

CONSIDERATIONS FOR DRAFT 2011-2012 ALTERNATIVES INCLUDING OVERFISHED SPECIES ANNUAL CATCH LIMITS AND MANAGEMENT MEASURES

This paper describes the proposed structure of the alternatives that will be analyzed in the 2011-2012 harvest specifications Environmental Impact Statement (EIS). At this meeting, Council decision-making is needed to allow the analysts to move forward with constructing and analyzing the alternatives. The following topics are covered:

- Process for adopting alternatives
- Proposed alternative structure and key components for consideration
- Example alternatives (no action, status quo, practical F=0)

Process for adopting alternatives

The proposed process for adopting the 2011-2012 harvest specifications and management measures is slightly different than the approach used in recent cycles (Table 1). In the new approach, under the harvest specifications agenda item, Council action is to adopt preferred overfishing limits (OFLs) and acceptable biological catches (ABCs) for all groundfish species and species complexes, but to only adopt ACLs and optimal yields (OYs) for non-overfished groundfish species and complexes. Under this agenda item and Agenda Item I.6, the Council will consider the overfished species ACLs in coordination with the rebuilding plans and management measures in order to better understand the implications of decisions on overfished species ACLs.

Table 1. Historical and Proposed Process for Adopting the Biennial Specifications.

Historical Process	Proposed Process
Harvest Specifications -Adopt ABCs -Adopt OYs Adopt and/or revise rebuilding plans	Harvest Specifications -Adopt OFLs for all species & complexes -Adopt ABCs for all species & complexes -Adopt OYs/ACLs for only non- overfished species & complexes
Management Measures Part I and II -Adopt management measures -Confirm or adjust overfished species OY	Part I and Part II Alternatives Adopt alternatives that contain -Overfished species ACLs -Management measures necessary to achieve the overfished species ACLs Adopt and/or revise rebuilding plans

Proposed Alternative Structure and Key Components

The alternatives for the 2011-2012 fisheries have been restructured such they are composed of the following elements

- an analytical scenario that explains how the alternative is structured,
- strategic combinations of overfished rockfish species ACLs,
- ranges of petrale sole ACLs,
- estimates of the overall harvest of non-overfished species, given the overfished species constraints,
- sector allocations of overfished species, and
- management measures necessary to stay within the sector allocations or ACLs (e.g., alternative seasons, size and bag limits, specific areas closed or open to fishing, trip limits, gear restrictions, etc.).

Analytical Scenario

The analytical scenario explains the purpose of the alternative. For example, the no action alternative analyzes the impacts if no action were taken by the Council and the 2010 OYs and management measures currently specified in Federal regulations prevailed for the 2011-2012 fisheries. Examples of the no action alternative, status quo alternative, and Alternative 1, including a preview of the new alternative structure, are found at the end of this document.

Overfished Rockfish Species ACLs

The remaining alternatives represent combinations of overfished rockfish species ACLs that were developed by arranging the range of depleted species' ACLs in various combinations in order to understand how rebuilding plans for different species interact to constrain fishing opportunities (Tables 2 and 3). In previous cycles, these arrangements were known as the strategic rebuilding alternatives. In the current proposed structure of the alternatives, these harvest limits for overfished species are integrated into the more comprehensive alternatives described here, which should improve comparative analysis of the alternatives. The overfished species ACLs are strategically arrayed to illuminate how each species might differentially constrain fishing opportunities by sector (or gear type) and region along the west coast, depending on the amount of allowable harvest of each species.

Under this agenda item, the Council is asked to refine these overfished species harvest specifications and if possible, under Agenda Item I.6, choose preliminary preferred ACL alternatives for public review. Once refined, the overfished species ACLs will be placed into the alternatives template (see examples at the end of the document) and paired with the management measures necessary to constrain catch within sector allocations and the ACLs.

