebuilding analysis not updated	—	—	—	—
<i>Yelloweye</i>	No	T_{target} achievable with status quo SPR	At least 21 mt	No significant change expected in fisheries between this amount and the status quo.	14 mt	Analyzed in 2011-12 EIS.
<i>Petrale</i>	No	Estimated to rebuild by 2013, ahead of the existing T_{target} .	—	—	—	—

Widow

The GMT and Council staff requested that the assessment authors provide additional rebuilding runs ([Agenda Item E.1.a, Attachment 3](#)) under a number of constant catch scenarios to provide a view of biomass dynamics given alternative assumed steepness (h) values (i.e. $h=0.41$ vs. 0.76). The reason for providing this information was that, given the large uncertainty in the true value of steepness (and therefore stock status) and widow's management under a rebuilding plan, some team members thought the Council might want to consider adopting an ACL that is considerably lower than the ABC as a risk-averse strategy. Also, while greater availability of widow could allow for targeting of widow and yellowtail rockfish (e.g., with a midwater trawl fishing strategy), such opportunity would likely be tempered by availability of canary rockfish in the trawl fisheries.

Others on the GMT point out that most of the assessments for species in the groundfish FMP suffer from similar uncertainty surrounding steepness. For those species the Council generally adopts the base case to set the OFL and ABC and then takes into account management uncertainty and other factors in deciding whether to set the ACL less than the ABC. Under the IFQ program some fishermen may be able to successfully prosecute a widow and yellowtail rockfish target strategy despite the constraint that the canary ACL may present to the fleet as a whole.

Additional Considerations for Rebuilding Stocks and Two-Year Allocations

The GMT discussed the impact of the two-year allocations between the trawl and non-trawl sectors in combination to the ACL decisions. The ACL decision and the decision on how to allocate the ACL among the fishery sectors play into the "needs of the fishing community" calculus. In other words, the Council can address impacts by raising or lowering the ACL or by reallocating a given ACL among the sectors.

The Council sets the allocations for bocaccio, canary, cowcod, and yelloweye through the biennial process, as opposed to the fixed percentages set during Amendment 21. Petrale is another species that the Council considered in 2011-12, suspending the Amendment 21 allocations because of the overfished declaration and rebuilding plan. These allocations are displayed in Table 2 of [Agenda Item E.9.a, Attachment 1](#). The Council can maintain the 2011-12 allocations or alter them for 2013-14.

Even for species where the Council chooses to not revise the rebuilding plan, the Council may need to consider how to allocate increases in catch arising from the constant SPR harvest rate (i.e., a given SPR rate produces a larger catch with estimates of stock status or scale increase); or to attempt a more complete allocation of ACL. For example many species have a buffer between the ACL and the amount allocated and may also be limiting attainment of target species (e.g., canary rockfish). These buffers are shown in the scorecard "Difference" row (*see* Table 1 of [Agenda Item E.9.a, Attachment 1](#)).

In considering these allocations, as the Council has been considering in the follow-up to Amendments 20 and 21, the current regulatory structure does not provide for inseason adjustments to the trawl allocation. Therefore, those fish are "stranded" and are not readily

available to be turned into QP and resolve a trawl sector overage. An overage in non-trawl sector would simply eat into the buffer, with no regulatory action required.

We request guidance from the Council on whether these two-year allocations are to be followed for 2013-14 or if alternative allocations should be analyzed.

Our first report in this Agenda Item included some discussion on new information and known dynamics in the various fisheries sectors between rebuilding ACLs and the expected fishing catch and effort and community impacts that result. The nearshore and recreational fishery sectors are two of the most dynamic and are affected most by canary and yelloweye. We did not highlight the increased encounter rate of canary rockfish seen in the recreational fisheries this cycle. The recreational fisheries are mainly structured around yelloweye bycatch, yet if the trends in canary catch continue then it could become even more limiting on season lengths and the depths open to fishing.²

The IFQ and co-op sectors were also a big focus of our first report. The change in widow's estimated stock status and other factors like the potential substantial increase in the whiting ACL over the next few years influence the dynamics of several stocks including darkblotched, POP, and canary rockfish.³ We did not get into much detail about how we would analyze higher ACLs or allocations to the co-op or IFQ sectors. The changed management structure in those fisheries makes it difficult to analyze the difference in impact of two ACLs.

