GROUNDFISH MANAGEMENT TEAM REPORT ON MANAGEMENT MEASURES FOR THE 2017-2018 BIENNIAL HARVEST SPECIFICATIONS

Introduction

At our October work session, the Groundfish Management Team (GMT) had a lengthy discussion about the list of management measures forwarded at the September Council meeting. Based on that discussion, this report provides some background information, the GMT's first cut at what factors would be relevant to the analysis, and an estimate of the anticipated workload for analyzing those management measures. The anticipated workload is ranked qualitatively from low to high, rather than a direct estimate of the time needed to complete the analysis. The workload rankings (low, medium, high) are our initial assessment of the workload required to conduct the analysis and are intended to inform the Council as they consider the analysis relative to the goal of a January 1, 2017 implementation date. Additionally we have separated the list of management measures into what we see as "new" and "routine", which may assist with prioritization. New measures are those where the impacts have not been previously analyzed and/or have not been previously implemented in regulation. **Additional guidance will be needed from National Marine Fisheries Service and Council staff to confirm the designations and the expectations for analysis.**

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New Management Measures

"Green-Light" Policy for Stocks Rebuilt Mid-Biennium

Background: The Council requested exploration of a mechanism to increase annual catch limits (ACLs) during a two-year biennial management period, if a new stock assessment determines that an overfished species has reached a rebuilt stock status. Currently, the Council can only reduce an ACL mid-biennium if there is new information concerning stock status or a conservation issue ("red-light" or Points of Concern Framework). To increase an ACL mid-biennium would require an amendment to the groundfish Fishery Management Plan (FMP) and changes to regulations. The process for a mid-biennium ACL increase would be simplified if the environmental impacts were analyzed ahead of time (i.e., prior to the rebuilt declaration).

Relevant Factors for Analysis: The 2015-2016 Final Environmental Impact Statement (FEIS) disclosed the biological, management measure, socioeconomic, essential fish habitat (EFH), ecosystem, protected species, and non-groundfish species impacts under a range of alternative overfished species ACLs (2015-2016 FEIS, Section 4.8 to 4.14, pages 447-558). Specifically, the overfished species ACL alternatives analyzed were 1) bocaccio 150 to 1,431 mt, 2) canary 47 to 1,337 mt, 3) cowcod 1 to 93 mt, 4) darkblotched rockfish 108 to 2,003 mt, 5) Pacific ocean perch (POP) 59 to 1,805 mt, and 6) yelloweye rockfish 10 to 76 mt. **More dialogue is needed with Council staff and National Marine Fisheries Service (NMFS) to determine what additional impact analysis would be necessary in the 2017-2018 harvest specifications and management measures analysis.**

The GMT considered which overfished species should be prioritized for such an analysis. Bocaccio and darkblotched rockfish seem the mostly likely candidates to be rebuilt during the 2017-2018 biennium, based on the 2015 stock assessments. However, including additional overfished species, such as POP or yelloweye rockfish, could be recommended to cover unforeseen rebuilding scenarios. As an example, during the 2015-2016 analysis, it was not anticipated that canary rockfish would be rebuilt during the current biennium, and therefore may not have been included in such an analysis had it been done for 2015-2016.

The impact analysis that the GMT would develop over the winter could be based on the projected 2018 ACLs for darkblotched rockfish and bocaccio from their respective 2015 assessments. However, with both species likely candidates for assessments during 2017 and the expectation that they will be rebuilt in 2017, there could be substantially different ACL values for 2018. Therefore, we propose that under this management measure that the impacts of the rebuilt 2018 ACLs be analyzed along with the 2018 ACLs from the 2015 stock assessments that would be in place if these species are still considered to be overfished. The impacts of different 2018 ACLs projected from a potential 2017 stock assessment could be analyzed using the information provided in the Tiered EIS, as it discloses a wide range of impacts. Additionally, for those species that are not expected to be rebuilt in 2017-2018 (cowcod, yelloweye rockfish, and Pacific ocean perch), the expected ACLs for the rebuilt years could be analyzed for mid-biennium changes.