Petrale Sole ACLs

The declaration that the petrale sole stock is overfished provides additional considerations for the 2011-2012 fisheries. Like the overfished rockfish stocks, the Council must consider the shortest time to rebuild, given the needs of the fishing community. However, unlike the rockfish stocks, petrale sole are highly productive and under all rebuilding runs the stock is expected to be rebuilt within 10 years. Further, the overfished rockfish are highly intermixed and co-occur with more abundant stocks; therefore merely eliminating targeting is usually insufficient to meet rebuilding goals. The petrale sole stock is more aggregated, relative to rockfish stocks, and eliminating

targeting is a potential rebuilding strategy that the Council may wish to consider. Petrale sole are found in the winter in spawning aggregations and can be easily targeted, while the summer trawl fishery is a mixed stock fishery. As stated in the petrale sole rebuilding analysis, harvesting petrale in different seasons (winter vs. summer) will result in different rebuilding times and probabilities.

In developing the management measures to keep petrale catches within the ACL, the Council should provide guidance on the 2-year allocations of petrale sole to all sectors, including the treaty sector. The Makah tribe estimates that given the current bimonthly limit for petrale (50,000 lbs./vessel) annual harvest is not expected to exceed 100,000 lbs. (~45 mt) (Agenda Item G.4.b Supplemental Tribal Comment November 2009). The Council should also provide general guidance on whether constraints should be imposed on sectors other than the non-treaty non-whiting trawl sector. For example, under the 2009-2010 widow rockfish rebuilding plan, all non-whiting fisheries are held harmless and the remaining available yield of widow rockfish is allocated to the whiting fisheries.

Projected Harvest of Selected Non-Overfished Species

With regard to the projected total harvest of selected non-overfished species under each alternative, the analyses performed by the GMT will estimate how much target species could be accessed, given the overfished species constraints within the alternative. The Council should not consider these point estimates of target species catch but rather an approximation given the assumptions and changing variables. For example, estimates of target species catch is heavily influenced by the West Coast Groundfish Observer Program (WCGOP) bycatch rates, which are updated with the latest available data between the time in which the biennial cycle decisions are made (i.e., June) and the first month of the biennial cycle (i.e., January). The overfished species bycatch rates (generated from WCGOP and state recreational sampling data) vary as a result of changing fishery behaviors as well as differences in stock distributions (e.g., rebuilding, ecosystem dynamics, etc.). For both the commercial and recreational fisheries, complex dynamics relative to other fishing opportunities (e.g., salmon and tuna) affect effort estimates and thus total groundfish take. Additionally, the estimates are generated by imprecise modeling platforms which contain assumptions of how the sectors perform under the variables contained within the action alternative. In summary, the estimates are useful for conceptually understanding how the overfished species ACLs affect access to target stocks but should not be considered point estimates.

Sector Allocations for Overfished Species

As referenced in the situation summary, Under Amendment 21, formal allocations of the trawl-dominant non-overfished species and overfished species (darkblotched rockfish, Pacific ocean perch, and widow rockfish) were decided for the non-treaty trawl (hereinafter trawl sector) and non-treaty non-trawl sectors (hereinafter non-trawl sector), as well as for each non-treaty trawl sector (i.e., shoreside non-whiting, shoreside whiting, catcher-processor, and mothership). Since Amendment 21 is scheduled to be implemented January 1, 2011, these allocations will be used in the analysis of the alternatives.

The Council must decide two-year allocations for the non-Amendment 21 overfished species (yelloweye, canary, cowcod, and bocaccio) during the harvest specifications and management

measures process. Historically, these allocations were flexible such that the Council had the ability to move fish between sectors through inseason action as needed. For example, the sector projections of estimated bycatch are frequently updated with new WCGOP data, which often changes the sector allocations relative to the decision made under the harvest specifications and management measures process. In these situations, the Council had the option of constraining the sector to within the initial allocation, implementing inseason action if there was concern for exceeding the OY, or accommodating the increased overfished species interactions by moving fish between sectors within the balance of the OY.

The consideration of a rationalized trawl fishery for 2011-2012 reduces the inseason flexibility to move fish between the trawl and non-trawl sectors since the trawl allocation will be converted into quota pounds and co-op allocations. It would be very difficult, if not impossible, to reduce the trawl allocation mid-year if need arises or an overage occurs in the non-trawl sector. As such, it is anticipated that the two-year allocation between the trawl and non-trawl sectors for yelloweye, canary, cowcod, and bocaccio will be a very difficult and complex decision. Within the non-trawl sector, it is still anticipated that the Council will have inseason flexibility to move fish between sectors (e.g., recreational and fixed gear commercial) as need arises.