We have not included a discussion on the impact to the IFQ fishery yet because we are unsure how to best analyze issues like potential targeting of widow rockfish and the impact that the current sector allocations for canary and yelloweye in the north and bocaccio and cowcod in the south are having on the program. Effort has been lower overall in the bottom trawl fishery and reports and some data show that the IFQ fleet may be avoiding shelf fishing opportunities for fear of lightning strikes that would exceed the low amounts of QP available for their operations. The fishery and the impact the fishery has on fishing communities could be much different if allocations are higher. It will be difficult to analyze these dynamics with much precision, yet we plan on providing some information from the 2011 data in Agenda Item E.5 or E.9.

If the Council wishes to evaluate some of these dynamics in the recreational and Amendment 20 fisheries, we would recommend considering an upper bound of at least 184/187 mt or 216/220 mt for canary. These amounts are similar to harvest levels after catch was reduced from historical levels yet before they ramped down to 44 mt. We believe these catch amounts would be high enough to provide some contrast to the status quo in terms of impacts to fishing communities and would be 3 and 4 to rebuilding years beyond $T_{F=0}$, respectively. That same gap between the T_{target} and $T_{F=0}$ in this current management cycle is three years. Again, it is the consideration of the shortest possible time to rebuild and the differential impacts to communities between alternative

² Related to the discussion on two-year allocations, the buffer that currently exists for canary rockfish came primarily from reductions in the harvest guidelines from the recreational fisheries - WA decreased from 4.9 mt in 2009-10 to 2.0 mt in 2011-12, OR decreased from 16.1 mt to 7.0 mt, and CA decreased from 22.9 mt to 14.5 mt. The Council made this change, at least in part, based on the assumption that yelloweye would limit fisheries before the recreational fisheries came close to their canary harvest guidelines.

³ As a reminder, the latest whiting assessment estimated the stock to be above its unfished levels. The standard harvest rate would have produced a catch 2 to 3 times larger than what the Council recommended for the 2011 ACL. One reason for that change was that the bycatch impacts of a higher ACL had not been analyzed in the 2011-12 EIS.

rebuilding strategies on which the Council evaluates rebuilding plans. As we noted in our first report in our discussion on POP, we are unclear on how to weigh those impacts against times to rebuild and so cannot, from an analytical perspective, recommend whether a certain catch level or time to rebuild lies within the Council's discretion under the Magnuson-Stevens Act.

Brief Errata from Agenda Item E.4.b GMT Report

We wish to correct one minor point from our first GMT Report under this agenda item. On page 9, we said we did not have a model for projecting bycatch of bocaccio in fixed gear fisheries off California (i.e., non-nearshore and nearshore). There is a model to project bocaccio impacts in the non-nearshore fisheries north of 36° N. latitude, although this model may not cover all fishing activities in that area. Further, the nearshore model projects bocaccio impacts south of 40° N. latitude. Nonetheless, the general discussion on the potential usefulness of an ACT for bocaccio still stands.

Also in that report, we neglected to discuss the ACT for POP in place for 2011-12 in our discussion on the use of ACTs. We did not mean to imply that an ACT was not useful for POP. The Council is revising the POP rebuilding plan because of the changed rebuilding estimates, yet these changes do not necessarily alter the Council's rationale for setting the ACT.

