

HARVEST SPECIFICATIONS FLEXIBILITY ANALYTICAL DOCUMENT

Table of Contents

Tables	2
Figures.....	2
Acronyms	3
1 Introduction.....	4
2 Problem Statement	5
3 Harvest Control Rule Framework.....	5
4 Action Items.....	8
4.1 Carryover (All-sector).....	9
4.1.1 Description of Alternatives	10
4.1.2 Stock Eligibility Criteria	11
4.1.3 Options for Alternatives.....	12
4.1.4 Discussion	18
4.1.5 Case Study: Canary rockfish.....	21
4.2 Phase-In of ABC Changes	22
4.2.1 Description of Alternatives	23
4.2.2 Stock Eligibility Criteria	24
4.2.3 Discussion	25
4.2.4 Considerations for Terms of Reference	28
4.2.5 Case Study: Petrale Sole	31
4.3 Mid-Biennium Harvest Specifications Change	32
4.3.1 Description of Alternatives	33
4.3.2 Options for Alternative 1	34
4.3.3 Discussion	37
4.3.4 Case Studies	37
4.4 Accounting for Off-The-Top Deductions	39
4.4.1 Description of Alternatives	40
4.4.2 Discussion	44
4.4.3 Case Studies	46
4.5 Harvest Specifications Frequency.....	48
4.5.1 Description of Alternatives	49
4.5.2 Discussion	51

Tables

Table 1. Scientific uncertainty buffers recommended by the SSC in 2019 and implemented in 2020 (PFMC adopted per Agenda Item G.3.a Supplemental SSC Report 1, March 2019).....	7
Table 2. Example harvest specifications for 2025 for canary rockfish based on Carryover Alternatives, using Data Option A (year 1 to year 3).	21
Table 3. Resulting allocations, shares, and limits for canary rockfish in 2025 based on the Carryover Alternatives, Data Option A	22
Table 4. Percent change in ABC based on last two assessment cycles.	26
Table 5. Options for phase-in (decrease) and ABC control rules by year for a phase-in for stocks with decreasing trajectory	29
Table 6. Canary rockfish specifications and allocations in 2016 and example of Alternative 1 applied to 2016.....	38
Table 7. Comparison of No Action 2023 specifications and fishery HG under No Action and Alternative 1 accounting for off-the-top deductions for Lingcod north of 40°10' N. lat., a stock where the default HCR is ABC=ACL.	47
Table 8. Canary rockfish harvest specifications, off-the-top deductions, and fishery harvest guidelines in 2014 compared to Alternative 1 and actual mortality.	48
Table 9. Assessment basis for 2025 harvest specifications	52

Figures

Figure 1. Example of Allocation Option A.....	16
Figure 2. Example of Allocation Option B.....	16
Figure 3. Example of Allocation Option C.....	17
Figure 4. Example carryover under Alternative 1 ABC carryover.	19
Figure 5. Example Carryover under Alternative 2 ACL Carryover.	20
Figure 6. Example phase-in for a stock with a decreasing trajectory	30
Figure 7. Example constant catch ABC HCR phase-in for a stock with a “J-shaped” trajectory	31
Figure 8. Graphical representation of table vii from Taylor, et. al, 2023 showing the ABC, ACL values (left axis) and percent unfished (i.e., depletion) on left axis.	32
Figure 9. Proposed timeline for mid-biennium harvest specifications change.....	34
Figure 10. Current off-the-top accounting diagram for non-sablefish stocks.....	40
Figure 11. Diagram of sablefish north of 36° N. lat. allocation, per FMP section 6.3.2.1.	41
Figure 12. Alternative 1 accounting for off-the-top deductions.	41
Figure 13. Alternative 2 accounting for off-the-top deductions	43
Figure 14. Concept diagram of a continual two-year development cycle to develop new stock assessments and harvest specifications annually.	50

Acronyms

Acronym	Full Term
----------------	------------------

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
AM	Accountability Measures
BSIA	Best Scientific Information Available
BMSY	Long-Term Average Biomass Associated with Fishing at FMSY
EFP	Exempted Fishing Permit
FMP	Fishery Management Plan
FMSY	Fishing Mortality at Maximum Sustainable Yield
GAP	Groundfish Advisory Panel
GEMM	Groundfish Expanded Mortality Matrix
HCR	Harvest Control Rule
IFQ	Individual Fishing Quota
IOA	Incidental Open Access
MSST	Minimum Stock Size Threshold
MSY	Maximum Sustainable Yield
NMFS	National Marine Fisheries Service
NS1	National Standard 1
OY	Optimum Yield
OFL	Overfishing Limit
PPA	Preliminary Preferred Alternative
PFMC	Pacific Fishery Management Council
ROA	Range of Alternatives
SAFMC	South Atlantic Fishery Management Council
SSC	Scientific and Statistical Committee
WCGOP	West Coast Groundfish Observer Program

1 Introduction

Groundfish species that reside in the California Current have life spans that typically span decades, and in some extreme examples, fish may reach ages of 100 years or greater. Abundant catches and the high fecundity of the species gave the impression that stocks were highly productive. However, in the 1980s, emergent scientific evidence made it clear that many groundfish species managed in the groundfish FMP were incapable of sustaining high intensity fishing pressure using modern fishing techniques. In 2000, the first groundfish stock was declared overfished, followed by several other stocks over the next 10 years.

Since that time, through a series of management changes, industry efforts, and new scientific understanding, all groundfish stocks have been declared rebuilt as of 2025.¹ Yet, even with these changes, the groundfish fishery continues to face challenges such as volatility in stock assessment results, under attainment of ACLs and allocations, and operational costs and loss of opportunity associated with constraining species.

As described in [Agenda Item E.7, Supplemental Attachment 1, June 2025](#), the Council and stakeholders have noted a decline in the ACLs for several key groundfish stocks since 2021 after the rebuilding of several stocks in the late 2010s. Stock assessments in recent cycles have shown more pessimistic views on the status of some stocks, resulting in lower harvest specifications. Over the last decade, new understandings of uncertainty (sigma), natural mortality, steepness and other information has led to fluctuations in harvest specifications across biennia- leading to instability for the fishing industry. The decline in ACLs are also a result, in part, to the introduction of time-varying sigma used in setting harvest specifications. In 2021, there is a noticeable larger difference between the OFLs and ACLs, as compared to the previous years, mostly due to the implementation of the time varying sigma in that year. The impact of time varying sigma is further compounded by the increasing number of old stock assessments, leading to increasing uncertainty, a higher sigma, and therefore lower ACLs of groundfish stocks. This issue is described in the National Standard 1 Technical Guidance for Designing, Evaluating, and Implementing Carry-over and Phase-in Provisions (Holland, et al 2020, hereafter referred to as the “NS1 Tech Memo”). The NS1 Tech Memo, citing Liu et. al 2016, notes “that as stock assessments became less frequent, relative yields were reduced and the risk of stock depletion and interannual variation in yield increased.”

Underattainment in commercial and recreational groundfish fisheries on the U.S. West Coast is likely caused by multiple constraints. In a multi-species fishery, where ACLs are set based on the best stock-specific scientific information available, ACLs are not always calculated to optimize the fishery harvests while preventing overfishing and rebuilding overfished species. Overfishing must be prevented and rebuilding of overfished species must be pursued as quickly as possible (as outlined in NS1, but taking into account other NS such as NS8 on communities. As noted in Liu (2016), “In multispecies fisheries, unwanted bycatch of protected or threatened species, or co-occurring species with prohibitively low catch limits, can constrain or eliminate yield of target species, so management controls may be selected on their ability to control the number of nontarget species in the catch.” While the groundfish fishery is coming out of an overfished species era, these constraints noted in Liu (2016) are expected to continue. Thus, in a multispecies fishery, it

¹ At the time of drafting of this document, NMFS has not issued the final Best Scientific Information Available (BSIA) determination based on the Scientific and Statistical Committee (SSC) and Pacific Fishery Management Council (Council) recommendations in September 2025.

is inevitable that the ACLs of some stocks will restrict access to other stocks' ACLs. Currently, in the groundfish fishery, high attainment of any stocks' ACLs is relatively rare and the allocation structure and occurrence of constraining species (among other factors) leads to consistent harvesting of less than the ACLs for almost all stocks.

Beginning in early 2025, the public and Council advisory bodies have made it clear that they consider the West Coast groundfish fisheries to be in crisis (most recently in [Agenda Item H.8.a, Supplemental GAP Report, March 2025](#)), and that there was unified support in finding solutions ([Agenda Item B.1., Public Comment, April 2025](#)) to address constraining species issues, lack of flexibility, instability, and inefficiencies in the fishery. Staff provided a scoping item in June 2025 that provided a preliminary assessment of the problem and an initial assessment of previously identified items and other ideas for adding flexibility to the groundfish FMP. The following document is based on the Council's June 2025 motion.

2 Problem Statement

Steep changes in harvest specifications, resulting from changes in the Pacific Fishery Management Council's (Council) scientific understanding of the status of a species between assessments and staleness penalties for older assessments (i.e., time-varying sigma), can lead to vessel operators changing their fishing behavior and harvest strategies, and can cause market disruption. For a groundfish stock commonly caught in assemblages (i.e., fishing gear may not be highly selective or target stocks are not found in high concentrations or schools), reduced harvest specifications for one stock can reduce the fisheries' access to multiple co-occurring stocks, thus magnifying the negative socioeconomic impacts of harvest specification adjustments made in response to evolving scientific information. Reduced access to the groundfish resources off the U.S. West Coast reduces the number of annual recreational charter and private angler fishing trips, and reduces the number and/or length of commercial fishing trips. This can lead to reductions in the profitability of such trips, revenue losses for fish processors and other fishery-dependent businesses, and general market disruption.

The action items considered in this analysis are designed to promote increased access to, and landings of, groundfish resources off the U.S. West Coast and long-term stability for the groundfish fishery. The purpose of this action is to modify the Pacific Coast Groundfish Fishery Management Plan (FMP) in order to provide additional management tools that would allow the Council and the National Marine Fishery Service (NMFS) to address changes in the Best Scientific Information Available (BSIA), and other unforeseen circumstances, in a more expeditious manner; thus allowing for increased access to healthy groundfish stocks, while protecting overfished and depleted stocks, and promoting overall fishery and market stability.

3 Harvest Control Rule Framework

Harvest control rules (HCRs) are the various rules and definitions used by the Council to establish Acceptable Biological Catch (ABCs) and Annual Catch Limit (ACLs) (also referred to as reference points in the National Standard guidelines). There are several key status determination criteria and reference points in the FMP:

Maximum Sustainable Yield (MSY) / MSY Proxy: An estimate of the largest average annual catch achievable over time under prevailing conditions, often represented by a constant fishing mortality

rate (F) control rule. The Fishing Mortality at Maximum Sustainable Yield (FMSY) means the fishing mortality that if applied over the long term would result in MSY. Fishing above FMSY could eventually result in a biomass less than BMSY (long-term average size of the stock or stock complex). The default MSY proxies currently used by the Council include:

- F30% for flatfish
- F40% for whiting
- F50% for rockfish (including thornyheads)
- F50% for elasmobranchs
- F45% for roundfish species such as sablefish and lingcod

In addition to FMSY proxies, the BMSY proxy, which is the long-term average biomass associated with fishing at FMSY, is also defined. The current proxies for BMSY are:

- 25 percent of the estimated unfished biomass for west coast flatfish species (B25)
- 40 percent of the estimated unfished biomass for other west coast groundfish species (B40)

Overfishing Limit (OFL): The MSY harvest level associated with the current stock abundance. Harvest above this level constitutes overfishing. This value is also known as the overfishing status determination reference point.

Acceptable Biological Catch (ABC): A harvest specification set below the OFL, incorporating a scientific uncertainty buffer to guard against exceeding the OFL. The ABC HCR most consistently used by the Council is the application of P^* and sigma (σ) values to an estimate of the OFL for a stock. As described in ([Hamel and Wetzel 2023](#)), “The scientific uncertainty around the estimated OFL in the final year of the assessment model is represented by σ . The Scientific and Statistical Committee (SSC) of the Pacific Fishery Management Council (PFMC or Council) specifies this value for each endorsed assessment, where σ is defined as the standard deviation of a log-normal distribution, and where the estimated OFL in the final model year is considered the median of that distribution. The magnitude of σ estimated within an assessment is closely linked to the amount of data and/or the modeling assumptions used in the stock assessment, hence, the SSC has specified default σ values that serve as lower limits that should be incorporated into data-rich, data-moderate, and data-limited assessments of West Coast groundfish species.” P^* , which is bounded at the upper limit of 0.45, which is the Council’s degree of risk tolerance that the ABC for a stock is being set higher than what the OFL should have been, or that catching the ABC would result in biological overfishing of the stock. For the maximum value of 0.45, this represents a 45 percent chance in terms of the risk.

For a complete history of the P^* and sigma framework, see [Agenda Item E.7, Supplemental Attachment 1, June 2025](#). Table 1 below shows the current reductions under various P^* and sigma combination, including increasing scientific uncertainty with age of the stock assessments for category 1 and 2 stocks.

Table 1. Scientific uncertainty buffers recommended by the SSC in 2019 and implemented in 2020 (PFMC adopted per Agenda Item G.3.a Supplemental SSC Report 1, March 2019).

Years since assessment	Category 1 (baseline $\sigma = 0.5$)				
	P*				
	0.45	0.4	0.35	0.3	0.25
1	6.1%	11.9%	17.5%	23.1%	28.6%
2	6.5%	12.7%	18.7%	24.6%	30.4%
3	7.0%	13.6%	19.9%	26.0%	32.1%
4	7.4%	14.4%	21.0%	27.5%	33.8%
5	7.8%	15.2%	22.2%	28.9%	35.5%
6	8.3%	16.0%	23.3%	30.3%	37.1%
7	8.7%	16.8%	24.4%	31.6%	38.7%
8	9.1%	17.6%	25.5%	33.0%	40.2%
9	9.6%	18.3%	26.5%	34.3%	41.7%
10	10.0%	19.1%	27.6%	35.5%	43.2%
11	10.4%	19.9%	28.6%	36.8%	44.6%
12	10.8%	20.6%	29.6%	38.0%	46.0%
13	11.3%	21.4%	30.7%	39.2%	47.3%
14	11.7%	22.1%	31.6%	40.4%	48.6%
15	12.1%	22.9%	32.6%	41.6%	49.9%
Years since assessment	Category 2 (baseline $\sigma = 1.0$)				
	P*				
	0.45	0.4	0.35	0.3	0.25
1	11.8%	22.4%	32.0%	40.8%	49.1%
2	12.6%	23.8%	33.9%	43.1%	51.6%
3	13.5%	25.3%	35.8%	45.3%	54.0%
4	14.3%	26.7%	37.6%	47.4%	56.2%
5	15.1%	28.1%	39.4%	49.4%	58.4%
6	15.9%	29.4%	41.1%	51.4%	60.4%
7	16.7%	30.7%	42.8%	53.3%	62.4%
8	17.4%	32.0%	44.4%	55.1%	64.2%
9	18.2%	33.3%	46.0%	56.8%	66.0%
10	19.0%	34.6%	47.6%	58.5%	67.7%
11	19.7%	35.8%	49.0%	60.1%	69.3%
12	20.5%	37.0%	50.5%	61.6%	70.8%
13	21.2%	38.2%	51.9%	63.1%	72.2%
14	22.0%	39.4%	53.3%	64.5%	73.6%
15	22.7%	40.5%	54.6%	65.9%	74.9%
	Category 3 (constant $\sigma = 2.0$)				
	P*				
	0.45	0.4	0.35	0.3	0.25
	22.2%	39.8%	53.7%	65.0%	74.0%

Annual Catch Limit (ACL): A harvest specification set at or below the ABC, intended to prevent overfishing and achieve Optimum Yield (OY). As defined in the FMP, the setting of the ACL is

made “in consideration of conservation objectives, socioeconomic concerns, management uncertainty, ecological concerns, and other factors. The ACL is a harvest limit that includes all sources of fishing-related mortality including landings, discard mortality, research catches, and catches in exempted fishing permit activities. Sector-specific ACLs can be specified, especially in cases where a sector has a formal, long-term allocation of the harvestable surplus of a stock or stock complex. The ACL serves as the basis for invoking AMs.[Accountability Measures]”

The ACL HCR is typically set at $ACL=ABC$, unless the stock status is below BMSY in which case the 40-10 and 25-5 precautionary adjustments are applied². This reduced harvest rate is intended to help the stock return to the MSY level. If the stock status is below the overfished threshold (also known as the minimum stock size threshold or MSST), then the Council adopts a rebuilding strategy as outlined in Section 4.6 of the Groundfish FMP. MSST for non-flatfish stocks is 25 percent of unfished biomass and 12.5 percent for flatfish.

4 Action Items

There are five action items for which the Council could consider adopting a range of alternatives (ROA) and/or preliminary preferred alternative(s) (PPA).

- **Carryover (All-sector):** Adds a framework to the FMP to allow unutilized ACL to be used in the following year in a prescriptive manner in order to expedite issuance of additional quota to fisheries.
- **Phase-In of ABC Changes:** Adds a framework to the FMP to allow for phase-in of ABC changes to provide stability to fisheries due to changes in stock status and resulting changes in harvest specifications (both increases and decreases).
- **Mid-Biennium Harvest Specifications Change:** Add a framework to the groundfish FMP to allow increases in harvest specifications in the second year of a biennium for newly assessed stocks in a prescriptive manner in order to expedite issuance of additional quota to fisheries.
- **Accounting for Off-The-Top Deductions:** Proposes changing the current framework for off-the-top deductions (i.e., expected mortality from scientific research, tribal fisheries, incidental fisheries and exempted fishing permits (EFPs)) from being deducted from the ABC instead of the ACL, aiming to prevent unnecessary fishery closures and increase available quota to groundfish sectors.
- **Harvest Specifications Frequency:** Considers changing the biennial specification cycle to an annual specifications process or maintaining the biennial cycle with less frequent specification frequency (setting specifications for a to-be-determined number of years for certain stocks) to enhance responsiveness while reducing workload.