Workload: High

Ecosystem Component Designation for Big Skate

Background: In the 2015-2016 biennial process, the Council took action in regulation and in the FMP to list all endemic skates (except longnose skate) as ecosystem component (EC) species. However, in April 2015, the GMT brought to the Council's attention that new information was evaluated that suggested that big skate was being targeted in the shorebased individual fishing quota (IFQ) fishery (Agenda Item E.8.a, GMT Report 2, April 2015). Trip limits and a sorting requirement for big skate were put into place for the shorebased IFQ fishery starting on June 1, 2015. Trip limits that would be in place for 2016 are as follows: unlimited from January 1- May 31, 15,000 lbs./month for June, and 35,000 lbs./month bimonthly for the remainder of the year (periods 4 through 6). For the 2017-2018 biennial process, the Council recommended changing the big skate classification from "EC" to "in the fishery" based on analysis in the briefing materials (Agenda Item H.5., Attachment 2, Agenda Item H.5.a, Supplemental GMT Report REVISED). Under this management measure, the alternatives forwarded for consideration from September are:

- No Action: Keep big skate within the EC designation
- Alternative 1: Actively manage big skate with stock-specific harvest specifications
- Alternative 2: Actively manage big skate and longnose skate in a skate complex (with longnose skate as an indicator species for the complex).

Within Alternative 1, there were two management measures options forwarded for consideration:

- Option 1: Big skate cumulative landings limits would remain as routine management measures for the shorebased IFQ and could be established for the non-trawl sector.
- Option 2: Implement a sorting requirement for all sectors.

Option 3 to create shorebased IFQ for big skate was not kept within the range of options based on the GMT recommendation (Agenda Item H.5.a, Supplemental GMT Report REVISED, September 2015). IFQ determination should happen outside of the harvest specification process due to the complexity associated with developing representative catch histories and the potential of historical sorting issues.

Relevant Factors for Analysis: The GMT has done most of the needed research in previous statements, but will need to examine the 2014 West Coast Groundfish Observer Program (WCGOP) Groundfish Mortality (GM) Report statistics and landings from 2015. Furthermore, the GMT has evaluated the use of longnose skate as an indicator for a skate complex with big skate and will be providing a supplemental report on our recommendation that they be managed individually. In short, the two species generally do not occupy the same habitats, with big skate having a shallower depth distribution than longnose skate (Bizzarro 2015). Comparatively, longnose skate are typically found on the outer shelf and upper slope. In areas where their distributions do overlap spatially, the two species segregate into species-specific groups and do not usually co-occur (Bizzarro 2015). Both species also have very different exploitation histories, and little is known regarding the species composition of the historical landings.

Workload: Low-Medium

Descending Device/Recompression Management Measures

Background: There were several management measures forwarded in September that were related to rockfish recompression. These included updating the current rates used for yelloweye rockfish and cowcod in the recreational fishery, developing rates for these species for commercial fixed

gear fisheries, and developing rates for additional constraining species for both commercial and recreational fisheries. The GMT discussion on this management measure was that updating existing mortality rates and exploring where we might apply mortality rates for other rockfish released with descending devices was valuable but the workload would be very high and not able to be accomplished in the timeline necessary for inclusion in this biennial process.

Relevant Factors for Analysis: In order to apply rates for use in the 2017-2018 biennium, a review and approval by the Scientific and Statistical Committee (SSC) would be needed in order for them to be available for use in our projection models and overwinter analysis. Given the time between the September Council meeting and the deadlines for the November Council and SSC meetings, this was not feasible. Therefore, **the GMT recommends that this move forward outside of the 2017-2018 process, and work can begin (starting with literature reviews, etc.) as soon as our over-winter analysis is complete (e.g., March 2016)**. The GMT would like to remind the Council that this is similar to how the process worked when descending device mortality rates were developed for canary and yelloweye rockfish and cowcod. Additionally, once rates are developed and approved, they could be implemented immediately for use inseason and applied retrospectively. **If the Council agrees with this recommendation, time should be scheduled at a future Council meeting to review the products generated by the GMT and to receive the SSC recommendations.**

Workload: Very High

Rockfish Conservation Area Changes in California

Background: Changes to rockfish conservation area (RCA) boundary lines to correct omissions and/or modify RCA lines to more closely approximate depth contours will be explored by the California Department of Fish and Wildlife (CDFW). A possible error has been identified in southern California near Hueneme Canyon and staff will work with Law Enforcement officers to provide the necessary corrections, if this and other such corrections are necessary.

Relevant Factors for Analysis: Typically, all three states consider proposed RCA boundary corrections as needed; however, none have been identified at this time for Washington or Oregon. If any new errors are identified during the overwinter analysis, those additional corrections will be brought forward in March or April. Analyses by GIS will be conducted to determine if the existing RCA waypoints reasonably approximate the correct depth contour

Workload: Medium

Automatic Inseason Action for Fisheries in California

Background: CDFW is proposing the possibility of an inseason management method that would allow NMFS the ability to automatically take inseason actions based upon established harvest limits.