Discard Mortality and Associated Management Implications for Longnose Skate and Spiny Dogfish Shark

The sablefish, lingcod, longnose skate, and spiny dogfish stock assessments, which were recommended as best available science for use in management by the Science and Statistical Committee (SSC), assume that a percentage of the discarded fish survive. The data used to inform the discard mortality rates are documented in the assessments and various EIS analyses and will be further documented in 2013-14. Total mortality estimates for sablefish and lingcod in the annual West Coast Groundfish (WCGOP) Estimated Discard and Catch of Groundfish Species in the US West Coast Fisheries reports (aka Total Mortality Reports) apply the same discard-mortality rate used in the assessments. The resulting total mortality estimates provided by WCGOP for sablefish and lingcod are therefore less than the total catch estimates, because some proportion of the discard is assumed to survive. On the other hand, the reports do not apply discard-mortality rates to the discarded portion of the catch for longnose skate and spiny dogfish shark, even though stock assessments apply a discard-mortality rate for these species.⁴ The reason discard mortality rates are not applied for these species by the WCGOP is due to (a) an oversight by the GMT when preparing management measures for longnose skate, which was first assessed in 2007 for use in the 2009-2010 cycle and (b) the spiny dogfish assessment, with the discard mortality assumptions, was completed in 2011 for use in the 2013-2014 cycle.

⁴ In stock assessments, the assumed discard mortality rate for spiny dogfish shark is 50% for hook and line and 100% for trawl (Gertseva and Taylor, 2011). The longnose skate assessment assumes 50% of the discarded skates survive in fixed gear and trawl fisheries (Gertseva and Schirripa, 2007).

Council staff and the GMT engaged in discussions with the SSC and assessment authors to determine the appropriateness of using the longnose skate and spiny dogfish discard mortality assumptions from the assessment for use in management for 2013-2014. This decision will have significant management implications. For example, the total fishing mortality estimate for longnose skate in 2009 was 1,455 mt, which is higher than the OY of 1,349 mt. If, for example, a 50% discard mortality estimate had been applied to longnose skate discarded by the trawl and non-nearshore fixed gear fisheries during 2009, then the estimated total fishing mortality would have been 330 mt less (Table 1 – see adjusted values). Under this scenario, the OY would not have been exceeded.

The GMT recommends continuing the discussion for longnose skate and spiny dogfish with the SSC in March 2012. For the purposes of the analysis conducted over winter for the draft EIS, the GMT recommends analyzing dogfish and longnose skate management measures under two scenarios 1) using the most conservative estimate of discard survivability (100 percent of the discards die) and 2) using discard mortality estimates that match those used in the respective stock assessments. The Council can consider both the SSC input and the draft EIS analysis of management measures in April 2012, when preliminary preferred decisions will occur for management measures.

ACLs for Non-rebuilding stocks

To follow the Council's guidance on minimizing changes from 2011-2012, the GMT assumed that the Council would choose to set the ACL equal to the ABC for those stocks where it did so in 2011-12, and then to then lower the ACL from the ABC where it did so in 2011-12 based on the same policy rationale updated on the best available scientific information on stock status and biology and performance in the fisheries. These rationales are summarized in the GMT Report, under this Agenda Item.

Stock Complexes

In September, the Council asked the GMT to evaluate whether blackgill rockfish, greenspotted rockfish, and dogfish could be managed within their current stock complexes. [Agenda Item E.9.b, GMT Report 2](#) includes our discussion on these stocks. We also received new information, at this meeting, on the performance of the complex ACLs. We will present this information during Agenda Item E.5. *We recommend not identifying a PPA or preferred range of ACLs for stock complexes until Agenda Item E.9 after the relevant information is presented.*

Longnose skate ACL Considerations

Longnose skate is the one stock managed with its own ACL where we see potential reason for the Council to consider altering the ACL by identifying a range of ACLs analysis. In brief, the rationale for setting the ACL was based partly on our understanding of recent catch levels that might have been too low based on what has been observed since 2009.

Longnose skate was assessed for the first time in 2007 for the 2009-2010 harvest specifications and management measures process ([Agenda Item E.6.a, Attachment 3, June 2007](#)). The biomass estimate for the start of 2009 was within the range of 41-80 percent of unfished stock size, with a best estimate of 66 percent. The major sources of uncertainty in the assessment are: 1) the magnitude of the historical catches, and 2) the NWFSC shelf-slope survey catchability coefficient Q . These sources of uncertainty were used to develop alternative states of nature for the decision table (Table 2).