The Council could elect to adopt a ROA/PPA for some, all, or none of the action items. Some of the alternatives within action items are mutually exclusive to other alternatives (e.g., Mid-Biennium Harvest Specification Change and Annual Specifications). Further discussion on the interplay between each alternative will be provided in *Supplemental Attachment 3*.

² The Council could chose to implement an alternative HCR, as proposed for canary rockfish in 2027-2028 to not implement the precautionary adjustment.

Note that current harvest specification values or those proposed for the 2027-2028 biennium would not be changed for any species with this amendment. Rather, any action items would or could be applied through future management actions related to setting catch limits.

4.1 Carryover (All-sector)

During the National Standard (NS) 1 revisions in 2016, a provision was added to allow Councils to carry over a portion of the unused ACL to a following year if an underage occurs (i.e., catch is below ACL) in the current year. As noted in the NS1 Tech Memo, “This provision was added because some fisheries do not catch each stock’s full ACL every year. Carrying over unused catch can relieve pressure on fishermen to catch the entire catch limit within a particular year when it may not be practical or economical to do so. This pressure can result in fishing in unsafe situations or harvesting fish during poor market conditions. Further, carry-over provisions can also be used to address situations when fisheries are prematurely closed inseason and some amount of ACL remains unused.”

Specifically, NS1 Guidelines at 50 CFR 600.310(f)(2)(ii)(B) state:

“(B) Carry-over ABC control rules. An ABC control rule may include provisions for the carry-over of some of the unused portion of an ACL (i.e., an ACL underage) from one year to increase the ABC for the next year, based on the increased stock abundance resulting from the fishery harvesting less than the full ACL. The resulting ABC recommended by the SSC must prevent overfishing and must consider scientific uncertainty consistent with the Council’s risk policy. Carry-over provisions could also allow an ACL to be adjusted upwards as long as the revised ACL does not exceed the specified ABC. When considering whether to use a carry-over provision, Councils should consider the likely reason for the ACL underage. ACL underages that result from management uncertainty (e.g., premature fishery closure) may be appropriate circumstances for considering a carry-over provision. ACL underages that occur as a result of poor or unknown stock status may not be appropriate to consider in a carry-over provision. In addition, the Councils should evaluate the appropriateness of carry-over provisions for stocks that are overfished and/or rebuilding, as the overriding goal for such stocks is to rebuild them in as short a time as possible.

As noted in the introduction, the groundfish fishery has historically experienced chronic underattainment and yet, some sectors may be restricted or closed early due to constraining co-occurring species or low allocations. Incorporating a Carryover framework in the groundfish FMP could provide relief to sectors.

In the NS1 guidelines and corresponding NS1 Tech Memo describe two approaches to carryover: Utilizing the ACL Buffer (Approach 1) and ABC Adjustment (Approach 2). Approach 1 would increase the ACL up to the ABC where Approach 2 would increase the ABC (and ACL) up, but not exceeding, the OFL. The maximum amount of quota that could be carried over from one year to another year would be the amount of unutilized ACL.

In its June 2025 statement ([Agenda Item E.7.a, Supplemental GAP Report 1, June 2025](#)), the GAP recommended considering an “automatic carryover framework that would minimize... workload.” Therefore, both action Alternatives described here (based on the two approaches outlined in the NS1 Tech Memo) would follow a prescriptive carryover framework that would minimize the

workload trade-offs, acknowledging that it would likely mean that Carryover quotas may not be optimally distributed among fishery participants in every situation. Therefore, there are no proposed ad-hoc changes proposed under the options within any of the alternatives. These alternatives are not mutually exclusive and the Council could choose to implement both into the groundfish FMP.

Note that while other Councils have implemented a framework for ABC/ACL carryover, to date, staff have not been able to find where it's been utilized.

4.1.1 Description of Alternatives

No Action: The NS1 Guidelines allowances for Carryover would not be incorporated in the groundfish FMP.

There are no Carryover provisions in the groundfish FMP for unharvested ACLs to be rolled over and harvested in future years. Only shorebased individual fishing quota (IFQ) surplus carryover would be permitted. Any unharvested ACLs would only be considered during stock assessments each biennium (full, update, or catch-only updates).

Alternative 1 - ABC Carryover: Modify the ABC HCR in the FMP to allow ABCs to be increased up to but not exceeding the OFL from the current ABC value when there is unharvested baseline ACL³ in a recent prior year. The ACL HCR would not be modified.

Under Alternative 1, the unharvested portion of the baseline ACL may be carried over, resulting in a 1:1 increase in a future year's ABC thereby decreasing the buffer between OFL and ABC. The new ABC cannot exceed the OFL. For the year in which Carryover is issued, the ABC would increase, subject to SSC endorsement. The ACL may be equal to the ABC but may not exceed the ABC. Alternative 1 would maintain off-the-top deductions for research, EFPs, and incidental open access (IOA) fisheries from the ACL.

As noted above, NS 1 Carryover Approach 2 (ABC Carryover) contemplates the ACL being set equal to a new, higher ABC that was increased by Carryover provisions. However, staff recommend maintaining the default ACL HCR under Alternative 1 (such as the 40-10 rule if the stock is in the precautionary zone) because eligibility for Carryover does not change the understanding of the stock's status.

Alternative 2 - ACL Carryover: Modify the ACL control rule in the FMP to allow ACLs to be increased when there is unharvested baseline ACL⁴ in a recent prior year from the value resulting from the default ACL control rule to up to ABC=ACL.

Under Alternative 2, the unharvested portion of the baseline ACL may be carried over, resulting in a 1:1 increase in a future year's ACL, such that the ACL cannot exceed the ABC. Alternative 2 would maintain off-the-top deductions for research, EFPs and IOA fisheries from the ACL.

³ We are henceforth referring to harvest specifications that do not include any Carryover quota as "baseline" harvest specifications

⁴ We are henceforth referring to harvest specifications that do not include any Carryover quota as "baseline" harvest specifications

For both Alternative 1 and Alternative 2, the groundfish FMP would be modified to allow Carryover to align with allowances in the NS1 Guidelines. For both alternatives, there are no proposed changes for off-the-top deductions for research activities, IOA, and EFPs. These off-the-top deductions are intended to account for groundfish mortality and prevent overfishing and, in most cases, are not contingent upon (or proportional to) the ABC or ACL. Research and IOA estimates are based on recent average or maximum mortality estimates from the West Coast Groundfish Observer Program (WCGOP) Groundfish Expanded Mortality Matrix (GEMM) product and EFP amounts are based on requests. Therefore, it is likely that the off-the-top deductions would need to be increased when a stock is eligible for Carryover.

For both action alternatives, routine management measures, such as trip limit adjustments, would need to occur during routine inseason at a Council meeting. The framework and associated regulations would include measures to increase any resulting shorebased IFQ or tier quota pounds.

4.1.2 Stock Eligibility Criteria

The Council should consider setting criteria for when a stock would be eligible for Carryover, as is noted in the NS1 Tech Memo and as was done by the South Atlantic Fishery Management Council (SAFMC) in their [Comprehensive Acceptable Biological Catch Amendment](#). Eligibility criteria are of particular importance for a flexible framework so the Council may continue to manage the risk of overfishing. Criteria may differ between Alternatives. One or more of the following criteria, or other criteria to be determined, could be set by the Council to determine if a stock is eligible for Carryover. At a minimum, the stock must have some amount of unharvested baseline ACL.

For example, a stock could be considered eligible for Carryover if, in addition to harvest below ACL:

Eligibility Option A: The stock's overfished status is known and the stock has been determined to be above MSST, or “not overfished.” NOTE: Current overfished status determination criteria are not applicable to stock complexes and therefore overfished status for all stock complexes is “unknown.” Stock complexes would, therefore, not be eligible for carryover under this criteria.

Eligibility Option B: Stock is not subject to a Phase-In ABC harvest control rule during any year in which Carryover quotas would be issued to increase the ABC under Alternative 1. This means the Council cannot ever increase an ABC using both Phase-In (see “Phase-In of ABC Changes”) and Carryover.

Eligibility Option C: Stock has not exceeded its ACL more than once in the most recent four-year period based on published final estimates of total mortality.

Eligibility Option A would implement a criteria within the framework for Carryover based on the status of the stock. As described, this would permit Carryover for stocks that are above B40 or within the precautionary zone but not overfished. Stocks in this category would still be subject to any reduction in the default ACL HCR for Alternative 1 (in other words, a 40-10 or 25-5 reduction would still apply between the ABC and the ACL if applicable). If the Council adopted a policy

wherein only stocks above B40 would be eligible for carryover (i.e., modifying Eligibility Option A), then Alternative 2 would be even less likely to be used, as most stocks that have an ACL less than the ABC are stocks in the precautionary zone. The only stocks that would have carryover permitted would be stocks where there is a constant catch ACL below the ABC (such as Dover sole in prior biennia). For stock complexes, it is important to consider that while overfished status for stock complexes are currently not known, in the future under the “Stock Complex” agenda item tentatively scheduled for June 2026 (Agenda Item C.6., Attachment 1, November 2025), the Council will be undertaking changes to stock complexes and status could be determined in the future and Carryover issued. Therefore, this criteria would not necessarily prevent Carryover indefinitely for stock complexes.

The Council should also consider how Carryover could impact future rebuilding plans. One study by Goethel and Smith 2017 found that Carryover of unused quota did not jeopardize rebuilding plans as long as Carryover quota was distributed in a way that did not skew harvest into sectors with differences in selectivity and discards. While the eligibility criteria currently presented would not allow Carryover for rebuilding stocks, this does suggest that the Council could consider Carryover for overfished stocks.

Eligibility Option B would make a stock ineligible for ABC carryover if a Phase-In ABC control rule is in place. As will be described in the next section, Phase-In ABC control rules can be set to ramp down the ABC based on a new stock assessment; however, the ABC is likely to be set closer to the OFL than under the default HCR during this type of phase-in. Therefore, ABC carryover would likely not be possible in some years or would be in opposition to the principles of a phase-in in other years. More discussion on this interaction can be found in *Supplemental Attachment 3*.

Eligibility Option C was proposed by staff in line with the NS1 Guidelines. Accountability measures for stocks where the ACL has been exceeded more than once in a four-year period, are required by NS1 guidelines. Not issuing Carryover could be implemented as an accountability measure when ACLs have been exceeded two or more times in any four-year period. However, the considerations around why an ACL was exceeded in a year (i.e., unforeseen lightning strike, high bycatch in non-groundfish fisheries) may result in other accountability measures being more effective.

4.1.3 Options for Alternatives

For both Alternative 1 and 2, the Council needs to specify when and how this change in the ABC or ACL control rule would apply and how Carryover would be implemented through the allocation framework. Options to address these decision points are presented below. Note, some options are mutually exclusive, as characterized with an “or”.

4.1.3.1 Process Options

While Carryover is proposed as a prescriptive framework, the Council must decide how stocks that meet the eligibility criteria would be recommended for Carryover. The following options describe how the Carryover process will be implemented.

Process Option A: Carryover is approved by the Council on a stock-by-stock basis, similar to alternative ABC/ACL HCRs during development of the biennial harvest specifications, and Carryover would be continued for the stock unless the Council determines otherwise. or

Process Option B: Carryover is part of the default /ABCACL control rule via the FMP framework for all stocks unless certain conditions are met (see Stock Eligibility Criteria for example conditions for consideration).

Process Option A would have the Council determine which stocks would be eligible for Carryover for the next biennium. This would allow the Council and its advisory bodies to determine which stocks are likely most in need of Carryover taking into account new stock status information, any new constraints, and other factors. Carryover would continue until the Council determines otherwise (such as during another harvest specifications cycle).

Process Option B would implement Carryover for all stocks unless certain conditions were met and would be part of the HCR framework. This would limit the number of decisions the Council and its advisory bodies would need to make each specification cycle, however, it would also result in additional work to issue Carryover for stocks where it isn't needed.

4.1.3.2 Data Options

The NS1 Tech Memo proposed that Carryover would utilize an underage from Year 1 (Baseline) to issue Carryover in Year 2 (see [Figure 1 in the NS1 Tech Memo](#)). However, given the availability of data, staff offer two options to determine which year's data will be used for Carryover calculations:

Data Option A: Year 1 baseline ACL underage to Year 3 (maximized Carryover), or

Data Option B: Year 1 baseline ACL projected underage to Year 2 (potentially partial Carryover)

Data Option A would utilize final year-end mortality estimates for Year 1 from the WCGOP that are typically available in September of Year 2 to calculate the potential carryover in Year 3. This would allow for the maximum amount of carryover as the WCGOP estimates are considered BSIA for accounting for total mortality against the ACL. Data Option B would utilize Year 1 projected underage to Year 2 and was how the NS1 Guidelines proposed Carryover to work. For trawl dominant stocks, given the inseason monitoring and 100 percent catch accounting, it is possible that the maximum possible Carryover amount could be "covered" by the unutilized allocation at the end of a year. Alternatively, a projection would need to be made to determine what is likely to not be used with a degree of certainty. However, Data Option B may result in less than maximum carryover as any mortality estimates are not considered final until September of the following year. Given that Data Option B is based on a projection, it is likely that the estimate would be available later than Data Option A, suggesting that Carryover would be issued later under Data Option B than Data Option A. Furthermore, with Data Option B, given that it is based on a projection, considerations would need to be made within the policy framework to account for overages if actual mortality was greater than the projection. The NS1 Tech Memo discusses this consideration in Section 4.5:

"For stocks where the fishery is expected to exceed its ACL in some years, allowing carryover provisions to be applied to ACL underages while not requiring corresponding provisions to address ACL overages (e.g., pay-backs) could lead to catches exceeding the ACL on average, increasing the risk of overexploitation of the stock over the long term."

4.1.3.3 Options for Minimum Buffer between OFL and ABC

As described in [Final Rule for Amending the NS1 Guidelines \(74 FR 3178\)](#), the definition framework allows the OFL to be equal to the ABC and the ACL. However, NMFS notes that there are few fisheries where that would be appropriate, and the Council has set a policy where the ABC is reduced from the OFL. If the Council were to implement a Carryover framework, there would need to be a policy developed with recommendations by the SSC (as the body responsible for setting the OFL and ABC) on the minimum difference between the OFL and the ABC. The NS1 Tech Memo also noted this as an issue to consider. The following options describe the minimum buffer allowed between the OFL and ABC.

Buffer Option A: Allow for the maximum extent possible of ABC carryover, which would set the ABC at X percent (to be determined by the Council) less than the OFL.

Buffer Option B: The allowance to increase the ABC would be based on the category of the assessment.

Buffer Option A would provide a specified percentage buffer across all stocks at a value to be determined by the SSC and Council. Given that groundfish stocks have a wide range of harvest specifications (from a few metric tons to nearly 50,000 metric tons for Dover sole), a metric ton threshold did not seem equitable given that one mt of a species like Dover sole does not represent the same buffer as one mt of a species like Cowcod. Buffer Option B would be based on the category of the assessment. Assessment categories align with values of sigma which are associated with scientific uncertainty and therefore some consideration could be made for stocks with higher uncertainty maintaining a larger buffer between the OFL and ABC. Other considerations by the SSC may be brought forward in November 2025.

As an example of a buffer policy, Smith and Goethel (2017) simulated several carry-over scenarios that allowed ABCs to be adjusted to accommodate carry-over for Gulf of Mexico red snapper-which was overfished at the time. One policy maintained the gap between ABC and OFL such that the adjusted ABC could not exceed 95 percent of the OFL. While scenarios implementing the cap rebuilt the stock faster due to the heavily reduced carry-over adjusted yields, scenarios without the cap that allowed carry-over up to the OFL still rebuilt the stock on schedule.

4.1.3.4 Specifications/Management Measures

In order to fully specify Alternatives 1 and 2, the Council needs to determine how Carryover would be issued through the allocation framework. Specifically, the Council would need to determine how tribal off-the-top deductions, trawl/non-trawl allocations (and within sector Harvest Guidelines (HG)), and at-sea set asides would be implemented. As noted above, no ad-hoc approaches are considered in order to have a prescriptive framework that can be implemented in a timely manner by NMFS. The following offers a set of questions and answers to fully specify the Alternatives.

1. Should the same off-the-top deduction for the tribes be applied to the new ACL?

As with off-the-top deductions for research activities, IOA, and EFPs, deductions for tribal fisheries are intended to account for groundfish mortality and prevent overfishing and, in most cases, are not contingent upon (or proportional to) the ABC or ACL. Coastal treaty tribes recommend amounts for all groundfish species that they plan to fish for with the exception of

sablefish north of 36° N. lat. (hereafter “sablefish north”). The tribal amount for sablefish north is set at 10 percent of the sablefish north ACL as described in Section 6.3.2.1 of the Groundfish FMP 6.3.2.1.

2. How should allocations, HGs, etc. change?

Allocation Option A, Proportional: proportional increase to sectors using a ratio of baseline proportions; and/or

Allocation Option B, Remainder Only: keep the metric tonnage value the same; only the “remainder” amount allocated would top-up via Carryover; or

Allocation Option C, If-Then (mutually exclusive): If-then scenario, where if an allocation or HG is set as a metric tonnage value and “remainder” to other sector(s), if recent (TBD) mortality of the flat amount allocation is less than 50 percent of the baseline allocation (or HG), then then all Carryover goes to the “remainder” sector. Otherwise, implement Allocation Option A. For all stocks with percentage-based trawl, non-trawl allocations or within non-trawl allocations, apply Allocation Option A.

Depending on the stock or stock complex, there could be a trawl/non-trawl allocation, within non-trawl HGs, or other allocation/share structures. Allocations Options A through C are prescriptive and would help expedite the issuance of carryover through the rulemaking process. However, as noted in the introduction to this section, the resulting increases may not be issued to the sectors most in need of the increased yield from Carryover.