Relevant Factors for Analysis: Such a management tool would be similar to current processes used for salmon and Pacific halibut, allowing for inseason actions to be taken automatically based on agency and in coordination with NMFS. However, automatic actions are different than the salmon and Pacific halibut inseason processes because they would have to be established with strict triggers for closing a fishery, rather than inseason modifications (e.g., changing bag or trip

limits). Inseason processes have worked exceptionally well to both maximize allowable harvests and effectively avoid overages in salmon and Pacific halibut quota fisheries. Automatic actions must have established criteria upon which NMFS can take action based upon established limits (e.g. ACLs, harvest guidelines [HGs]). This would apply only to those fishery sectors that have established harvest specifications on which automatic actions could be taken (e.g., overfished species, California scorpionfish). Inherent in this action is the need to identify and provide notice to the affected parties.

Workload: Medium/High

At-sea Trawl-Buyback Movement

Background: This proposal would

- allow the transfer of quota pound (QP) for selected species from the shorebased IFQ to mothership (MS) co-ops,
- establish overall transfer caps on the total amount of QP that could be transferred for each eligible species, and
- establish individual limited entry permit holder transfer caps on the amount of QP that can be transferred by the holder of each MS catcher vessel permit.

At the beginning of the trawl catch share program, shorebased quota shares (QS) were issued to every catcher vessel limited entry permit based on a variety of criteria including equal allocation, meeting bycatch needs, and catch history. Because of the equal allocation criteria, even permits with no shorebased sector history (those that fished only in the mothership sector during the allocation period) received some QS for each species. All permits with no shorebased sector history received the same total amount of QS of each species, because equal allocation was the only basis on which they received an allocation.[1]

[1] Permits with no shorebased history received an allocation of shorebased QS only because of the equal allocation element of the allocation formula. A portion of all non-overfished species ("target species") QS was allocated equally among all permits, including those with no shorebased history. For overfished species (including all of the species covered in this proposal) the tie to the equal allocation element is through the equally allocated target species. To determine the likely overfished species bycatch need for each permit and the permit's overfished species QS allocation, fleet average bycatch rates by area and depth fished were calculated and applied to the distribution of tows by area and depth as recorded in individual vessel logbooks. However, trawl logbooks are only available for shorebased deliveries. Therefore, for vessels without shorebased deliveries, the fleet average distribution of tows was used in place of the individual logbooks. Thus, for permits without shorebased deliveries, overfished species QS was allocated through a formula that used the equally allocated target species QS and a single fleet average distribution of tows, such that each such permit received the same initial allocation of overfished species QS. Without the equal allocation element, those permits would have received no target species QS and therefore no overfished species. For permits that also had some shorebased history, the overfished species QS allocated based on the equal allocation of target species QS varied because their fishing areas as recorded in logbooks varied from one another. Note: canary rockfish is an exception to the general case for overfished species because there was also a direct equal allocation of canary rockfish. The amounts of target species and canary QS allocated equally were the shares of fleet's catch history represented by permits that were bought back in 2003.

For the mothership sector, mothership catcher vessel endorsements and whiting catch history allocations[2] were made to permits that made a minimum threshold amount of mothership sector deliveries during an allocation period. A total of 34 vessels received such allocations.

Allocations of the formally allocated at-sea whiting fishery bycatch species (canary rockfish, darkblotched rockfish, POP, and widow rockfish) are distributed within the mothership sector in proportion to the whiting catch history allocations. Under this proposal, it is for these species that the mothership sector allocations could be augmented by the transfer of shorebased QP to the mothership sector.

Overall Transfer Cap: Under the current proposal, for each species the overall cap on the total QP eligible for transfer would be the amount of QS allocated to a mothership limited entry permit with no shorebased sector history times the 34 mothership limited entry permits. The public comment in which this proposal was made (Agenda Item H.5.b, Public Comment, September 2015) indicated an expectation that the overall transfer caps would run from just under 10 percent to 20 percent depending on the species. Assuming the cap percentages provided in the text of the public comment, and applying the presumptive ACLs for 2017, the caps would be as shown in Table 1. The actual caps may vary somewhat depending on the results of the analysis.

Table 1: Proposed constraining species transfer caps

	Canary	Darkblotched	Pacific Ocean Perch	Widow
Cap	15%	20%	20%	8%
Presumptive 2017 mt equivalent	6.5 mt	57 mt	24 mt	284 mt

Individual Transfer Cap: The maximum amount of QP for a particular species that could be transferred by any single MS catcher vessel permit holder would be that permit's share of the total whiting catch history times the overall transfer cap.

> Note: QS has been trading and for any particular unit of QS or QP there is no way to identify the criteria on which its issuance was based. Therefore, QP sourced from any QS may be transferred to the MS-Co-op sector, so long as the QP is first acquired by MS catcher vessel permit holders and placed in their quota accounts.