During the setting of the 2009-2010 harvest specifications, the SSC noted the default harvest rate for groundfish F45 percent is unproven and potentially too aggressive for elasmobranchs ([Agenda Item E.6.b, Supplemental SSC Report, June 2007](#)). Under proxy harvest rate, catch streams ranged from ~3,000-3,500 mt and under the base case the stock biomass was projected above B40 percent. Instead of using the proxy harvest rate, the Council chose a constant catch stream based on the average total mortality from 2004-2006, and increased that mortality by 50 percent. This catch stream (1,349 mt) was intended to accommodate anticipated mortality in fisheries while keeping the stock biomass above 60 percent under all three states of nature (Table 3).

The same constant catch approach described above was used in setting the 2011-2012 harvest specifications. The GMT evaluated whether implementing the constant catch scenario of 1,349 mt was appropriate for the 2013-2014 specifications. Since the 2011-2012 cycle, the total mortality reports for 2009 and 2010 have been released, which were the first years where the mandatory sorting requirement for longnose skate was implemented.⁵ The GMT notes that the longnose skate stock assessment decision table could be updated to reflect this new information – both in terms of actual removals in 2009-2010 and in the catch series used to inform the constant catch scenario. Specifically, the data used to inform the average landings constant catch scenario, both actual and those increased by 50 percent, could be updated with the 2009 and 2010 data. Further, information in the 2009 and 2010 total mortality reports indicate that the constant catch ACL of 1,349 mt may have been set too close to the total mortality since total mortality has been above the ACL (Table 4). The GMT also noted in the previous section that the Total Mortality reports assume 100 percent of the discards die, while the assessment assumes 50 percent survive. Table 2 contains both the Total Mortality Reported values and the adjusted values, assuming that 50 percent of the discarded longnose skate in the limited entry trawl and non-nearshore fisheries survive. Under either scenario, it appears total mortality is very close or over the ACL.

⁵ Due to the delay in implementing the 2009-2010 harvest specifications and management measures, the sorting requirement was not implemented until March 6, 2009. Therefore, the 2009 total mortality may be an underestimate.

Based on past policy preferences and the most recent data, the GMT recommends the Council consider whether a range of longnose skate ACLs should be analyzed for 2013-2014. The Council could consider requesting the following decision table runs from the stock assessment author, which would be used to inform the analysis:

- 1) No Action: 2012 constant catch approach of 1,349 mt
- 2) Alternative 1: Update decision table with most recent average catch information,
- 3) Alternative 2: Update decision table with most recent average catch information, increased by 50 percent
- 4) Alternative 3: A value that accommodates our recent understanding of longnose skate mortality, while keeping the stock above B40. We estimate this value to be ~2,000 mt.

Table 5. Total Mortality Estimates from the 2009 and 2010 Reports (Tables 19) and the Adjusted Values, which Assume 50 percent of the Discarded Longnose Skate Survive (in mt).

Year	Value	Shoreside commercial fisheries						WA tribal landings	All at-sea hake fisheries	Recreational fishing mortality			Research	Incidental fisheries	Estimated fishing mortality	OY	% Attainment
		LE			Non-	Nearshore	Non-tribal			WA	OR	CA					
		Btm trawl	CA halibut	Pink shrimp	Nearshore fixed gear	fixed gear	shoreside hake										
2009	TM Report	1275.4		2.1	173.3	0.0	0.1		0.2				2.8	1.3	1455.1	1349	108%
2009	TM Adjusted	1025.1		2.1	91.1	0.0	0.1		0.2				2.8	1.3	1122.6	1349	83%
2010	TM Report	1266.0	0.1	0.4	103.2	0.0	0.1	1.3	0.6		0.0		1.7	13.0	1386.5	1349	103%
2010	TM Adjusted	1106	0.1	0.4	64.7	0.0	0.1	1.3	0.6		0.0		1.7	13.0	1188.0	1349	88%

Table 6. Decision Table ES-7 from the Longnose Skate Assessment.

Table ES-7. Decision table based on three states of nature, defined based on alternative catch histories and levels of NWFSC shelf-slope survey catchability Q .