Allocation Options A and B are not mutually exclusive and the Council could adopt a policy that selects both options to be available in the Carryover framework for the relevant stock types. In other words, stocks with percentage-based allocations (or HGs) would have Allocation Option A applied, whereas stocks with allocations with specified metric tons for one sector would have Allocation Option B applied. This framework includes stocks with within-sector HGs (for example, canary rockfish within non-trawl HGs would be issued carryover under Allocation Option A).

Under Allocation Option A, the baseline proportions (X percent to trawl, Y percent to non-trawl) would be applied as well as any other proportions within the management measure structure (for example, the within non-trawl shares for canary or yelloweye rockfish). Allocation Option 2 is designed for stocks like petrale sole, which is currently allocated as 30 mt to non-trawl and the remainder to the trawl sector. While Allocation Option A could be applied to petrale sole and resulting proportions calculated from the baseline allocation, Allocation Option B would likely better meet the Council’s intent for the allocation structure in allocating for the sector’s base need and allocating the remainder to the trawl sector where petrale sole is a main target. Figure 1 and Figure 2 show an example of how 100 mt of Carryover would be issued under Allocation Option A and Allocation Option B respectively (assuming that all Carryover was issued at the fishery HG level).

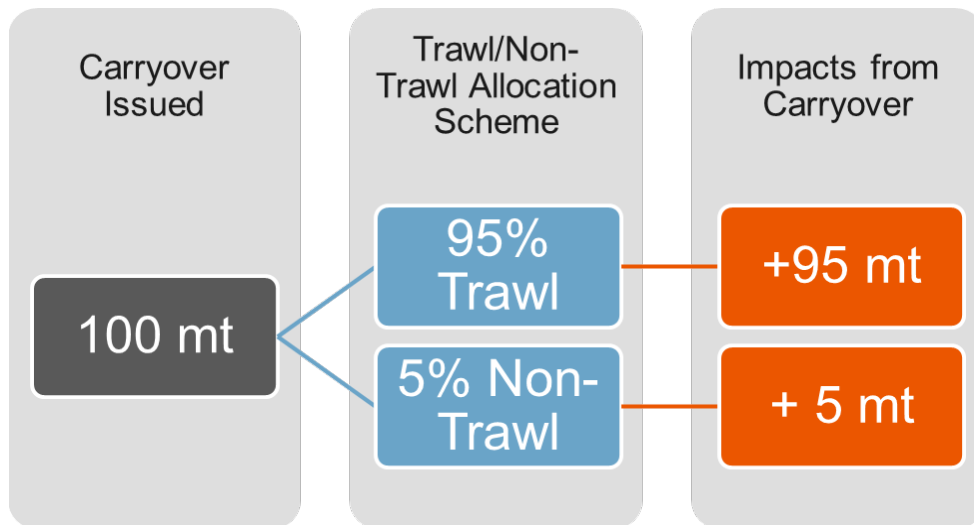


Figure 1. Example of Allocation Option A

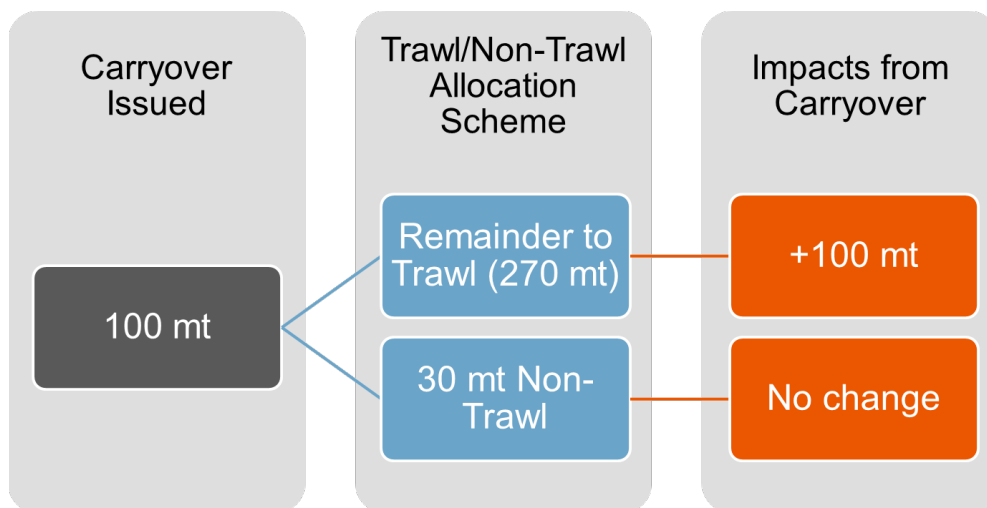


Figure 2. Example of Allocation Option B

Allocation Option C is mutually exclusive of the other two options as it would set up an adaptive framework for allocated groundfish stocks. For example, for stocks such as Petrale sole which are allocated as a metric tonnage amount to one sector and the “remainder” of the fishery HG to another sector, the issuance of Carryover would depend on the recent utilization of the metric tonnage amount. For example, if attainment of the baseline allocation was less than 50 percent (or another level to be determined by the Council) in the recent year(s), then Allocation Option B would apply. The baseline allocation attainment could be based on a recent average or most recent year, but should be specified by the Council. If the attainment were greater, then Allocation Option A would apply. For all other stocks with a proportional allocation structure (i.e., typical trawl percentage/non-trawl percentage), Allocation Option A would apply (in addition to any within sector shares/HGs with similar structure). An example in Figure 3 on how 100 mt of Carryover would be issued based on the threshold trigger in Allocation Option C. In this example, the fishery HG is 300 mt with the non-trawl sector allocated 30 mt. That would result in the remainder (i.e., 270 mt) going to the trawl sector.

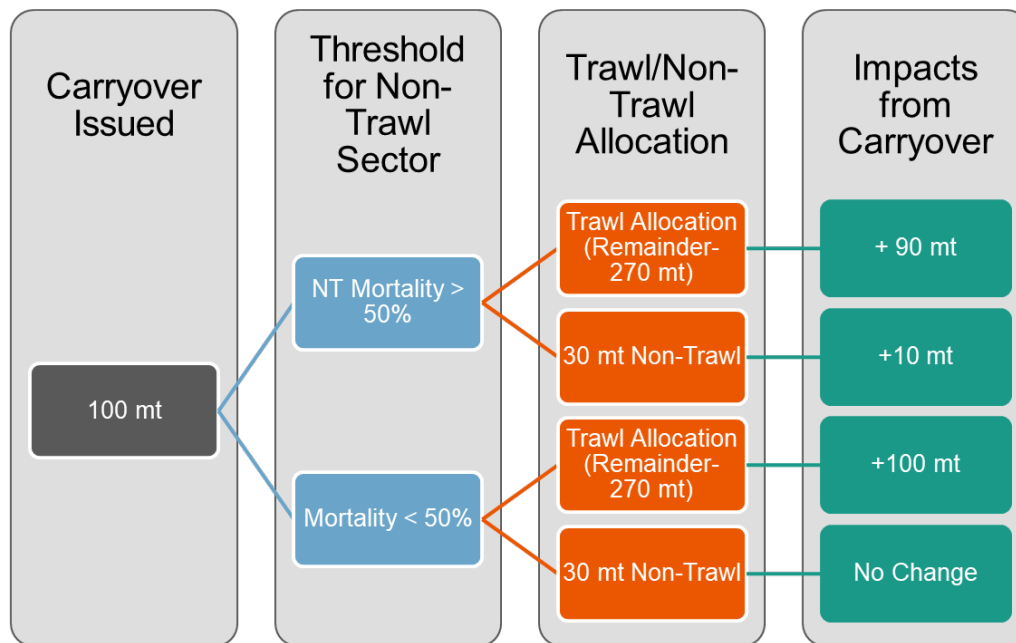


Figure 3. Example of Allocation Option C

3. Should at-sea set-asides change- and how?

At-sea set-asides for select non-whiting groundfish stocks are deducted from the trawl allocation prior to IFQ distribution and are intended to cover anticipated bycatch mortality in the at-sea whiting fishery. The Final Environmental Impact Statement (FEIS) for Amendment 21 stated that:

In the trawl rationalization program, several species/sector combinations are not scheduled to be managed using IFQs or bycatch limits. It is these sector/species combinations where set-asides are necessary and where allocations are not necessarily appropriate. The perspective taken to establish a set-aside is different from the perspective taken for establishing allocations. Since set-asides are not accompanied with a firm and direct management tool, the appropriate amount of fish attributed to a set aside is best examined as an amount that can reasonably accommodate the incidental amount of fish that a sector could take. This differs from an allocation where a firm catch level is established that is a direct target, and that target may be lower than historic catch amounts.

Therefore, in determining set aside amounts, recent mortality, whiting allocations, and other factors (such as changes in ocean conditions resulting in shifting of fishing location) are considered when setting values through the harvest specifications process.

As described in 50 CFR 660.160(c)(3)(i), “At-sea sector set-asides of non-whiting groundfish species will be managed on an annual basis unless there is a risk of a harvest specification being exceeded, unforeseen impact on other fisheries, or conservation concerns, in which case inseason action may be taken. Set asides may be adjusted through the biennial specifications and management measures process as necessary.”

Set Aside Option A, No change: keep the metric tonnage value the same; only the shorebased IFQ allocation would top-up via Carryover:

Set Aside Option B, Change: proportional increase to both sectors using a ratio of baseline proportions of the trawl allocation

The two at-sea options proposed here are similar to those described in the allocation options above. The first question the Council should consider is if set aside values warrant change as the values set during the harvest specification process should cover incidental mortality anticipated in the biennium. All increases from carryover would be issued as quota pounds (QPs) to the shorebased IFQ sector. If the answer is no, then Set Aside Option A would be the preferred choice. However, if the Council thinks set aside values should change, Set Aside Option B would increase the at-sea set-aside proportionally (based on the percentage calculated from the baselines within trawl amounts).

4.1.4 Discussion

Under No Action, underharvest of ACL would only be taken into account through the stock assessment process. Unlike Carryover, which would result in a 1:1 increase in the specifications (bounded by the OFL), this would not result in a 1:1 increase. Additionally, there is a limited number of assessments (including catch-only projections) able to be produced during a stock assessment cycle. Shorebased IFQ vessels would receive surplus carryover at the vessel level, however, that is restricted to stocks where the $ABC > ACL$ and is limited to 10 percent.

Under either action Alternative, this action would continue to prevent overfishing because management measures would continue to be thoroughly examined and tailored periodically (i.e., every two years under biennial specifications framework) to keep harvest at levels that prevent overfishing every year. Furthermore, routine inseason adjustments are available for use by the Council at each Council meeting. Regardless of Alternative, particularly for high attainment stocks, Carryover could increase the risk of biological overfishing because there would be fewer precautionary adjustments to decrease catch limits below the OFL in the event that the OFL was set too low. Alternative 1 would have a higher risk of overfishing compared to Alternative 2, as Alternative 1 would set the ABC potentially at or just under the OFL (depending on the minimum buffer established) whereas Alternative 2 would maintain the buffer between the OFL and ABC.

In terms of available yield to the fishery, if the ABC were increased under Alternative 1, it could provide a 1:1 increase in harvest limits for all stocks, including when the ACL HCR is $ABC = ACL$. For example, Figure 4 below shows that the unharvested amount (tan portion in the Baseline Year-Mortality column) is greater than the maximum amount of carryover (shown here as the difference between the OFL and ABC/ACL in coral in the Baseline Year- Harvest Specifications column). Therefore, there could be a 1:1 increase in the ABC/ACL in the next year up to the maximum permitted. This example depicts Data Option B (Year 1 to Year 2 Carryover), however, the same concept would apply under Data Option A. Note that under either Alternative, the unharvested baseline ACLs may only be carried over once, and the added harvest opportunity would be finite for a single future fishing year.

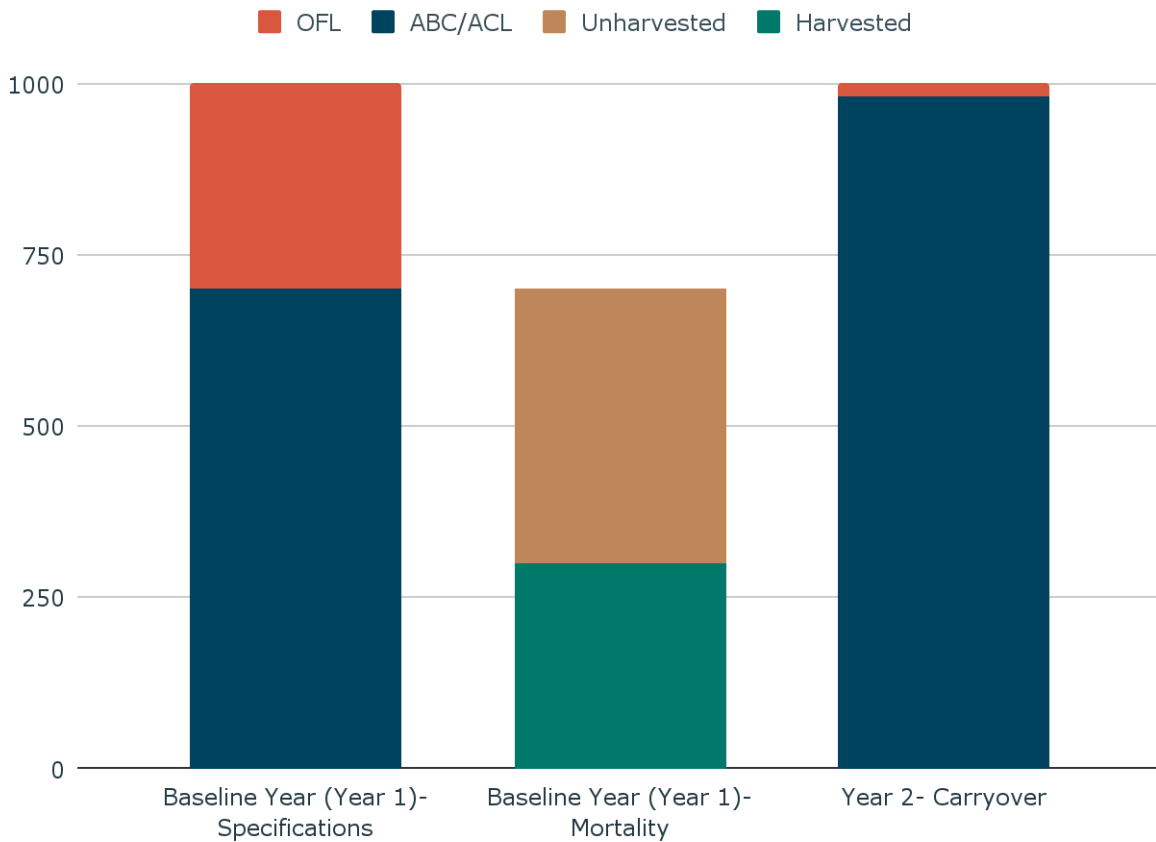


Figure 4. Example carryover under Alternative 1 ABC carryover.

For the majority of groundfish stocks, the default HCR includes a P^* of 0.45 and $ABC=ACL$, resulting in potentially little to no discernable increases in available yield under the carryover provisions outlined in Alternative 2. Therefore, only for stocks where there was a reduction from ABC to ACL would there be a potential increase in available yield by issuing Carryover under Alternative 2. Alternative 2 would increase the ACL up to the ABC (yellow portion of Baseline Year- Specifications in Figure 5) if the unharvested portion of Baseline ACL was greater to or equal to that value (tan segment). Alternative 2 would not increase the ABC in the year in which Carryover was issued. (Figure 5). As with the above example, this example depicts Data Option B (Year 1 to Year 2 Carryover), however, the same concept would apply under Data Option A.

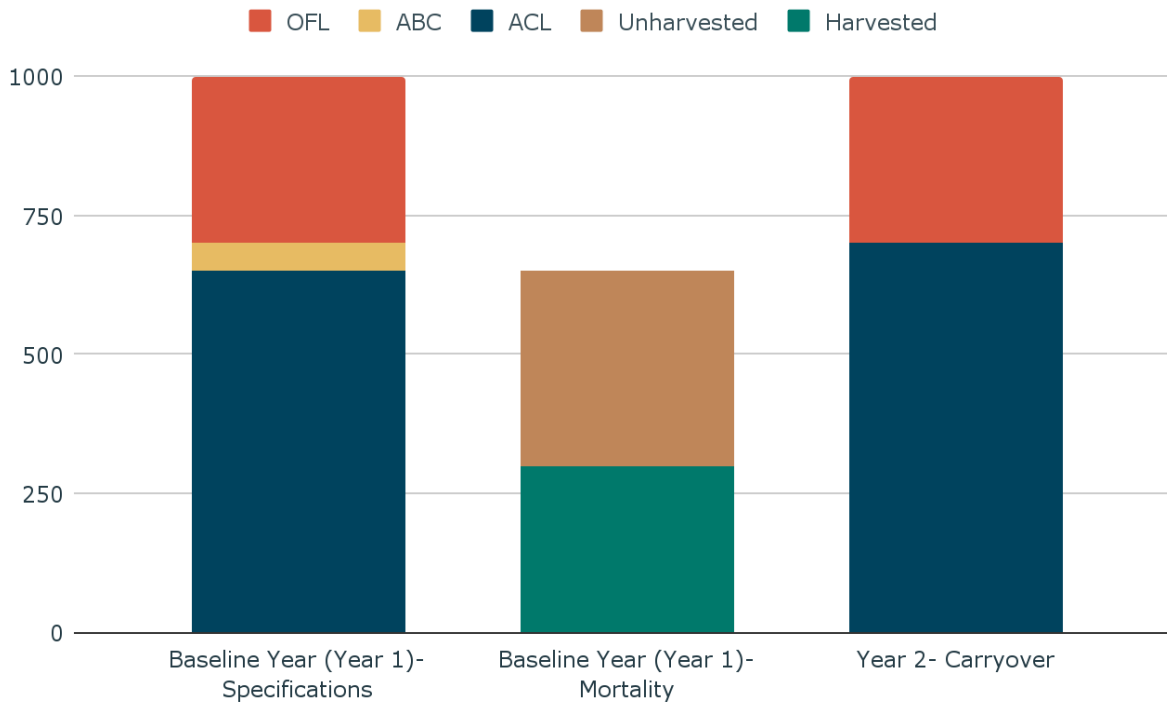


Figure 5. Example Carryover under Alternative 2 ACL Carryover.