Additional Considerations: Co-op Transfer Cap. Currently, the industry has organized itself into a single co-op but it is not required to do so. Additionally, it is possible that some vessels could choose to participate in the non-co-op fishery. In order to address these potentialities a co-op transfer cap could be specified:

> **Co-op Transfer Cap:** The maximum amount of QP for a particular species that could be transferred to any single MS co-op would be that co-op's share of the total whiting catch history times the overall transfer cap.

[2] Whiting catch history allocations are similar to shoreside QS allocations in that the catch history allocations convert to a percent that is applied to an annual sector allocation to determine the annual amount of whiting pounds provided for the permit to the co-op to which the permit belongs.

If this proposal is implemented by establishing a co-op-QP account on which the co-op would draw if it has an overage, then the co-op could transfer QP back to the shorebased sector later in the year if it determined it would not need the QP.

Relevant Factors for Analysis: The impact of this action will largely depend on the factors constraining harvest in the shorebased fishery. Since constraining factors can change over time, the nature of the impacts may also change over time. In order to understand the effects of this proposal over time, the possibility that the QP species subject to transfer do and do not constrain harvest in the shorebased fishery will both need to be considered. Some of the factors to consider in assessing the probability that constraining conditions will arise would be changes to overfished species (both the list of species that are overfished and harvest levels), gear changes (e.g. more selective gears), or changes to RCAs.

If the species subject to transfer are not constraining shorebased harvest (and would not be constraining even if the proposed levels of transfer are maximized), then the primary impact would be to increase the probability that the MS sector will be able to harvest its full whiting allocations, along with the attendant impacts of that fishery on the biological, physical and human environment. These impacts are generally accounted for when whiting harvest levels are set in that it is assumed that the MS whiting allocation will be fully harvested. Under this situation, there could also be some impact on the QS/QP prices for the species subject to transfer. This would be the primary focus of additional analysis of the non-constraining situation.

If the species subject to transfer are constraining shorebased harvest (or would be constraining if sufficient transfers occurred), then the transfer of shorebased QP to the MS sector would change harvest levels in the shorebased sector and the attendant impacts of that fishery on the physical, biological, and human environment. The analysis would look at the total amounts of QP that might be transferred and the potential impacts of those transfers on harvest and the environment. Assessment of impacts would start with consideration of the incidental harvest rates of those species in the various complexes in which they are taken and the effort, geographic distributions, and values associated with the harvest of those complexes. The likelihood and degree of impact on quota prices would be higher under this scenario than a scenario where these species do not constrain harvest and would be addressed in the analysis.

In the recent fishery, for the species that would be subject to transfer, less than 50% of the available QP have been used each year, except for widow rockfish. Utilization of widow rockfish has been on a general upward trend with redevelopment of the midwater pelagic rockfish strategy, reaching about 66 percent in 2014. Sablefish appears to be the main direct constraint on shorebased harvests by bottom trawl gear.

The analysis should cover relevant national standards and FMP criteria, particularly those related to allocation. It should also include an assessment of the likelihood that the MS sector will go over its allocations and contrast the opportunity for transfers off-the-top set asides under status quo to the opportunity that would be provided under this proposal.

Workload: High

Canary Rockfish Retention in the Commercial Fixed Gear Fisheries

Background: Canary rockfish retention is currently prohibited in the limited entry fixed gear and open access fisheries. Due to the 2015 rebuilding of canary rockfish, the ACL is expected to increase from 125 mt (current) to either 1,714 mt (default; ACL=acceptable biological catch(ABC)) or 857 mt (Council alternative; ACL = ½ ABC). Accordingly, the non-trawl allocations (subject to two year allocation process) are expected to increase to levels sufficient to permit retention of canary rockfish bycatch or possibly directed targeting. Currently, the commercial fixed gear fisheries receive approximately nine percent of the non-trawl allocation (which equates to 11.3 mt currently; 154 mt for 1,714 mt ACL, and 77 mt for 857 mt ACL); well above the 4-17 mt of total mortality for the commercial fixed gear fisheries in recent years (Table 2).

Table 2: Discard mortality of canary rockfish in the commercial fixed gear fisheries (mt).

	Non-Nearshore		Nearshore
	LE FG	OA FG	Directed OA
2009	0.02	0.03	3.8
2010	0.00	--	6.6
2011	0.09	--	17.7
2012	0.03	--	7.4
2013	0.08	--	10.5

Relevant Factors for Analysis: Assuming that trips limits are to be used to manage harvests of canary rockfish in the commercial fixed gear fisheries, the GMT may have to investigate the following: (1) development of non-nearshore trip limit model; (2) review the nearshore trip limit models utilized by Oregon and California; (3) explore how bycatch of other overfished species changes if canary rockfish is targeted (or simply not avoided) for both nearshore and non-nearshore fisheries and make any necessary modifications to either model.