The Council must strike a delicate balance when considering the trawl allocation in a rationalized fishery. First, the trawl sector has not yet operated under a rationalized system and it is difficult to precisely estimate the predicted overfished species impacts. While one objective of the rationalized fishery is to promote practices that reduce bycatch and discard mortality, it is expected that there will be a learning curve as the fleet adjusts to this new management regime. Further, while rationalized fisheries have a worldwide history of success, the west coast groundfish trawl fishery has the unique challenge of interacting with eight overfished stocks. The quota pounds and co-op allocations for the overfished species are expected to be scarce, especially for yelloweye and canary rockfish. The Council may consider that the two-year trawl allocation is somewhat of a performance standard and thus the fleet should be given an allocation to reasonably accommodate fishing operations.

The overfished species allocations to the trawl sector cannot flow into the non-trawl sector if need arises or if excess should become available (e.g., the at-sea whiting sector harvests all of their whiting allocation and has remaining overfished species quota). If unused, the allocation will remain stranded in the trawl sector. As such, the Council should ensure that the non-trawl sector also has sufficient allocation to reasonably accommodate fishing operations.

Management Measures

In a parallel process to the 2011-2012 harvest specifications and management measures action, the Council is working on Amendment 23: Annual Catch Limits (ACLs), which is creating a new framework for deciding groundfish harvest specifications consistent with new National Standard 1 (NS1) guidelines. Decisions made under Amendment 23 provide the foundation upon which the 2011-2012 harvest specifications and management measures action will be made. Essentially, the Council is writing the “rules” under Amendment 23 and, at the same time, applying those rules for the first time through this harvest specifications and management measures process.

The new NS1 guidelines identify two primary sources of management uncertainty: 1) uncertainty in the ability of managers to constrain catch so the ACL is not exceeded; and, 2) uncertainty in quantifying the true catch amounts. In other words, management uncertainty involves consideration of the effectiveness of management measures at stopping catch at desired levels, and at the same time, an examination of the accuracy and precision of the estimates used to quantify catch. The new NS1 guidelines recommend consideration of the annual catch target (ACT), which can be set below the ACL if there is uncertainty in the ability of the management system to effectively keep total fishing mortality below the prescribed ACL.

Under the status quo, the Council uses harvest guidelines for some sectors (e.g., recreational) as a tool to constrain catch below the OY. The regulatory definition of a harvest guideline is “a specified numerical harvest objective that is not a quota. Attainment of a harvest guideline does not require closure of a fishery.” The Council also uses sector specific bycatch limits in the whiting fishery to constrain catches of overfished species. As specified in regulation, the National Marine Fisheries Service has the authority to close the whiting fishery upon projected attainment of a bycatch limit. In defining use of an ACT, the Council should consider whether action is required to prevent catches exceeding the ACL or if the tool is intended to be more of a guideline.

At its March 2010 meeting, the Council adopted draft Groundfish Fishery Management Plan (GFMP) amendatory language which included the ACT concept. A report on the performance of the current management system was prepared in March 2010 (Agenda Item E.4.a Attachment 4) and should assist the Council in determining whether ACTs or other management measures should be used to ensure catches stay within the ACLs and the Amendment 21 sector allocations. The Groundfish Management Team (GMT) may also provide the Council with additional advice on the use of ACTs in the 2011-2012 management cycle.

With regard to uncertainty in quantifying the true catch amounts, the GMT is aware of the estimation error inherent in the modeling platforms and estimation process and has begun some initial scoping to address estimation error within the model platforms. However, given workload and the complexities in resolving this issue it is unlikely that uncertainty will be fully evaluated in this cycle. Rather, it is a consideration that should be continually evaluated and improved upon during every biennial cycle.

At this meeting, the GMT will conduct preliminary analysis on the draft overfished species ACL alternatives to inform the types of management measures (e.g., alternative seasons, size and bag limits, specific areas closed or open to fishing, trip limits, gear restrictions, etc.) necessary under each alternative. Additionally, the GMT will provide guidance to the Council regarding potential prioritization of management measures for analysis, given workload.