Under either Alternative, no surplus carryover would be issued in the shorebased IFQ program for those stocks where Carryover is implemented and the ABC is set equal to the ACL.

In terms of impacts to stock assessments, currently decision tables assume 100 percent attainment of future ACLs based on the default HCR (see [Terms of Reference](#)) even though a majority of groundfish stocks average less than 50 percent attainment of the ACL. The GAP noted in June 2025 that considerations should be discussed under the upcoming Terms of Reference considerations that alternative projections could be run within the decision tables to understand the implications of actual versus assumed attainment.

Under Alternative 1, ABC Carryover, stock assessment decision tables would need to incorporate a run where 100 percent attainment of the OFL (or the maximum ABC- depending on the selection in the "Options for Minimum Buffer between OFL and ABC"- see above) is assumed either for select stocks (Process Option A) or all decision tables (Process Option B). This run would support issuance of Carryover at the maximum level.

Under Alternative 2, ACL Carryover, stock assessment decision tables would need to assume ABC levels of catch rather than ACLs as currently described in the TOR. Again, this would occur for select stocks (Process Option A) or all decision tables (Process Option B) and would likely result in few changes from No Action given that the ABC is equal to the ACL for the majority of stocks.

Overall, Carryover in the groundfish fisheries may help to increase attainment for some stocks where the management regime and series of allocations have resulted in constraints at a sector or individual level while the fishery as a whole remains underattained.

However, it is important to understand whether underattainment is due to the constraints and scarcity as previously described or if it is due to declining catch rates and stock size. If the latter, the Council should consider the cause of underattainment prior to issuing carryover (Goethel and Smith, 2017).

4.1.5 Case Study: Canary rockfish

In this hypothetical, staff explore the potential implications of the Alternative 1 and 2 Carryover frameworks and options for a single stock. Canary rockfish was chosen as an example because it is harvested in all sectors of the groundfish fishery, including commercial and recreational fisheries, had less than 60 percent attainment in 2023, and had a decrease in the ACL from 2023 to 2025 based on the results of the 2023 assessment. Note, this analysis does not explore the potential change in stock status or harvest specifications in years beyond 2025.

Table 2 below shows an example of the potential Carryover that could have occurred under Alternative 1 and 2 for canary rockfish under Data Option A (Year 1 to Year 3 carryover) from 2023 to 2025. The maximum amount of carryover that could be moved from 2023 to 2025 is 614.3 mt (the difference between the ACL and the estimated mortality in 2023). For this analysis, the ABC under Alternative 1 (ABC carryover) is set using a one percent buffer between the OFL and ABC and the default ACL HCR is implemented (i.e., 40-10 rule is applied). Overall, Alternative 1 would have resulted in the same impacts as Alternative 2 (ACL Carryover) with a 34 mt addition. If the default ACL HCR were not implemented, then a potential additional 36 mt would have been available (i.e., setting the ABC=ACL). However, as noted in the description of the alternatives, this is not proposed as part of the alternative currently.

Table 2. Example harvest specifications for 2025 for canary rockfish based on Carryover Alternatives, using Data Option A (year 1 to year 3).

	Baseline		No Action	Alternative 1	Alternative 2
	2023	2024	2025	2025	2025
OFL	1472	1434	647	647	647
ABC	1338	1296	605	641	605
ACL	1338	1296	571	605	605
Mortality	723.7				
Amount Able to Carryover	614.3				

As noted above in the “Options for Alternatives”, the Council will need to consider how the resulting increases will be issued across the sectors. Table 3 below shows the impacts from each alternative for the sectors and the change from the baseline under Allocation Option A (proportional). For simplicity, Table 3 does not change any of the off-the-top deductions (including for tribes) or the at-sea set asides. However, depending on the Council’s specifications, that would impact the resulting allocations, HGs, limits, etc. Note that there are minor differences between the two alternatives, which is due to rounding and other assumptions built into the calculation.

Table 3. Resulting allocations, shares, and limits for canary rockfish in 2025 based on the Carryover Alternatives, Data Option A

	No Action	Alternative 1 (ABC Carryover)		Alternative 2 (ACL Carryover)	
	Specifications	Specifications	Change	Specifications	Change
OFL	647	647	0	647	0
ABC	605	641	36	605	0
ACL	571	605	34	605	34
Off-the-top	62.9	62.9	0	62.9	0
Fishery HG	508.4	542	34	542.1	33.7
Trawl Allocation (%)	72.3%	72.3%		72.3%	0.0%
Trawl Allocation (mt)	367.57	391.92	24.35	391.94	24.37
At-Sea Set Aside	20	20	0	20	0
Shorebased IFQ Allocation	347.57	371.92	24.35	371.94	24.37
IFQ Annual Vessel Limit	76,720	81,994	5,274	81,998	5,278
Non-Trawl Allocation (%)	27.7%	27.7%		27.7%	
Non-Trawl Allocation (mt)	140.83	150	9	150.16	9.33
WA Recreational (12.3%)	17.31	18.47	1.16	18.47	1.16
OR Recreational (18.5%)	26.04	27.78	1.74	27.78	1.74
CA Recreational (33.2%)	46.73	49.85	3.12	49.85	3.12
Commercial (36%)	50.66	54.06	3.40	54.06	3.40

4.2 Phase-In of ABC Changes

Phasing in changes to ACLs has always been allowed, as long as the ACL does not exceed the ABC (NS1 Tech Memo). However, the 2016 revisions to the NS1 Guidelines included a provision to allow changes in ABC (either reductions or increases) to be phased in over a period of time not to exceed three years, as long as overfishing is prevented. Previously, harvest specifications were changed in line with the assessment results (i.e., used the default HCR), with no ability to slowly implement (aka phase-in) the results of the assessment unless it was conservative in nature.

The NS1 Guidelines state at 50 CFR 600.310(f)(2)(ii):

“(A) Phase-in ABC control rules. Large changes in catch limits due to new scientific information about the status of the stock can have negative short-term effects on a fishing industry. To help stabilize catch levels as stock assessments are updated, a Council may choose to develop a control rule that phases in changes to ABC over a period of time, not to exceed 3 years, as long as overfishing is prevented each year (i.e., the phased-in catch level cannot exceed the OFL in any year). In addition, the Councils should evaluate the

appropriateness of phase-in provisions for stocks that are overfished and/or rebuilding, as the overriding goal for such stocks is to rebuild them in as short a time as possible.”

In its June 2025 statement ([Agenda Item E.7.a, Supplemental GAP Report 1](#)), the GAP recommended considering mechanisms to make harvest specifications more predictable and aligned with the experience of fishermen on the water. One of the ways to achieve this is to phase in changes to harvest specifications to balance immediate disruptions to the socioeconomic environment with long-term achievement of optimum yield.

The NSI Tech Memo lays out potential benefits and risks of allowing phase-in control rules. Benefits of phase-in provisions include increased stability to fisheries by allowing longer times to adapt to the changes in harvest specifications and reductions in management uncertainty as implementing large changes in ACLs over a longer versus a shorter period can allow managers time to evaluate if other management measures are needed. Risks of phase-in include the potential for increased risk of overfishing due to a smaller buffer between OFL and ABC in the near term. As noted in the NSI Tech Memo, risk may be higher for some species based on life-history characteristics (e.g., short-lived stocks with high rates of natural mortality) and stock structure/spatial dynamics (e.g., species that school or contract distribution as biomass decline). Additionally, assessment variability and frequency of phasing in decreases without phasing in increases may also increase the risk.

4.2.1 Description of Alternatives

No Action: The Council could continue to consider deviating from the default ABC control rule for any stock on a case-by-case basis, including both a phase-in increase or decrease.

Under No Action, the Council could continue using ad-hoc HCRs, including phase-in ABC or ACL HCRs. Phase-in increases in harvestable surplus can be done by using precautionary ACL adjustments below the ABC, since the FMP allows for ACLs to be adjusted for management uncertainty and other social, economic, or ecological considerations (4.7.1 and 4.7.2). Phase-in decreases can be done through ad-hoc ABC and ACL harvest control rules. However, under present conditions (No Action), there are no guidelines on how phase-in HCRs are implemented (i.e., three year maximum) and there is a lack of clarity about what happens after the ad-hoc rules are implemented. In other words, right now, the FMP describes that a deviation in the HCR becomes the new default HCR. However, given that phase-in control rules are only permitted for up to three years, this conflicts with the current FMP language.

The Council has implemented ad-hoc HCRs infrequently to “phase in” impacts from stock assessments. One example is the implementation an ad-hoc phase-in for Oregon black rockfish in [2021-2022](#) and [2023-2024](#). Oregon black rockfish is a primary target stock for both recreational and commercial fisheries and had closed fisheries prematurely in the years prior due to reaching the ACL or HG early. ODFW therefore recommended that the 2020 ABC be specified for the 2021-2022 biennium as well as the 2023-2024 biennium as they waited on a new assessment (done in 2023) before returning to the default HCR in 2025. The Council has proposed a similar approach for shortspine thornyhead and petrale sole for analysis in 2027 and 2028 harvest specifications (see [Agenda Item G.6 in September 2025 Decision Summary Document](#)).

Alternative 1: Specify a phase-in framework in the groundfish FMP which would allow phase-in ABC increases or decreases for a maximum of up to three years as permitted by the National Standard 1 guidelines.

Under Alternative 1, the groundfish FMP would be modified to explicitly allow for a phase-in HCR for a period of up to three years. As described under No Action, the Council can currently utilize ad-hoc HCRs (which can include a phase-in) instead of the default HCR. This alternative would clarify the phase-in framework, including outlining stock eligibility criteria and specify what would happen for the default HCR after the phase-in concludes. Alternative 1 would not be automatic, but could be considered by the Council and its advisory bodies during the stock assessment and harvest specifications process. Specifically, Alternative 1 would be facilitated by changes to the stock assessment terms of reference (see below for examples).

4.2.2 Stock Eligibility Criteria

As with Carryover, the Council should consider setting criteria for when a stock would be eligible for phase-in which is noted in the NS1 Tech Memo. Eligibility criteria are of particular importance to create a flexible framework that allows the Council to manage the risk of overfishing. The NS1 Tech Memo also describes that thresholds or criteria should be identified where “precautionary measures should be used or additional simulation analysis is required before applying the phase-in provision to ensure that overfishing is prevented. For example, caution should be applied if there has been a significant or unexpected change in stock abundance and biomass that could be due to rapidly changing environmental conditions or there are significant or unexpected changes in the ecosystem that undermine the ability to project stock biomass and abundance going forward. In such case, phasing in catch reductions would be inappropriate. Further, if stock assessments tend to overestimate abundance for a stock, phase-in may not be appropriate.” One or more of the following criteria, or other criteria to be determined based on the NS 1 Tech Memo, could be set by the Council to determine if a stock is eligible for phase-in:

Eligibility Option A: Stock is not selected for ABC carryover during any year in which a phase-in would be implemented. This means the Council cannot ever increase an ABC using both Phase-In and Carryover. *(Only applicable if Carryover is included in action)*

Eligibility Option B: New assessment shows that a new ABC (year 1 of the next biennium) is less than 85 percent of the existing ABC (year 1 of the prior biennium)

Eligibility Option A mirrors Carryover- Eligibility Option B which would make a stock ineligible for ABC carryover if a Phase-In ABC control rule is in place. Since Phase-In ABC control rules are set to ramp down (or up) the ABC based on a new stock assessment, the ABC is likely to be set closer to the OFL than under the default HCR during the phase-in (in the case of a ramp down). Therefore, ABC carryover would likely not be possible in some years as there would be limited to no buffer between the ABC and OFL or would be in opposition to the principles of a phase-in in other years. More discussion on this interaction can be found in *Supplemental Attachment 3*.

Eligibility Option B is based on the GAP recommendation from June 2025 ([Agenda Item E.7.a, Supplemental GAP Report 1, June 2025](#)) that the Council consider a trigger where when an ABC decreases by 15 percent of the previous ABC based on a new assessment, the phase-in decrease would go into effect. Staff has proposed that the comparison of ABCs occurs between Year 1 of the biennium that the stock assessment would inform and Year 1 of the current biennium. In other

words, a 2025 stock assessment would inform the 2027 ABC and would be compared to the 2025 ABC to determine if the threshold is met. The following section describes how often this trigger would have been hit for species of interest in recent specification cycles.

Other eligibility criteria are possible and other options could be recommended by the Council and advisory bodies, as appropriate. In considering these eligibility criteria, some may be better suited for the FMP while others more suited for the TOR.

4.2.3 Discussion

Under No Action, the Council has the option of selecting an ad-hoc HCRs to phase-in the impacts (both positive or negative) of a stock assessment. The phase-in options could include a constant ABC/ACL for the biennium (i.e., what was done for black rockfish in 2021-2022 and what is proposed for analysis in 2027-2028 for shortspine thornyhead) or by implementing a slow decrease in the specifications (as is being analyzed for yellowtail rockfish for 2027-2028). Additionally, as described in Section 3 (Harvest Control Rule Framework), the Council could recommend that the ACL is set less than the ABC for reasons including socioeconomic conditions or ecological concerns. However, the inclusion of the ad-hoc HCRs in the harvest specifications and management process does create additional workload between the September and November Council meetings when there is limited time and competing resources.

Alternative 1 would implement an ABC Phase-In framework to the groundfish FMP. The associated FMP amendment would clarify the Council's ability to implement a phase-in ABC increase or decrease (outside of the "ad-hoc" nature) and what happens for the default HCR after the phase-in is completed.

When considering an ABC phase-in and determining stock eligibility criteria, it is important to consider stock generation time in evaluating what species may be best suited for a phase-in. Given that most groundfish species are longer lived with long stock generation times, it is likely that most if not all would be good candidates. If the Council adopts a policy to incorporate this framework into other FMPs (as was posited under the Adaptive Management Item), stock generation time would need to be considered (among other factors) before utilizing the concept and could be incorporated as a stock eligibility criteria if desired. Additionally, as noted in the NS1 Tech Memo, the Council and the SSC should consider if the Phase-In ABC HCR applies to stocks, stock complexes, or both. If applied to multiple stocks (as contemplated in this document), "the SSC or relevant scientific advisory body should evaluate and approve the use of phase-in for each individual stock or stock complex to ensure that the framework will prevent overfishing. Many FMPs define a tiered approach to ABC control rules. Phase-in provisions may be incorporated into the existing tiered system. Phase-in may be implemented differently depending on which data tier a stock is in." In considering a framework that prevents overfishing, the Council may want to consider incorporation of a policy (as outlined in Carryover "Options for Minimum Buffer between OFL and ABC") where a minimum buffer is established between the OFL and ABC. This could be based on the category of the assessments (as posited by the NS1 Tech Memo and considered in Buffer Option B) or a percentage based buffer.

In June 2025, the GAP recommended that the Council consider a trigger where when an ABC is 85 percent of the previous ABC (i.e., decreases by 15 percent) based on a new assessment, the phase-in decrease would go into effect. This idea is included in "Eligibility Criteria B." Staff examined the assessment results of 2021 and 2023 and the impacted ABCs from those assessments

to determine how many stocks would have been triggered for a phase-in under the proposed alternative. For those stocks where comparisons could be made⁵, 10 out of 16 would have triggered the Alternative 1 phase-in option as shown in Table 4 below. The trigger is assessed based on the ABC in the year of the assessment (Year 1 of Biennium A) and the ABC in the year the assessment is implemented (Year 1 of Biennium B). In other words, an assessment completed in 2023 would assess the change from 2023 to 2025. Stocks shaded in green would meet the trigger for a phase-in, where stocks shaded in grey would not.

Table 4. Percent change in ABC based on last two assessment cycles.

Stock Assessment	Current Biennium (Year of Assessment)		Next Biennium (Year Assessment Implemented)		% of Next/Current Y1 Biennium
	Year	ABC	Year	ABC	
Canary	2023	1338.05	2025	604.88	-54.79%
Petrale	2023	3484.54	2025	2354.33	-32.43%
Shortspine	2023	2078	2025	821.34	-60.47%
Black RF WA	2023	289.91	2025	244.56	-15.64%
Black RF OR	2023	512	2025	343.6125	-32.89%
Black RF CA	2023	334.39	2025	233.8	-30.08%
Copper N CA	2023	6.93	2025	6.919	-0.16%
Copper S CA	2023	94.77790246	2025	127.2161	34.23%
Rex Sole	2023	1437.42006	2025	4549.68566	216.52%
Sablefish	2023	10825	2025	36545	237.60%
Sablefish	2021	8971	2023	10825	20.67%
Lingcod N	2021	5385.62	2023	4378.37	-18.70%
Lingcod S	2021	1162.13	2023	739.02	-36.41%
Spiny Dogfish	2021	1620.94	2023	1456.3	-10.16%
Dover Sole	2021	84192.3	2023	59684.79	-29.11%

As shown, percent change for most stocks is clearly above or below the threshold in recent years with little ambiguity around the threshold level, the exception being black rockfish off Washington (15.64 percent decrease or just over 85 percent of the prior ABC). For comparison, the SAFMC analyzed three levels of change in their amendment (where the new ABC was 60, 70, or 80 percent of the previous ABC- i.e., a 40, 30, or 20 percent decrease) and recommended 80 percent of the existing ABC (i.e., 20 percent decline) as the threshold for a decrease. Under that threshold, black

⁵ Stocks that could not be compared include quillback rockfish (CA), vermilion rockfish (all areas), copper rockfish (WA, OR, and CA for North of 40 10 N. lat.).

rockfish off Washington and lingcod north of 40° 10' N. lat. would not meet the criteria for a framework phase-in.