Workload: Medium

Yelloweye Rockfish Conservation Area Considerations for California

Background: The CDFW had previously analyzed four Yelloweye Rockfish Conservation Areas (YRCA) in the 2009-2010 biennial cycle (09-10 FEIS, Chapter 2, pg. 128) for inseason implementation, if needed. While the YRCAs have been implemented in regulation, they have not been used to date. The CDFW will examine the previously analyzed YRCAs and evaluate whether modifications or additional YRCAs are needed to reduce yelloweye rockfish mortality.

Relevant Factors for Analysis: This analysis will help determine areas of high yelloweye rockfish interactions for California. The intent is to reduce the possibility of increased yelloweye rockfish mortality and to stay within allowable limits for yelloweye rockfish. While YRCAs have been effective at reducing encounters with yelloweye rockfish, it is difficult to quantify the savings from implementing YRCAs. Also, when amending existing YRCAs or proposing new closures, these actions require coordination with the Enforcement Consultants for their input.

Workload: High

Cowcod Conservation Areas and Hotspot Analysis

Background: For Cowcod Conservation Areas (CCA), CDFW may examine the prospect of implementing hotspot closures for cowcod in southern California as an alternative to the CCAs. In the 2011-2012 biennial cycle, NMFS disapproved modifying the depth constraint within the CCA due to a concern about increased encounters with juvenile cowcod and, at that time, the stock was thought to be at five percent depletion. However, since then a new stock assessment indicated that the status of the stock is far more optimistic than previously thought, indicating a depletion of 33.9 percent with an upward trajectory. Cowcod mortality has been below the annual catch target (ACT) and well below the ACL. It should be noted that the CCAs are part of the cowcod rebuilding plan and may be modified based upon new information.

Relevant Factors for Analysis: The eastern CCA is an EFH closure which prohibits bottom trawl, and any modification to allow bottom trawl would not be appropriate for harvest specification analysis. Available data to inform hotspot closures is sparse, although data from recent fishery independent surveys may help to inform areas of high abundance. By utilizing such surveys, it may be possible to establish a better understanding of areas of abundance for both juvenile and adult cowcod at a finer resolution. As was noted by Butler in 2003 (Butler, *et al*. 2003), the CCAs have been effective in minimizing mortality; coupled with the fact that the closures are part of the cowcod rebuilding plan, it is likely that some degree of closure will need to remain in place until the stock has been rebuilt. By modifying the existing CCA closures to include more discrete CCA type closures, it may be possible to provide some increased opportunity while continuing to protect cowcod.

Workload: High

Retention of Flatfish Species Outside of the Seasonal Depth Restriction in the Oregon Recreational Fishery

Background: The 2009-2010 (and all subsequent) Biennial Harvest Specifications and Management Measures EIS Chapter 2[3] states:

> "The shorebased fishery would be managed for a year round season as yelloweye rockfish are not impacted. Also, fishing for, take, retention and possession of sanddabs and "other flatfishes", excluding Pacific halibut would be legal year round and open shoreward of 40 fathoms during any period the groundfish fishery has any depth restrictions. The flatfish fishery would not have any depth restrictions when the groundfish fishery has no depth restrictions (i.e. 40, 30, 25 and 20 fm lines)."

However, this management measure does not appear in the most current version of the federal groundfish regulations[4]. Therefore, the GMT is requesting guidance if this management measure needs to be further analyzed during this current biennial process and if this would then be a "new" management measure or could be considered "routine".

[3] http://www.pcouncil.org/wp-content/uploads/chp2_0910.pdf , page 122

[4] http://www.westcoast.fisheries.noaa.gov/publications/fishery_management/groundfish/regulations.pdf (660.360 (a) (2)).

Relevant Factors for Analysis: Flatfish species generally live over softer substrates, as opposed to the rocky habitat associated with yelloweye rockfish. Therefore, impacts to yelloweye rockfish should be nominal, but will need to be analyzed.