Results of the Analysis

After the Council adopts refined overfished species ACL alternatives and the list of new management measures for analysis under Agenda Item I.6, more intensive analysis will occur and the 2011-2012 alternatives will be completed, as part of the preliminary DEIS available in June. The results of the analysis will be presented in a format similar to the alternative examples provided at the end of the document. Further, the results of the will include estimates of

- total harvest of non-overfished species
- total mortality of overfished species,
- geographic distribution of effort,
- revenues by sector,
- personal income impacts by port,
- community impacts, and
- ecosystem impacts (e.g., protected resources, habitat, etc.).

After reviewing the results between the alternatives, the Council is scheduled to adopt a final preferred 2011-2012 alternative including management measures and overfished species ACLs in June 2010.

Table 2. 2011 Overfished Species Annual Catch Limits

Species	Association	2010	No Action 2010 OY	Status Quo SQ SPR	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8	Alt. 9
		Scorecard Est.			Low Slope Low Shelf	Low Slope High Shelf	High Slope Low Shelf	High Slope Low Shelf	High Slope High Shelf	Mix 1	Mix 2	Mix 3
Widow	Midwater	375	509	352	200	400	600	200	3,000	600	1,000	3,000
Canary	Shelf, north	102	105	102	49	155	49	69	155	[102]	128	155
YE	Shelf, north	17	17	20	9	20	9	13	20	17	20	[20]
Bocaccio	Shelf, south	104	288	263	53	373	53	109	373	[263]	373	109
Cowcod	Shelf, south	2	4	4	2	9	2	3	9	3	[4]	[4]
Darkblotched POP	Slope, north	273	291	332	130	130	461	332	461	222	298	332
	Slope, north	120	200	180	180	[180]	265	204	265	204	265	265

Table 3. 2012 Overfished Species Annual Catch Limits

Species	Association	2010	No Action 2010 OY	Status Quo SQ SPR	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8	Alt. 9
		Scorecard Est.			Low Slope Low Shelf	Low Slope High Shelf	High Slope Low Shelf	High Slope Low Shelf	High Slope High Shelf	Mix 1	Mix 2	Mix 3
Widow	Midwater	375	509	352	200	400	600	200	3,000	600	1,000	3,000
Canary	Shelf, north	102	105	102	51	162	51	72	162	107	134	162
YE	Shelf, north	17	17	20	9	21	9	13	21	17	20	[21]
Bocaccio	Shelf, south	104	288	263	56	384	56	115	384	274	384	115
Cowcod	Shelf, south	2	4	4	2	9	2	3	9	3	4	4
Darkblotched POP	Slope, north	273	291	332	131	131	453	329	453	222	296	329
	Slope, north	120	200	180	183	183	269	208	269	208	269	269

Key

Brackets: [Status Quo - SPR]

Italics: lower than 2010 estimated impacts

Bold: lower than 2010 OY

TBD: To be determined

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2011-2012
ALTERNATIVES

Status Quo

Analytical scenario Biological strategy is to follow the process outlined in the Groundfish Fishery Management Plan and continue with a constant spawning biomass per recruit (SPR) harvest rate for all overfished species. This alternative is an artifact of how the rebuilding plans are specified in regulation and the ACLs under this alternative may not reflect the Council's decision on how much to weigh delays in rebuilding to meet the short-term needs of the fishing communities because SPR harvest rates translate into different harvest amounts (i.e., OY or ACL) based on updated estimates of stock biomass.

Harvest Specifications

1. **Overfished Species:** ACL determined by the SPR currently specified applied to the 2009 full and updated stock assessments and rebuilding analysis.

Status Quo Alternative: 2011, 2012 Overfished Species Harvest Specifications

Species	ACL alternative 2011 ^a	ACL Alternative 2012 ^a	Median time to rebuild given ACL ^b	T _{target} in FMP
Canary	Alt 4 (102 mt)	Alt 4 (107 mt)	[2027]	2021
Yelloweye	Alt 6 (20 mt)	Alt 6 (21 mt)	[2087]	2084
Bocaccio	Alt 4 (263 mt)	Alt 4 (274 mt)	2022	2026
Cowcod	Alt 4 (4 mt)	Alt 4 (4 mt)	2071	2072
Darkblotched	Alt 5 (332 mt)	Alt 5 (329 mt)	2027	2028
POP	Alt 2 (180 mt)	Alt 2 (183 mt)	[2020]	2017
Widow	SQ column (352 mt)	SQ column (339 mt)	2010	2015

^aValues taken from the status quo column in Tables 2-2 a and b (Agenda Item I.2.a Attachment 1).