While stocks may be considered “eligible” under the proposed criteria, by incorporating it into the process rather than changing the default HCR, it would allow the Council and the advisory bodies to determine whether the benefits of a phase-in outweigh the costs. Additionally, while a stock assessment may come back with a decrease in the ABC, the overall level in catch may still be more than sufficient for the fishery (such as Dover sole).

Alternative 1 is structured to specify a maximum of three years to align with the NS guidelines. However, there may be benefits of timing a phase-in with the biennial specifications cycle. A two-year phase-in would align well with the biennial specifications, and the Council could elect to do a catch-only update for the next biennium to account for the differential in actual mortality versus assumed 100 percent mortality in the years of the phase-in. However, if the Council chose not to do a catch-only projection (or other assessment) and use the decision table from the initial assessment, the ABC in year three would be lower than that of a third year in a phase-in.

In terms of biological impacts, a three-year phase-in, compared to a one or two year phase-in, would result in a lower long-term ABC after the revised projections account for the higher mortality that occurred during the phase-in. However, given the biennial cycle and the chronic underattainment for most groundfish species, it is likely that there would be little difference in the long-term ABC between phase-ins over any time span after actual mortality (versus assumed 100 percent mortality) is incorporated into a new series of projections. The only cases where there may be a small difference in the long-term ABC could be for stocks like petrale sole, which are highly attained.

Ultimately, the Council could adopt a shorter phase-in period than the maximum of three years. This approach gives the Council flexibility to address any recommendations from the SSC or other advisory bodies on assessment priorities for the next biennium or other concerns related to uncertainty in a longer phase-in compared to a shorter phase-in.

With regards to the phase-in increases, the NS1 Tech Memo describes phase-in increase framework should be considered in concert with increase if phase-in decrease framework. While the groundfish FMP does allow phase-in increases through the ACL, Alternative 1 would specify that phase-in ABC increases are permitted for up to three years to align with the NS guidelines. In general, increases in biomass through new stock assessments are seen as positive (in terms of stock condition and opportunity for industry) and there is no need to deviate from the default ABC HCR (unless through normal courses, such as a change in P^* or σ).

The greatest impact of Alternative 1 is to the increased efficiencies built into the harvest specifications process by incorporating phase-in runs during the harvest specifications process. For example, if the framework were in place with eligibility criteria, stock assessors could provide decision tables that incorporate the phase-in framework to the assessment results for eligible stocks. Then, the Council could choose to implement the phase-in or use the default HCR as a part of the normal specifications process. This would create efficiencies for the Stock Assessment Teams (STAT) teams (who could run the alternative HCR at the time of the assessment rather than between the September and November Council meetings under No Action) and allow the Council and its advisory bodies to understand the implications of the default HCR versus a phase-in HCR at the September Council meeting. This would limit the number of potential alternatives to

consider and analyze after September and over the winter months in advance of the April Council meeting.

4.2.4 Considerations for Terms of Reference

While Terms of Reference (TOR) edits are completed through another process (scheduled to start in March 2026, see the Year at a Glance), staff wanted to present two concepts here as examples of what could be added to the TOR for potential phase-in decrease options.

1. Analyze a phase-in of lower ABCs for stocks showing decreasing trends in stock abundance (as specified in Table 5).
2. Analyze a constant ABC catch scenario for stocks with a decreasing to increasing (“J-shaped”) trajectory for a designated number of years.

For cases where the stock biomass (and therefore resulting specifications) is on a long-term trajectory of decline (as shown in Figure 6), Table 5 shows the potential concept for a phase-in decrease under a two or three year schedule. The purpose of this concept would be to create another ABC HCR by which the Council could implement a phase-in of decreases to the ABC over a set period of time. This concept is based on the SAFMC’s [Comprehensive Acceptable Biological Catch Control Rule Amendment](#). Under that amendment, the SAFMC established criteria for when phase-in is allowed and approach for the phase-in. The SAFMC amendment allowed greater flexibility in specifying ABC increases than ABC decreases. For ABC decreases, the SAFMC recommended a three-year schedule on how the ABC would be modified; after that time, the ABC would be based on revised projections that account for the prior three-year phase-in.

Table 5. Options for phase-in (decrease) and ABC control rules by year for a phase-in for stocks with decreasing trajectory

Year	2-Year Schedule	3-Year Schedule
Year 1	Modified ABC may not exceed OFL a/	Modified ABC may not exceed OFL a/
Year 2	Modified ABC may not exceed $\frac{1}{2}$ the difference between the revised OFL and the new ABC recommendation	Modified ABC may not exceed $\frac{1}{2}$ the difference between the revised OFL and the new ABC recommendation
Year 3	N/A	Modified ABC may not exceed the original recommended year 3 ABC (based on the projections and analyses that triggered the phase-in).
Subsequent Years	ABC is based on the revised projections that account for phase-in during years 1 and 2	ABC is based on revised projections that account for the phase-in during years 1-3.

a/ As described in the Discussion, the Council may want to consider a policy for setting a minimum buffer between the OFL and ABC.

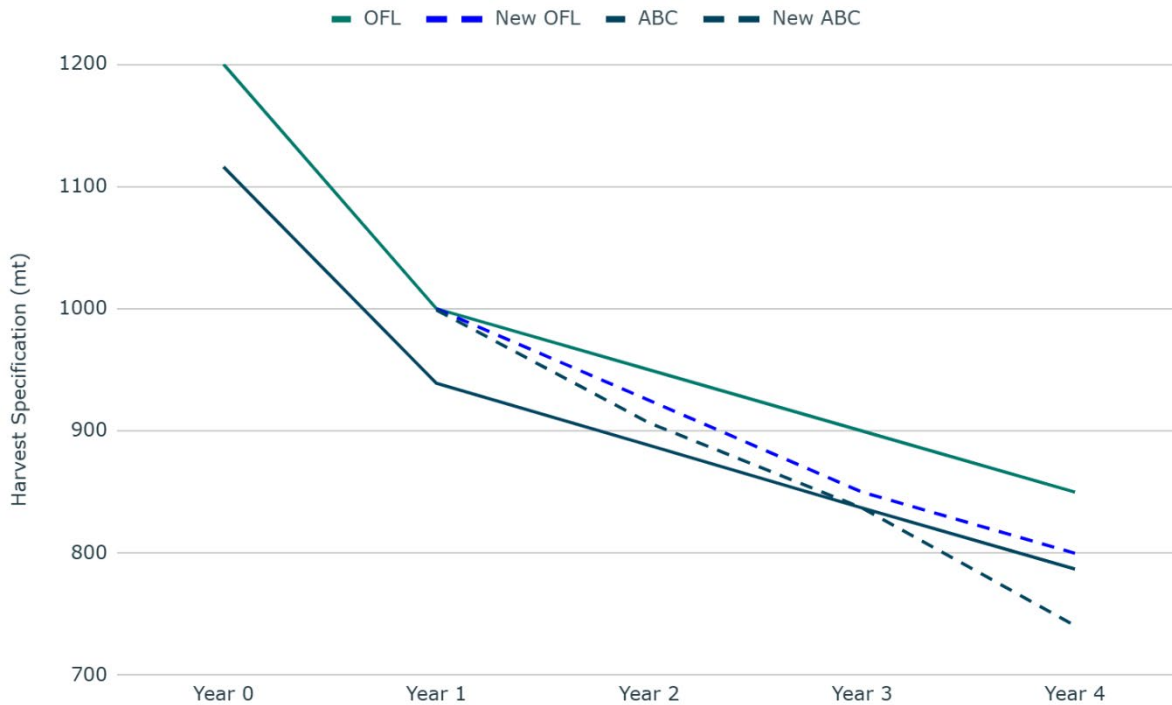


Figure 6. Example phase-in for a stock with a decreasing trajectory

For stocks with a trajectory that is not decreasing steadily as shown in Figure 6, another option could be a constant catch ABC HCR that would be implemented for two or three years. Figure 7 below shows an example stock assessment (“J-shaped”) trajectory where a constant catch ABC control rule would “smooth out” the impacts of the initial decline in the harvest specifications. The constant catch ABC control rule could be specified by Council staff, GMT, and GAP representation before or at the STAR panel (to be designated in the TOR) so that the run could inform decision making at the September council meeting.

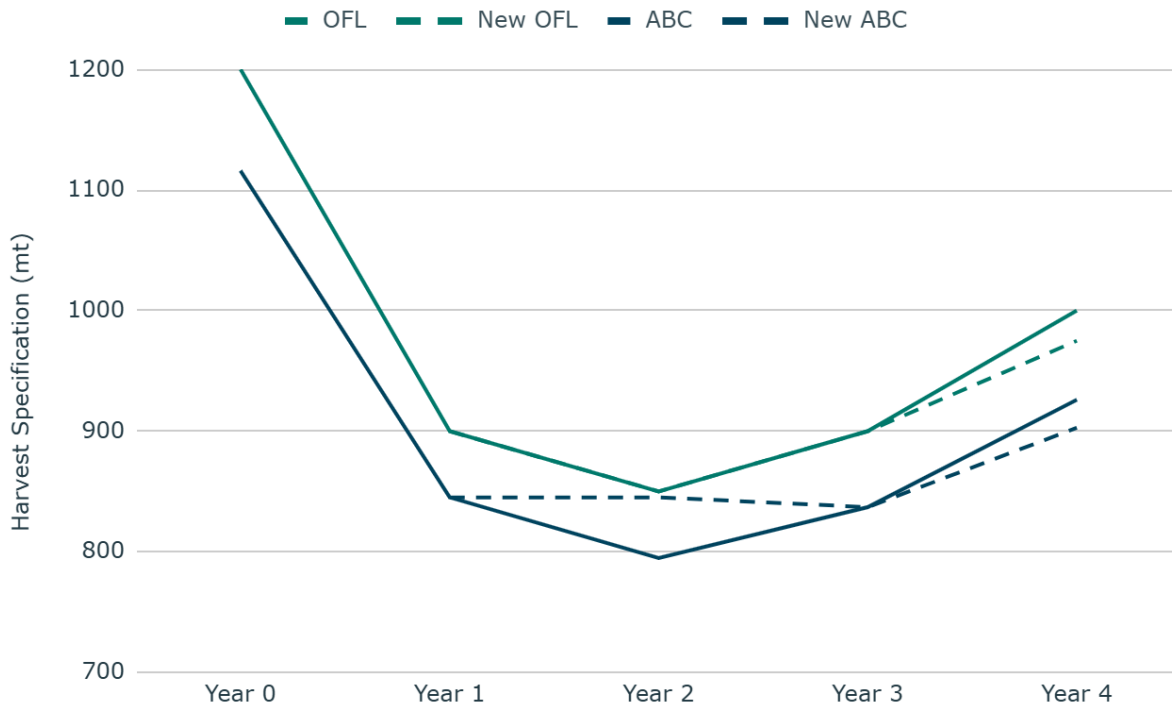


Figure 7. Example constant catch ABC HCR phase-in for a stock with a “J-shaped” trajectory

4.2.5 Case Study: Petrale Sole

In 2023, a new assessment for petrale sole showed a percent decrease in the default ABC of 32.5 percent from 2023 to 2025. Figure 8 shows the resulting harvest specifications (left axis) and the depletion (right axis) for 2024 to 2034 based on the default HCR and the 2023 assessment.⁶ Given the decline, Petrale sole would therefore meet the eligibility criteria for a phase-in decrease as proposed under Eligibility Option B. If a phase-in framework would have been in place for 2025-2026, the STAT team could have analyzed a phase-in decrease as a part of the Stock Assessment Review (STAR) panel. Given the trajectory of the stock, which declines then increases (“J-shaped”), a constant catch ABC HCR could have smoothed out the impacts to the fishery in 2025-2026 and potentially limited the need for the emergency rule recommended for 2026.

⁶ Note, in September 2025 the Council recommended emergency action for 2026 to amend the Petrale sole specifications using a catch-only projection and will be considering updated specifications for 2027-2028 under an alternative HCR in November 2025.

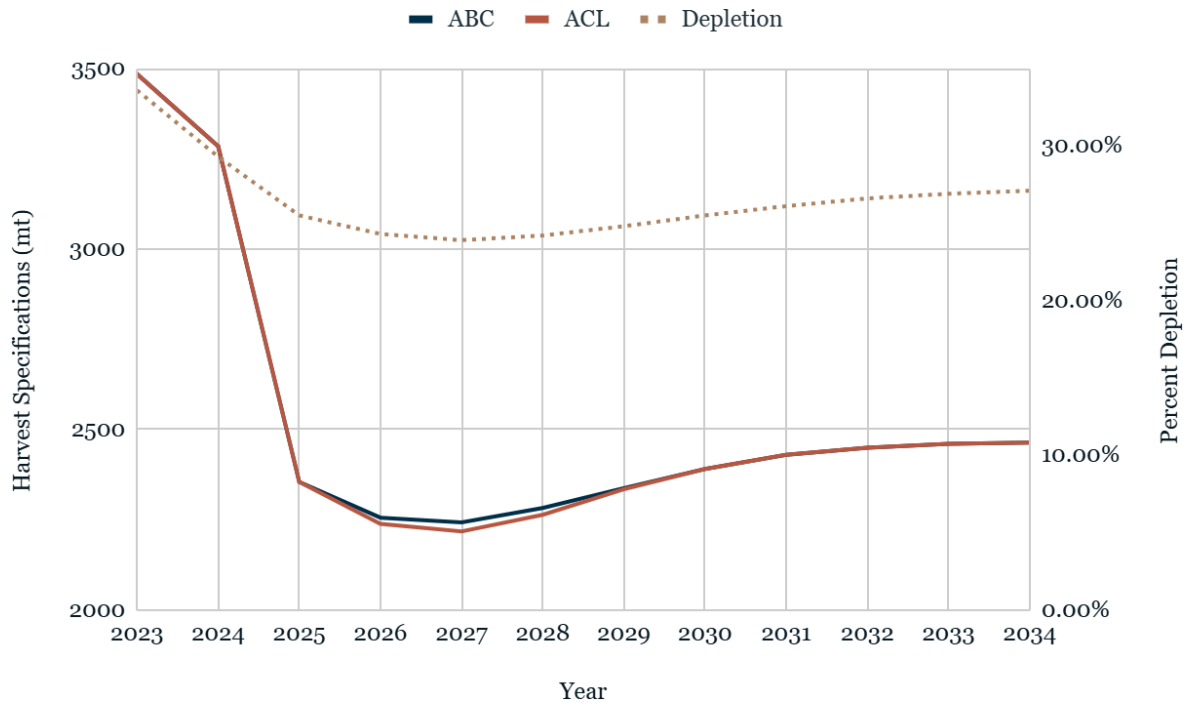


Figure 8. Graphical representation of table vii from Taylor, et. al, 2023 showing the ABC, ACL values (left axis) and percent unfished (i.e., depletion) on left axis.

4.3 Mid-Biennium Harvest Specifications Change

Harvest specifications are established on a biennial basis. Once established via proposed and final rulemaking, harvest specifications during the biennium would only be able to be established or adjusted through two authorities as outlined in the Groundfish FMP:

Section 5.5.1: Inseason Adjustment to OFLs/ABCs/ACLs: If the harvest specifications are not conservative to meet rebuilding plan goals for an overfished species, harvest specifications for that species and/or a co-occurring species may be revised for the second year of the biennium. This is also known as a “red light” provision. Otherwise, the harvest specifications could only be adjusted if there were data/computational errors.

Section 5.5.2: Inseason Establishment and Adjustments of ACLs, optimum yield (OYs), harvest guidelines (HGs), and Quotas: ACLs and other management measures may be established or adjusted inseason (1) for resource conservation through the “points of concern” framework described in Section 6.2.2 of the FMP; (2) in response to a technical correction to OFL or, (3) under the socioeconomic framework (described in Section 6.2.3 of the FMP).

Currently, as described above, the Council only has the ability to ramp down harvest specifications mid biennium (i.e., “red light”). However, the Council does not have the ability to ramp-up harvest specifications (outside of a technical error), even if new information is brought to light. In the harvest specifications, in year 1 of the biennium, stock assessments to be used to inform the upcoming biennium are reviewed and adopted (See COP 9 for a detailed timeline). For example,

2025 is considered year 1 of the 2025-26 biennium. The stock assessments to inform the forthcoming 2027-28 biennium were completed in the summer of 2025. The results of stock assessment could be similar to the current understanding of the fishery (i.e., little change) or have a better or worse projection. Therefore, if an overfished stock was declared rebuilt mid-biennium or if a stock's status was more positive than previously thought, there is no mechanism in the FMP to implement that increase mid-biennium (i.e., a "green light"). This results in a lag in the implementation of the new assessment and resulting specifications until the next biennium, potentially resulting in lost opportunity and an unnecessary constraint on opportunity if the current specifications are achieved more quickly due to positive increases to populations.

As with Carryover, the following action alternative would follow a prescriptive framework that would minimize the workload trade-offs, acknowledging that it would likely mean that any increase in quotas associated with the "green light" may not be optimally distributed among fishery participants in every situation. Therefore, there are no ad-hoc changes proposed under the options.

4.3.1 Description of Alternatives

No Action: Harvest specifications (OFL, ABC, and ACL) changes outside the biennial process are allowed through FMP Section 5.5, which allows harvest specifications to be reduced via the "Red Light" provision for rebuilding stocks, or for any stock through the "points of concern" framework. Section 5.5 also allows harvest specifications to be changed higher or lower when there is a technical correction, or under the socioeconomic framework.