Forecast	Year	Low Q (Q=0.654) Low historical catch			Q=0.83 BASE			High Q (Q=1.046) High historical catch		
		Total catch (mt) (landings and discard mortality)	SSB (mt)	Depletion	Total catch (mt) (landings and discard mortality)	SSB (mt)	Depletion	Total catch (mt) (landings and discard mortality)	SSB (mt)	Depletion
F45% for base scenario 40-10	2009	3,428	5,855	80%	3,428	4,673	66%	3,428	4,021	41%
	2010	3,269	5,577	76%	3,269	4,424	63%	3,269	3,854	39%
	2011	3,128	5,321	72%	3,128	4,195	60%	3,128	3,699	37%
	2012	3,006	5,087	69%	3,006	3,985	57%	3,006	3,555	36%
	2013	2,902	4,874	66%	2,902	3,794	54%	2,902	3,422	35%
	2014	2,816	4,681	64%	2,816	3,621	51%	2,816	3,298	33%
	2015	2,745	4,508	61%	2,745	3,465	49%	2,745	3,185	32%
	2016	2,686	4,353	59%	2,686	3,327	47%	2,686	3,085	31%
	2017	2,638	4,217	57%	2,638	3,206	46%	2,638	2,997	30%
2018	2,598	4,098	56%	2,598	3,100	44%	2,598	2,923	30%	
Average landings and discard mortality for base scenario 2004-2006	2009	899	5,855	80%	899	4,673	66%	899	4,021	41%
	2010	899	5,850	80%	899	4,697	67%	899	4,125	42%
	2011	899	5,845	80%	899	4,721	67%	899	4,228	43%
	2012	899	5,840	80%	899	4,744	67%	899	4,327	44%
	2013	899	5,832	79%	899	4,764	68%	899	4,418	45%
	2014	899	5,823	79%	899	4,779	68%	899	4,500	46%
	2015	899	5,810	79%	899	4,790	68%	899	4,571	46%
	2016	899	5,795	79%	899	4,796	68%	899	4,630	47%
	2017	899	5,777	79%	899	4,797	68%	899	4,679	47%
2018	899	5,757	78%	899	4,794	68%	899	4,720	48%	
50% increase in average landings and discard mortality for base scenario 2004-2006	2009	1,349	5,855	80%	1,349	4,673	66%	1,349	4,021	41%
	2010	1,349	5,801	79%	1,349	4,649	66%	1,349	4,077	41%
	2011	1,349	5,749	78%	1,349	4,624	66%	1,349	4,130	42%
	2012	1,349	5,696	78%	1,349	4,599	65%	1,349	4,179	42%
	2013	1,349	5,643	77%	1,349	4,572	65%	1,349	4,220	43%
	2014	1,349	5,590	76%	1,349	4,542	65%	1,349	4,253	43%
	2015	1,349	5,536	75%	1,349	4,509	64%	1,349	4,277	43%
	2016	1,349	5,482	75%	1,349	4,475	64%	1,349	4,292	43%
	2017	1,349	5,429	74%	1,349	4,439	63%	1,349	4,300	44%
2018	1,349	5,377	73%	1,349	4,402	63%	1,349	4,303	44%	

GMT Recommendations

The GMT requests that the Council:

1. Identify which rebuilding plans will be revised, and for those identify a range of ACLs for analysis and a PPA, if desired, or alternatively, provide guidance on the information and discussion that would be helpful in identifying and a PPA and range of ACLs in Agenda Item E.9.
2. For canary rockfish, consider a high ACL alternative of at least 200 mt and a low of 48 mt.
3. For POP, consider a high ACL alternative of at least 247/251 mt.
4. Explore the potential for estimating OFLs for species in the Other Fish Complex. Postpone adoption of final harvest specifications in April 2012.
5. Provide guidance on whether to prepare alternative allocation schemes (i.e., something other than 2012 allocations) for bocaccio, canary, cowcod, petrale, and yelloweye.
6. Consider a range of longnose ACLs from No Action (1,349 mt) to 2,000 mt.
7. Postpone identifying a PPA or a preferred range of ACLs for stock complexes until Agenda Item E.9 after the relevant information is presented.