^bBrackets indicate times to rebuild that are longer than the T_{target} specified in the FMP.

2. **Selected Non-Overfished Species:** List selected target species and the 2010 OY, provided in Federal regulation, as well as estimated total harvest, given the overfished species constraints. *[To be completed by the GMT]*

Status Quo: 2011, 2012 Non-Overfished Species Harvest Specifications

Species	2010 OY	Estimated Total Harvest

Management Measures

1. 2-year overfished species allocations as decided in 2009-2010, updated with most recent data (i.e., March 2010 scorecard)

2. Management measures currently specified in regulation (i.e., 2010 regulations, no new measures allowed)
 - a. Trawl Sector Management: status quo

No Action

Analytical scenario If no action were taken by the Council, the 2010 OYs and management measures currently specified in Federal regulations would prevail for the 2011-2012 fisheries.

Harvest Specifications

1. **Overfished Species:** List the OYs specified in the 2010 Federal regulations

No Action Alternative: 2011, 2012 Overfished Species Harvest Specifications

Species	ACL alternatives 2011, 2012 ^a	Median time to rebuild given ACL ^b	TTarget FMP
Petrale	1,200 mt	TBD	N/A
Canary	105 mt	[2027]	2021
Yelloweye	17 mt	2074	2084
Bocaccio	288 mt	2022	2026
Cowcod	4 mt	2071	2072
Darkblotched	291 mt	2022	2028
POP	200 mt	[2020]	2017
Widow	509 mt	2010	2015

^aValues taken from the status quo column in Tables 2-2 a and b (Agenda Item I.2.a Attachment 1).

^bBrackets indicate times to rebuild that are longer than the Ttarget specified in the FMP.

3. **Selected Non- Overfished Species:** 2010 OY listed in Federal regulation. as well as estimated total harvest, given the overfished species constraints. *[To be completed by the GMT]*

No Action Alternative: 2011, 2012 Non- Overfished Harvest Specifications

Species	2010 OY	Estimated Total Harvest

Management Measures

1. 2-year overfished species allocations as decided in 2009-2010, updated with most recent data (i.e., March 2010 scorecard)
2. Management measures currently specified in Federal regulation
 - a. Trawl Sector Management: status quo

Alternative 1 – Quickest, practicable time to rebuild

Analytical scenario Prioritize the rebuilding of overfished species which eventually provides for community benefits when the stocks are rebuilt and fisheries are no longer constrained. This alternative is as close to F=0, given the authority within the GFMP and the speed at which action could be taken to prohibit groundfish landings for the 2011-2012 fisheries. Stopping all fishing mortality would involve shutting down fisheries managed under other FMPs and by the states. Prohibiting retention does not prohibit catch and overfished rockfish would continue to be caught in other non-groundfish fisheries. Therefore, under this alternative, groundfish mortality would still occur as a result of incidental catch of groundfish in non-groundfish fisheries (i.e., discarded catch that dies) and in research.

Harvest Specifications

- Overfished Species:** ACLs amounts to accommodate discard mortality as a result of incidental catches of groundfish in non-groundfish fisheries and research.

Action Alternative 1: 2011, 2012 Overfished Species Harvest Specifications

Species	ACL alternative	Median time to rebuild given ACL	TTarget FMP
Petrале	<i>[List GMT recommended set-aside values]</i>	<i>[Request from assessors]</i>	N/A
Canary			2021
Yelloweye			2084
Bocaccio			2026
Cowcod			2072
Darkblotched			2028
POP			2017
Widow			2015

- Selected Non-overfished Species:** ACLs amounts to accommodate discard mortality as a result of incidental catches of groundfish in non-groundfish fisheries and research. *[To be completed by the GMT]*

Action Alternative 1: 2011, 2012 Non-overfished Species Harvest Specifications

Species	2010 ACL	2011 ACL	Estimated Total Mortality

Management Measures

- 2-year overfished species allocations: N/A – no directed fishing occurs

2. Management measures would prohibit landings of groundfish in all directed and incidental fisheries.
 - a. Trawl Sector Management: N/A – no directed fishing occurs