Alternative 1: Develop a framework to allow a mid-biennium harvest specifications increase for previously identified stocks, i.e. "green light". Stocks would be identified for potential candidates for the framework in June of even years when final recommendations for stock assessments for the next biennium are made. The same P* applied in the biennial process would be applied throughout the framework and no changes to research, EFP, or IOA off-the-top deductions would occur. Final recommendations for a mid-biennium increase would occur in September or November of odd years for implementation in the following year.

Under Alternative 1, the Council would amend Section 5.5 and 6.2.3 of the groundfish FMP to allow for harvest specifications to be increased in the second year of a biennium for any newly assessed stock. Staff are proposing that the Council recommend stocks that would be eligible for a mid-biennium change during the stock assessment prioritization process that occurs in even years. Specifically, in June of even years, when the Council determines the final set of assessments to occur in the following year to inform the next biennium, the Council will determine which stocks where an increase in the harvestable surplus would be a substantial benefit to the fishery and the communities. The Council would have to consider which stocks would benefit from a "green light" mid-biennium in making their recommendation. In a typical assessment year, there could be five to six benchmarks, one to two update assessments, and several catch-only projections. As drafted, staff are not limiting the type of assessment that could inform a mid-biennium change and therefore a full, update, or catch-only projection could be used as the basis for increasing the harvest specifications if the stock status were improved.

For stocks selected for the potential mid-biennium change, an additional decision table run starting in the second year of the current biennium would need to be included by the STAT based on the default HCR. The SSC would need to consider and endorse the new stock assessment, OFL and ABC for use in the second year in the biennium in which the green light would be implemented.

This process would occur at either the September or November Council meeting in the odd years (when assessments are adopted by the Council). While the Council could prioritize several stocks for a potential mid-biennium change in June of even years (see previous paragraph), the Council would need to make the final recommendation to NMFS to implement the change in September or November when the assessments are adopted. As described in the “Discussion” section, while an assessment could come back as positive, the actual change in the increase may not benefit the fishery in terms of considering the administrative cost in implementing the change. A timeline is provided below to show the proposed process.

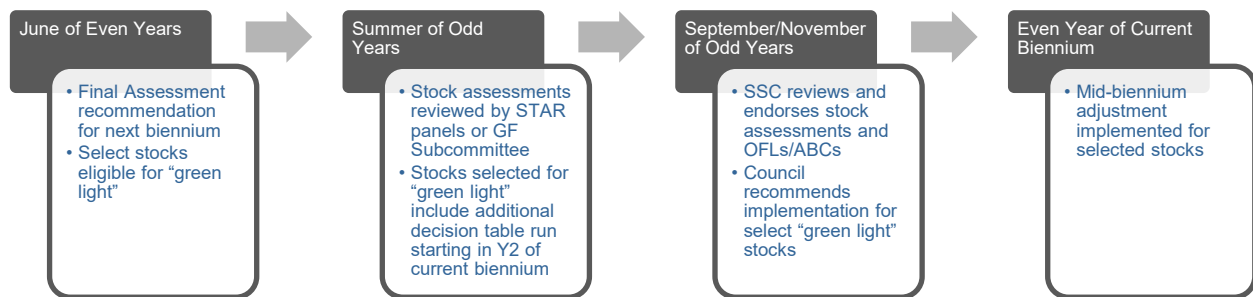


Figure 9. Proposed timeline for mid-biennium harvest specifications change

As with Carryover, the Council will need to specify how any increases are allocated to the fishery (see “Options for Alternative 1”). Other routine management measures, such as trip limit adjustments, would need to occur during routine inseason at a Council meeting. Any increases to IFQs, such as quota shares or tier limits, would be included through associated rulemaking.

4.3.2 Options for Alternative 1

In order to fully specify Alternative 1, the Council would need to identify how a mid-biennium change would be implemented through the allocation framework (as was described for Carryover). The same options presented for Carryover are presented here to address these decision points for tribal fisheries, allocations, and at-sea set asides are presented below.

1. Should the same tribal off-the-top deduction be applied to the new ACL?

As with off-the-top deductions for research activities, IOA, and EFPs, deductions for tribal fisheries are intended to account for groundfish mortality and prevent overfishing and, in most cases, are not contingent upon (or proportional to) the ABC or ACL. Coastal treaty tribes recommend amounts for all groundfish species that they plan to fish for with the exception of sablefish north of 36° N. lat. (hereafter “sablefish north”). The tribal amount for sablefish north is set at 10 percent of the sablefish north ACL as described in Section 6.3.2.1 of the Groundfish FMP 6.3.2.1.

1. How should allocations, HGs, etc. change?

Allocation Option A, Proportional: proportional increase to sectors using a ratio of baseline proportions; and/or

Allocation Option B, Remainder Only: keep the metric tonnage value the same; only the “remainder” amount allocated would top-up via the Mid-Biennium Change; or

Allocation Option C, If-Then (mutually exclusive): If-then scenario, where if an allocation or HG is set as a metric tonnage value and “remainder” to other sector(s), if recent (TBD) mortality of the flat amount allocation is less than 50 percent of the baseline allocation (or HG), then then all of the increase goes to the “remainder” sector. Otherwise, implement Allocation Option A. For all stocks with percentage-based trawl, non-trawl allocations or within non-trawl allocations, apply Allocation Option A.

Depending on the stock or stock complex, there could be a trawl/non-trawl allocation, within non-trawl HGs, or other allocation/share structures. Allocations Options A through C are prescriptive and would help expedite the issuance of a mid-biennium change through the rulemaking process. However, as noted in the introduction to this section, the resulting increases may not be issued to the sectors most in need of the increased yield from the change.

Allocation Options A and B are not mutually exclusive and the Council could adopt a policy that selects both options to be available in the Mid-Biennium Adjustment framework for the relevant stock types. In other words, stocks with percentage-based allocations (or HGs) would have Allocation Option A applied, whereas stocks with allocations with specified metric tons for one sector would have Allocation Option B applied. This framework includes stocks with within-sector HGs (for example, canary rockfish within non-trawl HGs would be issued any increase under Allocation Option A).

Under Allocation Option A, the baseline proportions (X percent to trawl, Y percent to non-trawl) would be applied as well as any other proportions within the management measure structure (for example, the within non-trawl shares for canary or yelloweye rockfish). Allocation Option 2 is designed for stocks like petrale sole, which is currently allocated as 30 mt to non-trawl and the remainder to the trawl sector. While Allocation Option A could be applied to petrale sole and resulting proportions calculated from the baseline allocation, Allocation Option B would likely better meet the Council’s intent for the allocation structure in allocating for the sector’s base need and allocating the remainder to the trawl sector where petrale sole is a main target.

Allocation Option C is mutually exclusive of the other two options as it would set up an adaptive framework for allocated groundfish stocks. For example, for stocks such as Petrale sole which are allocated as a metric tonnage amount to one sector and the “remainder” of the fishery HG to another sector, the issuance of a Mid-Biennium Change would depend on the recent utilization of

the metric tonnage amount. For example, if attainment of the baseline allocation was less than 50 percent (or another level to be determined by the Council) in the recent year(s), then Allocation Option B would apply. The baseline allocation attainment could be based on a recent average or most recent year, but should be specified by the Council. If the attainment were greater, then Allocation Option A would apply. For all other stocks with a proportional allocation structure (i.e., typical trawl percentage/non-trawl percentage), Allocation Option A would apply (in addition to any within sector shares/HGs with similar structure).

2. Should set-asides for at-sea change- and how?

At-sea set-asides for select non-whiting groundfish stocks are taken off of the trawl allocation and are intended to cover anticipated bycatch mortality in the at-sea whiting fishery. The FEIS for Amendment 21 stated that:

In the trawl rationalization program, several species/sector combinations are not scheduled to be managed using IFQs or bycatch limits. It is these sector/species combinations where set-asides are necessary and where allocations are not necessarily appropriate. The perspective taken to establish a set-aside is different from the perspective taken for establishing allocations. Since set-asides are not accompanied with a firm and direct management tool, the appropriate amount of fish attributed to a set aside is best examined as an amount that can reasonably accommodate the incidental amount of fish that a sector could take. This differs from an allocation where a firm catch level is established that is a direct target, and that target may be lower than historic catch amounts.

Therefore, in determining set aside amounts, recent mortality, whiting allocations, and other factors (such as changes in ocean conditions resulting in shifting of fishing location) are considered when setting values through the harvest specifications process.

As described in 50 CFR 660.160(c)(3)(i), “At-sea sector set-asides of non-whiting groundfish species will be managed on an annual basis unless there is a risk of a harvest specification being exceeded, unforeseen impact on other fisheries, or conservation concerns, in which case inseason action may be taken. Set asides may be adjusted through the biennial specifications and management measures process as necessary.”

Set Aside Option A, No change: keep the metric tonnage value the same; only the shorebased IFQ allocation would top-up via a Mid-Biennium Change:

Set Aside Option B, Change: proportional increase to both sectors using a ratio of baseline proportions of the trawl allocation

The two at-sea options proposed here are similar to that described in the allocation options above. The first question the Council should consider is if set aside values warrant change as the values set during the harvest specification process should cover incidental mortality anticipated in the biennium. All increases from a Mid-Biennium Change would be issued as QPs to the shorebased IFQ sector. If the answer is no, then Set Aside Option A would be the preferred choice. However, if the Council thinks set aside values should change, Set Aside Option B would increase the at-sea set-aside proportionally (based on the percentage calculated from the baselines within trawl amounts).

4.3.3 Discussion

Under No Action, if a new assessment comes back mid-biennium showing the status of the stock has improved, no mechanisms are available (outside of an emergency rule) to increase specifications in the second year of the biennium. This delay in a lag of implementing the new science that shows positive increases in stock size can negatively impact the fleet by reducing potential opportunity that would otherwise be available based on the improved stock status. This could result in unnecessary constraints to fishing operations by limiting opportunity to fish for other co-occurring stocks. Furthermore, socio-economic benefits would not be realized if a ‘green light’ process was adopted.

Alternative 1 would be expected to provide improved socio-economic benefits to fisheries and fishing communities by providing increases in opportunity that are expected to better match on-the-water fishing conditions compared to No Action. Noting that, the lack of timely response to positive stock assessments delays any increases until the next biennium (approximately 1.5 years after the adoption of the assessment). However, Alternative 1 would provide less stability during the biennium, which was highlighted as a reason for the Council not including the provision during the development of the groundfish FMP ([Agenda Item E.7, Supplemental Attachment 1, June 2025](#)). Setting specifications for a biennium was intended to provide participants with a known set of harvest specifications, allocations, and management measures (noting those subject to inseason changes) for a two-year period. By incorporating a green light framework under Alternative 1, there could be approximately fourteen stocks at the maximum (assuming five to six benchmarks, one to two update assessments, and approximately six catch only projections are performed each stock assessment cycle) for which a mid-biennium update could result in a substantial change in the available yield for the fisheries above what was planned for in the two-year specifications.

However, in considering the stocks that are prioritized for a potential mid-biennium change, staff included the additional step of the Council recommending the implementation of the “green light” in September or November of odd years as the benefit of the increase may not be worth the administrative cost and workload. In other words, the stock status and resulting harvest specifications may increase, but under the default HCR the resulting quota could be less than one percent of a significantly large quota- thereby resulting in little to no benefit to the fleet. The case study presented below on the 2026 emergency rule for shortspine thornyhead provides an example of this potential issue.

4.3.4 Case Studies

Three examples are provided here to understand the potential impacts of a “green light”: canary rockfish in 2015, quillback rockfish off California in 2025, and shortspine thornyhead in 2025.

4.3.4.1 Canary Rockfish

A primary example of the benefits a green-light framework could provide came in 2015 when a high bycatch tow (i.e., lightning strike) of canary rockfish occurred. This single lightning strike resulted in one vessel being in deficit for canary rockfish for the remainder of the 2015-2016 biennium. [Agenda Item I.3.a, Supplemental GMT Report 2, March 2016](#) described that at the end of 2015, the F/V Seeker was in a deficit of 38,335 and would still be in deficit of 28,529 at the end of 2016 if they maximized their QP purchase. Therefore, the earliest the vessel would be able to fish in the IFQ sector would be 2017 ([Agenda Item B.1.b, Open Public Comment, March 2016](#)).

However, in the same year as this bycatch event, the 2015 canary rockfish assessment ([Thorson and Wetzel, 2015](#)) was endorsed by a STAR panel in late April 2015 ([STAR Panel Report](#)), recommended by the SSC, and adopted by the Council in June 2015 for use in the 2017-2018 biennium that showed that canary rockfish was rebuilt and the biomass was larger than the current assessment used for setting the 2015-2016 harvest specifications estimated.⁷

[Table 28 of Thorson and Wetzel, 2015](#) included projections for 2015-2017 under the base case model which showed that the ABC in 2016 could have been 1,499 mt under the default ABC HCR. For reference, the ABC in 2016 was 679 mt and the ACL was 125 mt as the stock was under a rebuilding plan. (Table 6) Applying the default HCR for when a stock is rebuilt (ABC=ACL with a P* of 0.45), Allocation Option A (Proportional Increase) and At-Sea Set Aside Option B (Change) with no changes to off-the-top deductions for simplicity, the implementation of a Mid-Biennium Change would have resulted in a proportional increase to the IFQ sector allocation would have resulted in an annual vessel limit of 132,294 lbs. compared to the 2016 limit in regulation of 9,806 lbs. (Table 6). If the framework for the green light were in place in 2016, the F/V Seeker would have been able to be in the positive (pending the ability to access quota pounds) with the new limit being over 93,000 pounds higher than the deficit and fish in 2016.

Table 6. Canary rockfish specifications and allocations in 2016 and example of Alternative 1 applied to 2016.

	2016 (Regulation)	2016 Specifications under Alternative 1
OFL	729	1567
ABC	679	1499
ACL	125	1499
HG	110	1484
Trawl %	53.2%	
Trawl All	58.5	789.2
IFQ	44.48	600.1
Annual Vessel Limit	9806	132294
Non-Trawl %	46.8%	
Non-Trawl All	51.3	694.8

4.3.4.2 Quillback Rockfish off California

In December 2023, quillback rockfish off California was declared overfished based on the 2021 data moderate assessment. The Council began implementing a series of precautionary management measures in 2023 and a rebuilding plan was implemented as a part of the 2025-2026 harvest specifications. The closures associated with the rebuilding plan were highly impactful to the commercial and recreational fleets of California- leading to severe economic consequences.

The Council prioritized another benchmark assessment for quillback rockfish in 2025, which include significant changes from the 2021 assessment. The results of that assessment showed that the stock had never been overfished and was above management target (B40). Compared to 2026

⁷ For reference, the assessment resulted in an increase to the ACL by approximately 14 and 12.5 fold in 2017 (1714 mt) and 2018 (1526 mt), respectively, from 2015 (122 mt). On August 4, 2015 NMFS declared canary rockfish rebuilt.

OFL under the rebuilding plan, the 2027 OFL is over seven times higher. In September 2025, the SSC endorsed and the Council adopted the 2025 assessment for quillback rockfish off of California ([Agenda Item G.3., Attachment 2 \(Electronic Only\), September 2025](#)) for use in management. While quillback restrictions were rescinded in September 2025 to provide immediate relief ([90 FR 44998](#)), an additional solution may be needed for 2026. If the Council had the ability to use the proposed green light framework, quillback rockfish off California would have had the necessary decision tables run during the stock assessment process and reviewed by the SSC for the September 2025 meeting. NMFS then could have implemented the green light as soon as possible for quillback rather than the extra steps occurring in 2025 and anticipated for 2026.

4.3.4.3 Shortspine Thornyhead

In June 2024, when making its final recommendations on stocks to be assessed in 2025 (and preliminary recommendations for 2027), the Council recommended catch-only projections for shortspine thornyhead (see [June 2024 Decision Summary Document](#)) to provide updated data and information to inform harvest specifications for 2027 and beyond, based on actual catches in 2023 and 2024. However, in response to the continued public comment from industry on the adverse impacts resulting from the constraints on the fishery created by the low ACLs for shortspine thornyhead (along with canary rockfish and Petrale sole), the Council requested that NMFS' Northwest Fisheries Science Center conduct new catch-only projections for 2026 and beyond for these species, with the goal of generating new 2026 harvest specifications, if supported by the new science. Additionally, the Council recommended that Council and NMFS staff develop alternative HCRs if possible for consideration.

Under the proposed framework where the default HCR would be applied, the result from the default HCR run for shortspine thornyhead in 2026 resulted in only an additional 9.23 mt overall (see [Request 2 in Table 1 of Agenda Item G.8., Supplemental Attachment 5, September 2025](#)). Therefore, while shortspine thornyhead would have likely have been identified as a candidate in June of 2024 for a mid-biennium change if the framework would have been in place, the Council and the advisory likely may not have recommended issuance of the “green light” in September 2025 given that there would be little to no benefit by the time the additional quota was allocated to the sectors. Ultimately, the Council recommended an emergency rule to adjust the ABC HCR in 2026.

4.4 Accounting for Off-The-Top Deductions

In the groundfish FMP, off-the-top deductions include set asides for IOA, research activities, EFPs, and tribal fisheries. In 2010, NS1 guidelines required that all sources of mortality be accounted for against optimum yield (OY). NMFS advised Councils that this be interpreted as “ACLs should account for all sources of mortality”. However, the most recent revisions to the NS1 Guidelines, in 2016, changed NS1 Guidelines pertaining to accounting. Current guidelines are found at 50 CFR 600.310(e)(2)(ii)(C) and read as follows:

“Where practicable, all sources of mortality including that resulting from bycatch, scientific research catch, and all fishing activities should be accounted for in the evaluation of stock status with respect to reference points.”

In practice, for the groundfish FMP and its stock status reference points (which include OFLs, ABC, and ACLs), the above guideline generally means that all sources of mortality should be

accounted for within the OFL (the overfishing status determination reference point) and in estimating biomass in stock assessments (as these estimates inform overfished status determination reference points).