Workload: Low

Routine Management Measures

Sablefish Trip Limits

Background: The GMT typically reviews the performance of sablefish trip limits relative to the sector allocations or landing targets. These allocations or shares include North of 36° Lat. for the Limited Entry Fixed Gear (LEFG) Daily-Trip-Limit (DTL) and Open Access (OA) DTL and South of 36° Lat. for the LE and OA DTL. The goal this cycle is to take a closer look at trip limit performance to set the limits on January 1 with the aim of minimizing the necessary number of inseason adjustments (assuming trip limits were initially set "right"). For 2015 and 2016, the GMT set year specific trip limits for the LEFG DTL fishery due to the large difference in ACLs for sablefish N of 36° Lat. (50 CFR Part 660). The GMT will examine the use of year specific trip limit guidelines for 2017 and 2018 as well. This action should provide industry with some consistency while allowing harvest attainment closer to the harvest guidelines.

Relevant Factors for Analysis: This measure would require examining past years' performance of the trip limit model to project landings to actual attainment and incorporating any new landings data from 2014. The effect of the prices (low, medium, and high) used within the model among the three states for the LE components should be investigated. Finally, the model's predictions compared to the Quota Species Monitoring (QSM) Best Estimate Report (BER), which is used for informing inseason adjustments, should be compared to determine if any correction factors need to be applied to the model by period to better predict landings.

Workload: Low-Medium

California Scorpionfish

Background: In 2014, mortality for California scorpionfish exceeded the overfishing limit (OFL). Consequently, the 2015 recreational season was reduced by four months from a year round fishery, to being open from January 1 through August 31. However, data are not currently available to evaluate the performance of the closure. Further, the GMT understands that an updated catch stream has been provided to the SSC, and depending on the SSC's recommendation, the California scorpionfish OFL may change. Depending on that outcome, and evaluation of the four month closure, the Council may wish to consider if further management measures are necessitated.

The commercial fishery is closed during Period 2 (March-April); however, the sector has only taken a small amount of the combined commercial/recreational annual ACL in recent years. In 2014, for example, the commercial sector accounted for only about two percent of the total annual take. As a possible consideration, if the Council were to choose to establish a HG or some type of allocation split between the commercial and recreational sectors, then adjustments to commercial trip limits, coupled with this commercial allocation amount would address the issue and better

meet the needs of the commercial sector. Having a commercial allocation would allow adjusted trip limits to keep the attainment within, and not exceed, that allocation amount.

Relevant Factors for Analysis: To be determined.

Workload: To be determined.

Rockfish Conservation Area Removals

Background: A management measure proposal is being considered for changes to the commercial non-trawl RCAs to explore all-depth fishing opportunities (i.e., no RCA lines) in designated months and areas. Proposals to explore inseason triggers that would automatically close fishing activities regionally in either deep or shallow areas (or both) upon attainment of specified limits will also be examined. The intent is to maximize opportunities within harvest limits.

Current regulations for the commercial non-trawl RCAs:
46°16' to 42° N. latitude: 30 fathoms to 100 fathoms;
42° to 40°10' N. latitude: 30 fathoms to 100 fathoms;
40°10' to 34°27' N. latitude: 30 fathoms to 150 fathoms;
South of 40°10' N. latitude: 60 fathoms to 150 fathoms.

Relevant Factors for Analysis: The GMT notes that allowing an all-depth fishing opportunity may not be feasible at this time for the commercial sector because of the need for more detailed analysis relative to EFH. Some depth closures may be considered more routine (e.g., moving the shoreward boundary from 20 to 30 fathoms); however, removing commercial RCAs altogether or opening areas that have been closed since 2003 (e.g., moving the shoreward boundary from 20 fathoms to 60 fathoms) may need more detailed analysis as pointed out above. The GMT also notes that the non-trawl RCAs apply to both nearshore and sablefish target strategies when analyzing impacts. **Due to potential EFH impacts, the GMT recommends the Council consider whether complete removal of the RCA should be analyzed as part of the 2017-2018 harvest specifications analysis, the EFH rule package, or a separate rule making package**.

Workload: High

Commercial Trip Limit Review

Background: The GMT typically reviews the performance of commercially important trip limits relative to the sector allocations or HGs. The goal this cycle is to take a closer look at trip limit performance to set the limits on January 1 with the aim of minimizing the necessary number of inseason adjustments (assuming trip limits were initially set "right"). This action should provide industry with some consistency while allowing harvest attainment closer to the harvest guidelines. The GMT reviewed recent inseason actions for potential trip limits that may be considered candidates for review. The potential list of trip limits that may be reviewed includes:

1. Shelf rockfish complex for the open access fixed-gear sector south of 40°10' N. latitude
2. California scorpionfish
3. Canary rockfish

Relevant Factors for Analysis: This measure would require development of trip limit models and estimates of impacts to overfished species for each species or complex identified. Overfished

species impacts would be explored using WCGOP data products (nearshore/non-nearshore model or reports). Changes may not make a big difference to the fleet as a whole, but could be very important to certain individuals. For the Shelf Rockfish Complex South of 40°10` (an industry request), there appears to be no foreseeable issues associated with this request. Since 2011, the annual mortality contribution of the OA sector has averaged approximately 27.7 mt, with the southern Slope Rockfish Complex ACL set at 714 mt for each of those years.