The following alternatives propose revising the off-the-top deduction framework to account for estimated mortalities off the ABC or a trawl/non-trawl allocation (if applicable). The alternatives are not mutually exclusive.

4.4.1 Description of Alternatives

No Action: Expected harvests for the upcoming biennium from sources outside the recreational, and non-tribal commercial groundfish fisheries (scientific research, IOA, tribal fisheries, and EFPs) are deducted from the ACL with the exception of sablefish north of 36° N. lat.

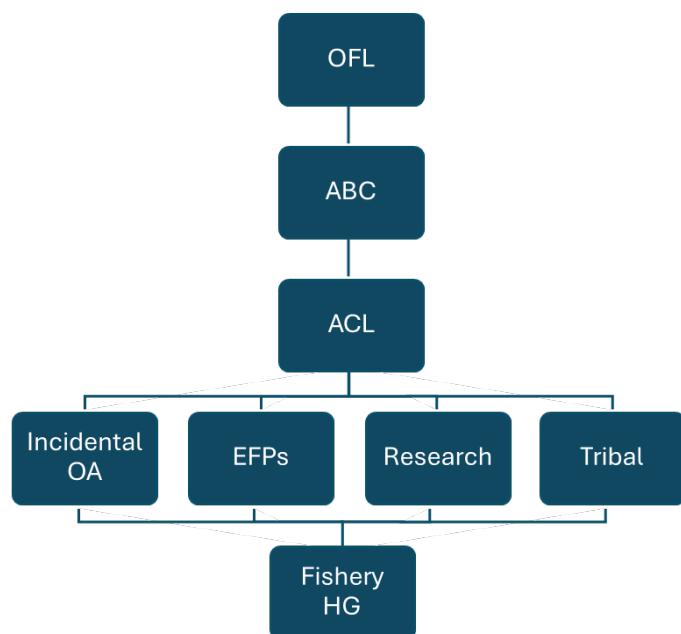


Figure 10. Current off-the-top accounting diagram for non-sablefish stocks

Under No Action, expected mortalities for IOA, EFPs, tribal fisheries, and research activities would continue to be deducted off the top of the ACL before issuance of the fishery HG for all non-sablefish stocks as shown in Figure. This ACL accounting, among other provisions, was established in 2010 with Amendment 23 to align with 2009 revisions to the NS1 guidelines. As noted above, this does not take into account the 2016 NS1 revisions.

Additionally, as outlined in [50 CFR 660.60\(c\)\(3\)\(ii\)](#) and permitted in Section 6.2.1.1 of the Groundfish FMP, there can be adjustments made to the non-tribal off-the-top deductions (i.e., research, IOA, and EFPs) during the biennium to account for unforeseen catch events in groundfish fisheries. Yield from the deductions can be re-allocated to a directed groundfish fishery after taking into account the allocation criteria in the groundfish FMP and “the objectives to maintain or extend fishing and marketing opportunities taking into account the best available fishery information on sector needs.”

Historically, values for EFP typically show little variation and IOA estimates are likely to remain static in the future (with the exception of directed non-tribal Pacific halibut estimates) given that

WCGOP is no longer observing state fisheries starting in 2025. For tribal off-the-top deductions, values typically do not vary much from biennium to biennium unless there is a change in the availability of the stock or change in tribal fisheries.

For research, the GMT has historically recommended a rolling ten year maximum for most species but is proposing changing the methodology as a part of the 2027-2028 biennial cycle to a five- or ten-year rolling average. Species that have deviated from the standard ten-year rolling maximum methodology include yelloweye rockfish, cowcod, canary rockfish, and quillback rockfish off California ([Agenda Item E.7.a, Supplemental GMT Report 2, November 2023](#)) For those values, ad-hoc approaches were taken.

Sablefish north of 36° N. lat. has an allocation framework outlined in the Groundfish FMP (reproduced below) that specifies that 10 percent of the sablefish north ACL is allocated to the coastal treaty tribes and then research and recreational fisheries estimated mortality are set aside prior to establishing the commercial HG. IOA fisheries that take sablefish north, such as non-tribal commercial directed halibut, harvest sablefish under their respective limits depending on the vessel (such as directed OA or Limited Entry Fixed Gear primary tier).

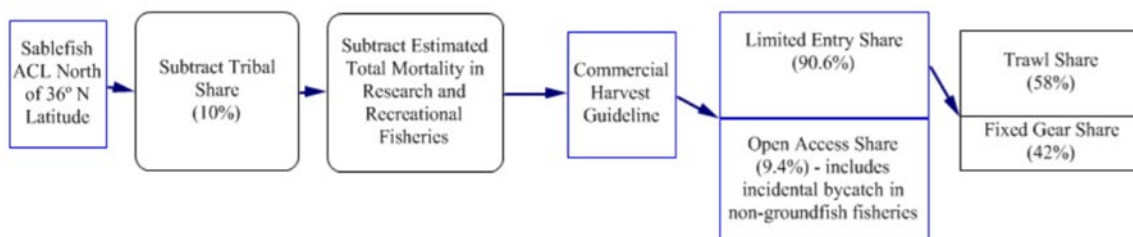


Figure 11. Diagram of sablefish north of 36° N. lat. allocation, per FMP section 6.3.2.1.

Alternative 1: Revise the off-the-top accounting structure for sources outside the recreational and commercial non-tribal groundfish fisheries (i.e., scientific research, non-groundfish fisheries, tribal fisheries, and EFPs) to be deducted from the ABC prior to setting the ACL.

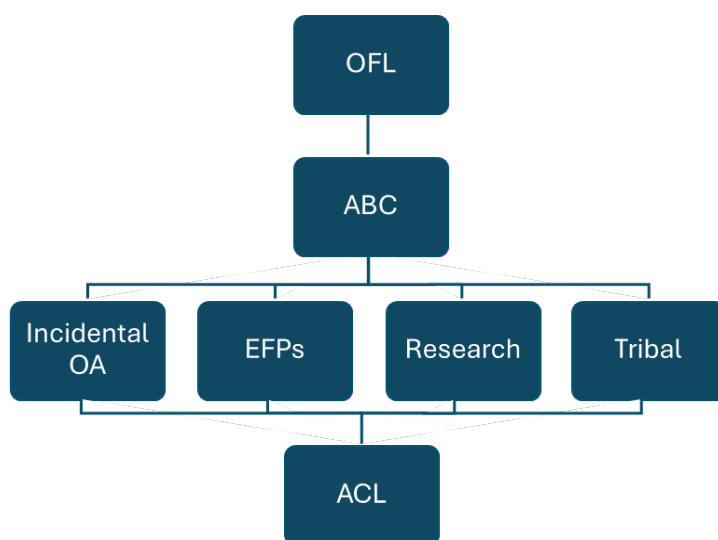


Figure 12. Alternative 1 accounting for off-the-top deductions.

Alternative 1 would change the default catch accounting framework for off-the-top deductions for all stocks/stock complexes except for sablefish north. Sablefish north would remain as specified under No Action. For example, the default ACL would change from $ACL=ABC$ to $ACL=ABC$ minus the off-the-top deductions (meaning that the “Fishery HG” would now be equal to the ACL and therefore no longer needed as a term). For stocks in the precautionary zone (but above the MSST), there is a prescribed reduction between the ABC and the ACL. The reduction is dependent on the depletion level with the difference growing between the default ACL and the adjusted ACL as the stock status decreases until the point at which the stock is declared overfished. At that point, a rebuilding plan would be implemented. If Alternative 1 was recommended and a stock were in the precautionary zone, then there could be a situation where the total off-the-top deduction is greater than the difference between the ABC and ACL due to the precautionary buffer. Considerations will be needed during the harvest specifications process to determine the buffer between the ABC and ACL.

Alternative 2: Revise the off-the-top accounting structure for sources outside the recreational and commercial non-tribal groundfish fisheries (i.e., scientific research, non-groundfish fisheries, tribal fisheries) to be deducted from the ABC prior to setting the ACL. Any EFP off-the-top deductions would come off the sector specific allocation (if applicable) rather than off-the-top of the ACL. Alternative 2 would revise the catch accounting framework for all species/stocks, except sablefish North of 36° N. lat.

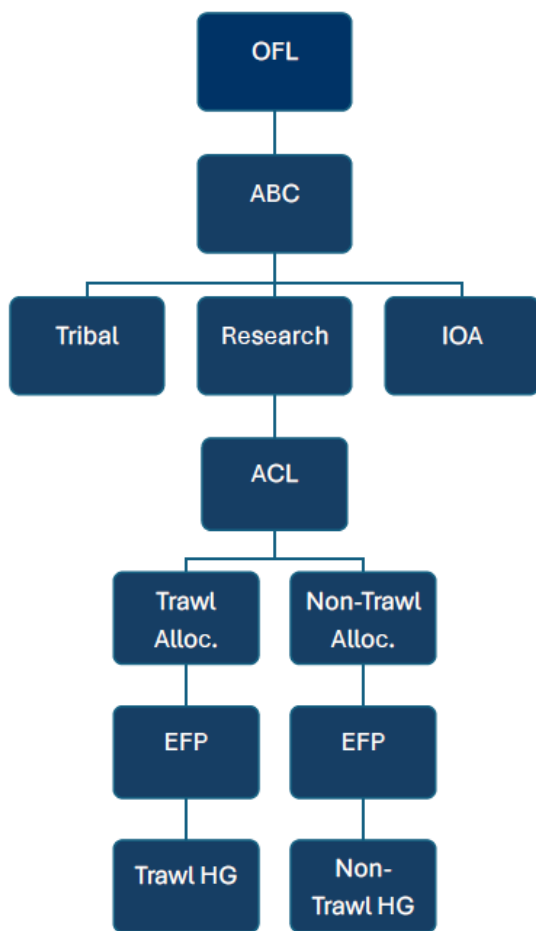


Figure 13. Alternative 2 accounting for off-the-top deductions

Alternative 2 would be the same as Alternative 1 for research, tribal, and IOA off-the-top deductions but would modify the proposed off-the-top framework for EFPs. Under this Alternative, EFP set-asides would be deducted from the trawl or non-trawl allocation (where applicable) based on the sector that corresponding regulations would ultimately apply to. For example, if an EFP was for the limited entry fixed gear fishery, the EFP set-asides would be deducted from the non-trawl allocation. As described under No Action and Alternative 1, EFPs are currently taken off the top of the ACL or proposed to be taken off the ABC (respectively) therefore reducing the yield for all non-tribal groundfish fisheries. Alternative 2 would change the accounting for all allocated species so that EFP deductions were taken off the allocations for the EFP fishery. For all non-allocated species, Alternative 1 would need to be adopted to move the accounting for EFPs off the ABC rather than the ACL.

Allowances for EFP off-the-top deductions could then flow down to those sectors as under No Action if the deductions were not needed. Note that typically trawl EFPs (IFQ or at-sea) are typically covered by IFQ quota pounds or included in bycatch accounting through at-sea set asides. If additional EFP set-asides were requested by the trawl fisheries, then Figure 13 would show the outcome. Under Alternative 2, the provision as outlined in No Action to allow unutilized catch from EFPs to be reallocated to a sector could be maintained- but would be to the sector rather than the fishery as a whole.

4.4.2 Discussion

Under all alternatives, all sources of mortality would continue to be accounted for in establishing the harvest specifications (OFL, ABC, ACL) and when evaluating overfishing inseason and post-season, using BSIA, to prevent overfishing of stocks managed in the FMP. It is likely, under all alternatives, that uncertainty will increase in mortality estimates in IOA fisheries (with the exception of non-tribal directed Pacific halibut) given reductions in the observer program coverage of non-groundfish fisheries that catch but do not retain groundfish. This uncertainty diminishes the Council's ability to track those sources of mortality, unless the states decide to implement observer coverage in these fisheries they manage. Additionally, the Council is not authorized to implement accountability measures under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) in these fisheries to prevent exceeding ACLs.

Under No Action, there would be no changes to the framework, including the allowance provided in [50 CFR 660.60\(c\)\(3\)\(ii\)](#) to reallocate non-tribal off-the-top deductions inseason to directed groundfish fisheries. Historically, this allowance has been utilized to move quota from research and IOA to fisheries with unforeseen events- such as in 2015 with the movement of unutilized IOA off-the-top deduction of darkblotched rockfish to the at-sea sectors that were seeing higher than expected bycatch rates ([80 FR 67664](#)). While this allowance does provide for some inseason flexibility to move quota to sectors in need, the current framework does result in likely more risk averse inseason management. For example, during most inseason accounting exercises (known as "scorecards") the projected mortality of each of the off-the-top deductions is set equal to the off-the-top deduction unless new information (such as the GEMM or other update) is produced. This could result in more precautionary or risk adverse management by the Council to implement measures on groundfish fisheries to keep total mortality under the ACL.

Under Alternatives 1 and 2, the change in catch accounting would still meet the requirement that all sources of mortality should be accounted for within the OFL (the overfishing status determination reference point) and in estimating biomass in stock assessments (as these estimates inform overfished status determination reference points). Consideration of this change in concert with other action items considered in this document (i.e., Carryover, phase-in) will need to be discussed as the buffer between the OFL and ABC may be reduced (see *Supplemental Attachment 3*). For stocks where $ABC=ACL$, there is likely little to no difference in the risk of exceeding the OFL under Alternative 1 and 2 compared to No Action. For stocks with constant catch ACLs (such as was implemented for Dover sole prior to 2023 or yelloweye rockfish as being considered for 2027-2028), the likelihood of overfishing would remain similar to No Action as the ACL value could be set in recognition of the off-the-top deductions. For stocks in the precautionary zone, given the Council's ability to control catch and set additional conservative measures (such as a lower ACL or ACT), this would likely not appreciably increase the risk of exceeding the OFL under the action alternatives. For the majority of rebuilding stocks, the Council has historically had very large buffers between the ABC and ACL due to the setting of the HCRs in the development of the rebuilding plan to rebuild the stock as quickly as possible, taking into account the needs of fishing communities. The risk of overfishing in Alternatives 1 and 2 would need to be considered during the development of a rebuilding plan and specifically, implications for how rebuilding analyses parameters may need adjustments should be explored. However, given the conservative measures typically associated with rebuilding plans and the buffer that still exists between the OFL and ABC for overfished stocks, the risk of overfishing is likely not to appreciably increase compared to No Action.

The benefits of Alternatives 1 and 2 vary depending on the HCR. The primary benefit of Alternatives 1 and 2 to the fishery when the ACL=ABC, or when ACLs are highly attained, is not increased quotas, but narrowing the scope of potential accountability measures in relation to ACLs to just non-tribal groundfish fisheries. Compared to No Action, Alternatives 1 and 2 would essentially be relabeling the fishery HG as the ACL for most stocks (See Table below for an example of lingcod north of 40° 10' N. lat.). The benefit to this change would be occasional, such that fishery management actions to implement accountability measures for directed non-tribal groundfish fisheries (managed within the ACL) would not be necessary when catches by scientific research, tribal fisheries, etc. were higher than expected, unless the ABC was projected to be exceeded. Regardless of the precautionary buffer between ABC and ACL, when ACLs are more highly attained Alternative 1 and 2 catch accounting would focus accountability measures, if needed, on non-tribal groundfish fisheries. With respect to Alternative 2 in particular, EFPs can be restricted by NMFS if needed inseason.

The most dramatic case studies for the potential benefits of higher quotas of the action alternatives are for stocks with a precautionary reduction where the ACL is less than the ABC, including but not limited to, rebuilding stocks. Rebuilding stocks that may have a very large buffer between ABC and ACL as noted above. Alternative 1 and 2 catch accounting could potentially benefit communities, prevent stranded quota unnecessarily, while meeting rebuilding goals. An example is provided below for canary rockfish where moving accounting for the off-the-top deductions would have still been within the rebuilding analysis projected harvest rate and the stock would have still rebuilt in the target period.

Alternative 2 would have similar impacts to Alternative 1, except it would move accounting for EFPs with stocks with allocations to off the trawl or non-trawl allocations as appropriate. Stocks without allocations would maintain the structure shown in Fig 1 above (i.e., taken off the top of the ABC). Since the implementation of the trawl catch share review, EFPs for the catch share program fisheries have utilized IFQ quota pounds for the IFQ fishery or would be considered within the setting of set asides for the at-sea whiting fisheries. Therefore, it is likely that Alternative 2 would have limited use to the trawl sectors. However, it would benefit the trawl sectors by aligning the EFP deductions with the non-trawl sector for non-trawl EFPs (in other words, reducing the available yield to just the non-trawl sector rather than the entire fishery). Overall, this is likely more equitable than No Action for allocated stocks as the results of the EFP would benefit the sector of the EFP applicant.

Catch accounting under Alternative 1 and 2 better aligns the Council's authority under the MSA for recommending responsive accountability measures, compared to No Action. Both action alternatives also align with some of the stated goals and objectives for E.O. 14276, including but not limited to, preventing fishery closures. As the groundfish fishery consistently underharvests most groundfish stocks and stock complexes, it is expected Alternative 1 and 2 catch accounting would prevent unnecessary closures of groundfish fisheries if there are higher than anticipated catches in off-the-top sources, in instances where the ABC is not expected to be exceeded. Additionally, E.O. 14276, in part, emphasized expanding EFP programs to promote fishing opportunities. Catch accounting for EFP programs off the ABC under Alternative 1 could allow innovative testing for the benefit of the future fishery and the nation, while holding the current fishery harmless from unexpectedly high or hard to predict EFP catches unless the combined effects of the fishery and off-the-top deductions were projected to exceed the ABC. However, Alternative 2 would better align EFP activities with the sector that they are intended to benefit in the future.

Another benefit of Alternative 1 and 2 catch accounting is that there would likely be some difference, even if only a few metric tons, between the ABC and the ACL for all stocks. Therefore, it is likely that all IFQ species may be eligible for surplus carryover in the Shorebased IFQ Program, as the ACL would be set lower than the ABC (ABC less off-the-top deductions would equal the ACL). This could make IFQ surplus carryover more administratively burdensome, however. Careful consideration should be given as to whether the benefits outweigh the costs.