For canary rockfish, see the above section on canary rockfish retention.

Workload: Medium

California Recreational Seasons and Depths

Background: CDFW is considering changes to recreational regulations to modify seasons and allowable depth. Actions will accommodate as much opportunity as possible while keeping mortality within allowable limits (e.g. ACLs, HG, etc.) for both overfished species and target stocks. Exemptions from seasons and depth restrictions may also be explored for petrale sole and starry flounder to allow year round retention (i.e., similar to Pacific sandabs).

Relevant Factors for Analysis: The California RecFISH catch projection model will be used to project mortality resulting from proposed season and depth restrictions. Results from bag limit analyses would then be applied to the projected impacts with the proposed season and depth restrictions to project mortality. The RecFISH model has been reviewed by the SSC and has been updated to include data from 2013 and 2014.

The latest stock assessment for petrale sole indicates that the stock has rebuilt, resulting in an increased ACL and subsequently a higher non-trawl allocation. In recent years, the non-trawl allocation for petrale sole has been well below the non-trawl allocation.

Workload: Medium

California Recreational Bag Limits and Sub-Bag Limits

Background: CDFW is also considering changes to recreational bag limits and sub limits for various species. These may include, but are not limited to, black, canary and China rockfishes.

In order to minimize discards of canary rockfish, a sub-bag limit for California had been contemplated but rejected in the previous biennial cycle 2015-2016 FEIS (Appendix B, page 254). The latest stock assessment had a more optimistic outlook of the stock's status and indicated the stock has been rebuilt.

Relevant Factors for Analysis: Bag limit analyses are regularly conducted as part of the biennial management cycle and combined with projected impacts from seasons and allowable depths will be used to project impacts in the recreational fishery. Given the frequency of fish in bags, a proportional increase or decrease can be evaluated from proposed bag limit. Changes to angler behavior are difficult to quantify and will need to be considered.

Workload: Medium

Oregon Recreational Modifications to Size Limits

Background: Minimum size limits are often put into place to allow fish to spawn at least once prior to being subject to fishing or to slow down the pace of a fishery. Oregon has had a minimum length limit in place for kelp greenling for a number of years. Given the current status of kelp greenling off of Oregon, based on the 2015 stock assessment, this stock is healthy (above 70 percent depletion), with the presumed ACL (~100 mt) being more than twice the current state-specified harvest caps (40 mt). Additionally, if there is no conservation concern, this could help simplify regulations by eliminating one that may not be necessary.

Relevant Factors for Analysis: Kelp greenling off of Oregon reach full length at young ages (100 percent mature at 11.8 inches; 2 years). The current length limit is 10 inches, however very few fish less than 12 inches are landed. Prior to the length limit going into place, few anglers landed fish less than 12 inches. The analysis will need to explore the biological impacts to the kelp greenling stock by removing the length limit, as well as how this regulations change will impact overfished species, both of which are anticipated to be minimal.

Workload: Low

Washington Recreational Groundfish Bag Limits and Sub-limits

Background: The examination of bag limits, sub-limits and depth restrictions to maximize opportunity for non-overfished species while staying within overfished species HGs are regularly analyzed and included in the biennial environmental impact statements. For 2017 and 2018, the Washington Department of Fish and Wildlife (WDFW) is considering bag limit alternatives for all rockfish species, including the retention of up to two canary rockfish. In addition, WDFW will analyze the retention of three lingcod compared to the status quo sub-limit of two. All sub limits will be analyzed under the status quo aggregate bag limit of 12 groundfish.

In order to minimize discards of canary rockfish, a sub-bag limit for canary rockfish in Washington has been contemplated but rejected in recent biennial cycles. Under higher ACLs resulting from the latest stock assessment that shows that canary rockfish has been rebuilt, WDFW will revisit a sub-bag limit for canary rockfish. A canary rockfish bag limit was analyzed for Washington and Oregon in the 2015-2016 FEIS (Appendix B, page 254).

Relevant Factors for Analysis: Bag limits and sub-limits are part of the regular modeling done during each biennial cycle. Once the overfished and non-overfished ACLs, and associated HGs, are determined, the GMT can then model season structures, bag limits, depth restrictions, etc. The Washington recreational model was reviewed by the SSC and has been updated to reflect those reviews.