With regards to stock assessments, typically decision tables run projections that assume full ACL attainment. Under Alternatives 1 and 2, STAT teams could simply run the ABCs (which would be the same as the ACL under No Action for most stocks). With regards to rebuilding analyses, Alternative 1 would continue to account for all sources of mortality when making rebuilding projections and the Council and NMFS would continue to develop rebuilding plans that would meet MSA statutory requirements.

4.4.3 Case Studies

4.4.3.1 Lingcod North of 40° 10' N. Lat. (Stock where ABC=ACL)

For stocks with an ACL calculated without a precautionary reduction from the ABC (i.e., ABC=ACL), the potential benefits of Alternative 1 for the fishery are less obvious because quotas set for the directed non-tribal groundfish fishery do not appreciably change due to the change in catch accounting. If the off-the-top deductions were subtracted from the ABC, the ACL would be equal to what is currently known as the fishery HG, resulting in identical allocations to non-tribal groundfish fisheries under either No Action or Alternative 1

As an example, Table 7 shows a comparison of No Action and Alternative 1 for Lingcod north of 40° 10' N. lat. in 2023. For the off-the-top deductions, 279.63 mt is deducted from the ACL for the tribal fishery (250 mt), research catch (17.71 mt), and IOA mortality (11.92 mt) resulting in a fishery HG of 4,098.4 mt. Total mortality estimates showed that the tribal and research total mortalities were within each of the set asides; however, IOA total mortality exceeded its set aside value with 12.3 mt of mortality compared to a set aside of 11.92 mt. While overall, this overage had no consequence, there is no response that the Council or NMFS can take to control catch in these fisheries.

Table 7. Comparison of No Action 2023 specifications and fishery HG under No Action and Alternative 1 accounting for off-the-top deductions for Lingcod north of 40°10' N. lat., a stock where the default HCR is ABC=ACL.

No Action				Alternative 1	
Limit/Target	Specification (mt) (2023, actual)	Estimated mortality (mt) (2023, actual)	% Attainment	Limit/Target	Specification (mt) (2023, hypothetical)
OFL	5,010	1,018.6	20.3%	OFL	5,010
ABC	4,378	1,018.6	23.3%	ABC	4,378
ACL	4,378	1,018.6	23.3%	Off-the-top deductions	279.6
Off-the-top deductions a/	279.6	48.2	17.2%	ACL	4,098.4
Fishery HG	4,098.4	970.4	23.7%	Fishery HG	4,098.4

a/ Composed of tribal fishery (250 mt), research catch (17.71 mt), and incidental open access mortality (11.92 mt)

4.4.3.2 Canary Rockfish (Stock where ABC>ACL)

Canary rockfish was declared overfished in 2000 and was managed under a rebuilding plan from 2001 to 2016.⁸ Looking at 2014 as an example, the left side of Table 8 shows the actual specifications in 2014 and the estimated mortality based the GEMM⁹. The right side shows what the specifications would have been under Alternative 1 and the 17.5 mt increase in the overall yield allotted to the fishery. Under No Action, given that the Council has no authority on catch of non-directed groundfish mortalities (outside of NMFS authority to close EFPs), it is generally assumed that all of the off-the-tops are taken pending any updated information that is discovered during the season (in which case the ability to move off-the-top deductions to the groundfish fisheries inseason can occur as allowed in Section 6.2.1.1 of the Groundfish FMP). With a stock like canary, which is both targeted and used as a bycatch species, any additional yield to the directed fisheries could provide additional opportunity and flexibility to fisheries to access healthy stocks.

Given the precautionary nature of the HCR in this example, there would have been no risk of overfishing the stock even if the directed groundfish fishery attained the entire fishery HG (No Action) or ACL (Alternative 1). Additionally, if the off-the-top deductions had been exceeded, given the constraints to the fishery, the ABC still would not have been exceeded. The ACL, based

⁸ See the [2025 Stock Assessment and Fishery Evaluation document](#) for a complete recounting of the evolution of HCR throughout the rebuilding.

⁹ <https://www.pcouncil.org/documents/2025/08/g-1-b-nwfsc-report-2-groundfish-mortality-table-excel-file.xlsx/>

on the proposed ABC deduction, appear to show that it would be well within the rebuilding analysis projected harvest rates and the stock would still have had a greater than 50 percent chance of rebuilding by the target of 2030. For example, an SPR of 85.9 percent, which would have resulted in a 150.5 mt ACL in 2015 would have a 50 percent probability of rebuilding by 2030. That level of harvest is above the combination of Alternative 1 ACL of 119 mt and 17.5 mt off-the-top deductions (136.5 mt) and still would have permitted some overage in the off-the-top deductions. (Wallace, 2011) Overall, Alternative 1 would have potentially provided positive economic impacts while having no impacts to the rebuilding of the stock.

Table 8. Canary rockfish harvest specifications, off-the-top deductions, and fishery harvest guidelines in 2014 compared to Alternative 1 and actual mortality.

No Action				Alternative 1	
Harvest Specification	Value (mt) (2014, actual)	Estimated mortality (mt) (2014, actual)	% Attainment	Harvest Specification	Value (mt) (2014, hypothetical)
OFL	741	54.5	7.4	OFL	741
ABC	709	54.5	67.7	ABC	709
ACL	119	54.5	45.8	Off-the-top deductions a/	17.5
Off-the-top deductions a/	17.5	9.8	56	ACL	119
Fishery HG	101.5	36	44	Fishery HG	119

a/ 17.5 mt comprised of tribal fishery (9.5 mt), IOA (2 mt), EFP (1.5), and research (4.5 mt)

4.5 Harvest Specifications Frequency

Under Amendment 17 to the Groundfish FMP, the Council transitioned from an annual management cycle to a biennial cycle, in which harvest specifications and management measures would be set for two years. [Council Operating Procedure \(COP\) 9](#) outlines the schedule for groundfish management. There are three processes within the Council's overall biennial timeline: stock assessments, harvest specification and management measures, and groundfish stock definitions.

In June, staff proposed the Council consider the frequency at which harvest specifications are set, since the biennial cycle provided more stability than the old annual specifications model, but may lack some responsiveness that the Council wants for the future. At its June 2025 meeting, the GAP

acknowledged some potential tradeoffs, and the Council forwarded the measure for further scoping. Alternatives described here further develop potential alternatives that would modify the frequency at which harvest specifications are revised.

Other Councils and FMPs around the nation utilize a wide variety of harvest specification processes and timelines. In the past five years, multiple Councils have been exploring ways to be more efficient and responsive to changing fishery conditions. Staff is proposing two action alternatives that focus on revisiting specifications for a varying subset of stocks each year. This summer the New England FMC began scoping a [framework amendment](#) to set harvest specifications for up to five years, including an inseason ACL change provision. These two concepts form the basis for the two action alternatives. One common feature of both action alternatives is that harvest specifications may be scheduled for a period longer than two years, based on best scientific information available, such that only a subset of stocks with new information have revised harvest specifications each cycle and/or year.

4.5.1 Description of Alternatives

No Action: All groundfish specifications are set on a biennial cycle as described in COP 9.

Under No Action, the biennial specifications process would be maintained. Stock assessments would be reviewed and adopted in the odd year that is Year 1 of the current biennium, which, over the next six months, then feeds into the adoption of OFL, ABC, and ACL values for the next biennium. Below ACLs, the Council can also establish annual catch targets (ACT), allocations, and other measures to manage the fishery. Some stock and stock complex allocations are established within the Groundfish FMP (see Section 6.3.2.), while others are determined on a biennial basis.

The Council adopts the PPA and FPA for harvest specifications and management measures at Council meetings that include the opportunity for public engagement. NMFS then issues a proposed rule that includes an additional opportunity for public comment. Following the proposed rule, the Secretary of Commerce makes their decision on whether to approve the proposed harvest specifications and management measures and NMFS issues a final rule if approved.

Alternative 1- Annual Specifications: The groundfish specifications would change to an annual specifications cycle where harvest specifications and management measures would be set annually.

Under Alternative 1, the groundfish FMP would move from a biennial to an annual harvest specifications framework. Instead of the process outlined at COP 9 and summarized above, Figure 14 shows how the cycle would operate conceptually under this Alternative. At any single point in time, the Council and NMFS would be simultaneously working on stock assessments, working on the next set of annual specifications, and operating under a set of annual specifications in each year (the three circles shown on the graph). As an example, in March, for stock assessments (considered Year 1), work would be done on pre-assessment planning/workshops. Simultaneously, the Council would be recommending PPA ACLs for the following year (Year 2) while Year 3 specifications and measures are in place.

While specifications and management measures would be set annually (per Figure 14), the Council and NMFS could design the annual specifications so that not all stocks would need to be considered each cycle to reduce workload. In other words, in Year 2 specifications would be determined for a particular set of stocks that are assessed in Year 1. All other stocks would have harvest specifications determined for a to be determined number of years. The Council could ask the SSC to recommend OFLs and ABCs for a period not to exceed ten years (the length of a decision table from a stock assessment), with annual values. The Council would also set ACLs for these years. While ten years could be the maximum amount of time, the Council could consider or recommend a specific time interval. For example, staff considered that a shorter period, such as six years as that would be in time to determine what stocks may need new projections prior to the expiration of the decision tables. Ideal candidate stocks for six-year harvest specifications could be stocks not expected to be assessed in the next two or three cycles. Given the need to accommodate rigorous stock assessments and implementation timelines that accommodate notice and comment rulemaking, this framework would likely be needed if Alternative 1 were to be included in the range of alternatives.

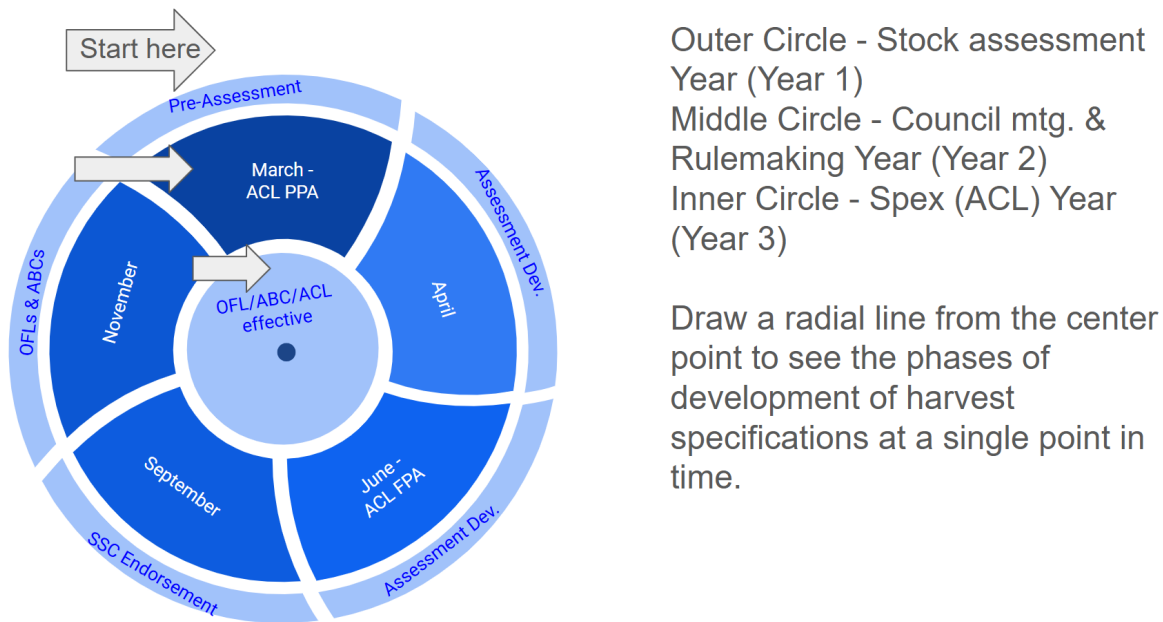


Figure 14. Concept diagram of a continual two-year development cycle to develop new stock assessments and harvest specifications annually.

Alternative 2, Biennial Cycle with Varying Specification Frequency: Modify the biennial harvest specifications and management process to allow for setting of harvest specifications (OFL, ABC, and ACL) for a to-be-determined period rather than a two-year period.

Under this Alternative, the Council may recommend groundfish harvest specifications (OFL, ABC, ACL) for a set number of years (to be decided) but would continue to operate under a biennial management cycle. Apart from the specification frequency, the biennial process for setting specifications and management measures would remain unchanged; the difference is that not all stocks would have harvest specifications reconsidered or revised each cycle. Therefore, the biennial process would still operate to set allocations, trip limits, and other aspects of management, but fewer stocks would require approval of certain harvest specifications (OFL, ABC, ACLs) on

a biennial basis, as they could be set for longer periods. As described under Alternative 1, the Council could ask the SSC to recommend OFLs and ABCs for a set amount of time and the Council could adopt OFLs. All other management measures, such as setting off-the-top deductions or allocations, could occur in a normal cycle. This Alternative is based on recent considerations by the NEFMC described above to amend their FMPs to change the frequency at which harvest specifications would be specified. The overarching goal was to increase management flexibility and improve consistency across all the NEFMC's FMPs.

4.5.2 Discussion

Under No Action, the current biennial cycle would continue. [COP 9](#) outlines the schedule for groundfish management. There are three processes within the Council's overall biennial timeline: stock assessments, harvest specification and management measures, and groundfish stock definitions.

An annual specifications process as described under Alternative 1 would be more responsive to new science and information compared to No Action but could result in less stability in terms of harvest specifications and management measures compared to No Action as there would be potential changes on an annual basis compared to the biennial period for select stocks. Moving to an annual specifications process would also shift the timing available for staff to work on other non-specifications groundfish actions. As noted, the Council could create an annual specifications framework so that specifications would only need to be adopted for a select group of species with new assessments or projections. All other stocks and stock complexes could have harvest specifications set for a to be determined amount of time so that the workload associated with specifications is not required every year for all stocks managed in the groundfish FMP.

For Alternative 2, the biennial process would be maintained, but the scope of work for each specification cycle would be reduced by limiting the number of stocks under consideration each biennium.

Under Alternative 1 and 2, instead of specifying an OFL, ABC, and ACL for each stock or stock complex every one or two years, only stocks that had new assessments or projections would need to be considered. While the upfront workload would be higher than a normal specifications process in that the SSC, GAP, GMT, and Council would need to set all harvest specifications for all managed groundfish stocks for a to-be-determined amount of time, the workload in the long term would be lower, as harvest specifications would only need to be set for likely six to ten stocks based on new assessments or catch-only projections.

To provide some context around the potential workload savings that could occur under either Alternative 1 or 2 under the concept of adopting harvest specifications for multiple years, Table 9 describes the year and type of the assessment used in the 2025 harvest specifications. In total, there were 140 OFLs specified (including single species, complexes, and component stocks). Of the 140 OFLs, there were 118 specifications that were known prior to the 2025 cycle with only 16 specifications coming from new assessments or projections (resulting in changes to six complexes as well for a total of 22 changes). This means that the SSC, Council, and its advisory bodies could have set over 84 percent of all specifications in a prior year (noting that changes to component stocks would result in changes to complex specifications as well) and only spent time considering the new specifications coming from new assessments or projections.

12 complexes- 6 would have been impacted by C-O projections

Table 9. Assessment basis for 2025 harvest specifications

Year of Assessment	Data Limited	Data-moderate a/	Update	Full	CO	Other b/
2009				4		
2011	52			3		
2013	5			3		
2015	1					
2017	2		1	3		
2019	3			9	9	
2021		4		5	3	3
2023		2		7	6	1
Total	63	6	2	33	18	

a/ Includes DBSRA, DCAC, ExSSS, SSS, and XDBSRA assessment types

b/ Includes other methods of establishing specifications, such as average catch. An additional 4 specifications were based on these methods, but had no years specified on when method established and not included in table.

5 References

- Holland, D., Lambert, D., Schnettler, E., Methot, R., Karp, M., Brewster-Geisz, K., Brodziak, J., Crosson, S., Farmer, N., Frens, K., Gasper, J., Hastie, J., Lynch, P., Matson, S., & Thunberg, E. (2020). *National Standard 1 technical guidance for designing, evaluating, and implementing carry-over and phase-in provisions* (NOAA Technical Memorandum NMFS-F/SPO-203). U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service. https://spo.nmfs.noaa.gov/sites/default/files/TMSPO203_0.pdf
- Liu, O. R., Thomas, L. R., Clemence, M., Fujita, R., Kritzer, J. P., McDonald, G., & Szuwalski, C. (2016). An evaluation of harvest control methods for fishery management. *Reviews in Fisheries Science & Aquaculture*, 24(3), 244–263. <https://fisherysolutionscenter.edf.org/sites/default/files/2022-08/Paper%20-%20An%20Evaluation%20of%20Harvest%20Control%20Methods%20for%20Fishery%20Management.pdf>
- Smith, M. W., & Goethel, D. R. (2017). *Investigating the impact of carrying over multiple theoretical landings underages on the ability to achieve rebuilding targets for Gulf of Mexico red snapper*. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries

Science Center. <https://www.fisheries.noaa.gov/resource/document/investigating-impact-carrying-over-multiple-theoretical-landings-underages>

Taylor, I.G., V. Gertseva, N. Tolimieri. 2023. Status of petrale sole (*Eopsetta jordani*) along the U.S. West Coast in 2023. Pacific Fishery Management Council, Portland, Oregon. 174 p

Wallace, J. R. (2011). *Rebuilding analysis for canary rockfish: Based on the 2011 updated stock assessment*. National Marine Fisheries Service, Northwest Fisheries Science Center. Retrieved from <https://www.pcouncil.org/documents/2011/10/rebuilding-analysis-for-canary-rockfish-based-on-the-2011-updated-stock-assessment-october-2011.pdf/>

PFMC
10/22/25