This analysis will also include a canary rockfish sub-limit which has been analyzed but not implemented in regulation. The analysis will examine the impacts to canary rockfish by allowing retention of one or two canary rockfish. This will turn some of the released canary into retained. The analysis will need to determine the impacts to yelloweye rockfish, and possibly other species contained within the normal bag limit. The GMT anticipates examining the recreational catch per unit effort data by depth and time to help inform this analysis. Additionally, possible changes in angler behavior will need to be considered.

Workload: High

Washington Recreational Groundfish Season Dates

Background: The Washington recreational groundfish fishery has historically been managed to provide a year round recreational groundfish fishing opportunity. However, the extreme weather along the coast of Washington results in limited if any recreational fishing during the months of October through February. This measure will explore season dates that reflect fishing effort and would align the season with the season dates for the recreational lingcod fishery.

Relevant Factors for Analysis: This analysis will examine the impacts to overfished and non-overfished species from a shorter recreational season. Given the history of minimal winter fishing effort, this analysis will likely also include a qualitative exploration to impacts to state sampling programs and streamlining regulations, and on potential future increased interest in winter fishing.

Workload: Low

Washington Recreational Modify Deep-water Lingcod Closures

Background: In 2012, deep-water lingcod closures were implemented in Washington to reduce encounters with yelloweye rockfish in the South Coast (Marine Catch Area 2) and Columbia River (Marine Catch Area 1) management areas. The current boundaries were analyzed and revised in the 2015-2016 FEIS (page 300). WDFW will look at the current boundary lines to determine if more discrete areas might as effectively reduce encounters with yelloweye and streamline regulations making them easier to understand.

Relevant Factors for Analysis: This analysis will consider impacts to yelloweye rockfish by modifying the boundaries of areas currently closed to lingcod retention. Changes could potentially open areas, allowing targeting of non-overfished rockfish and lingcod. Changes in angler behavior will be considered.

Workload: Medium

Informational Items

Nearshore Model Update

Background: Discard mortality in the nearshore fixed-gear fisheries for overfished species is estimated by WCGOP by applying discard rates (incorporating depth-dependent discard mortality rates) from observed trips (discarded catch:harvested catch) to total harvests (from fish tickets). The GMT and WCGOP have been collaboratively working to improvement the nearshore model by ensuring correct application of Council adopted depth-dependent discard mortality rates (i.e., an extra depth bin had to be added to the model to match those of the Council). No fundamental changes to the estimation process (model) have been made; rather, correction of an error in the depth bins used to estimate discard mortality. Specifically, the model applied 100 percent mortality for a depth bin > 20 fathoms, whereas the Council adopted had a 20-30 fathom depth bin (~50 percent mortality) and >30 fathom depth bin (with 100 percent mortality). Accordingly, this resulted in overestimation of discard mortality.

Since updating the nearshore model is not a management measure, rather an estimation procedure (or model), the GMT recommends excluding updating the nearshore model update from the list of

management measures for further analysis. Improvements to projection models and estimation procedures are commonplace outside of the biennial harvest specification and management measures process, and are typically adopted following external review (e.g., the SSC).

Relevant Factors for Analysis: The question that needs to be answered is this an update of data in the existing model structure or a reconfiguration? If it's the latter (not the opinion of the GMT), then a SSC review will be needed. In addition, historic estimates of discard mortality should be corrected to account for the proper depth bins.

Workload: N/A

Recommendations

1. The GMT requests additional guidance from National Marine Fisheries Service and Council staff to confirm the designations and the expectations for analysis.

2. The GMT recommends that the descending device/recompression management measures move forward outside of the 2017-2018 process, and that work begin (starting with literature reviews, etc.) as soon as our over-winter analysis is complete (e.g., March 2016).

3. If the Council agrees with the recommendation to analyze discard mortality for rockfish released with descending devices on a separate timeline than the 2017-2018 process, time should be scheduled at a future Council meeting to review the products generated by the GMT and to receive the SSC recommendations.

4. Due to potential EFH impacts, the GMT recommends the Council consider whether complete removal of the RCA should be analyzed as part of the 2017-2018 harvest specifications analysis, the EFH rule package, or a separate rule making package.

References:

Bizzarro, J.J. 2015. Comparative resource utilization of eastern North Pacific skate with applications for fisheries management. Ph.D. Dissertation, University of Washington, Seattle, WA.

Butler, J.L., L.D. Jacobson, J.T. Barnes, and H.G. Moser. 2003. Biology and population dynamics of cowcod (*Sebastes levis*) in the southern California Bight. Fishery Bulletin 101:220-280. U.S. Department of Commerce. (http://fishbull.noaa.gov/1012/05butler.pdf)

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