

Developing Climate-enhanced Harvest Control Rules for Specifying Acceptable Biological Catch

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1. Introduction

The Council is considering climate-resilient harvest control rules (HCRs) to specify Acceptable Biological Catch (ABC)² limits. Ongoing work at the AFSC by the [ACLIM](#) and [GOACLIM](#) teams indicates that alternative HCRs for some or all stocks may be more responsive over a longer time frame to changing environmental conditions. Climate resilient HCRs have the potential to perform better³ to protect spawning biomass for some species and stocks during climate shocks and under rapidly changing marine environmental conditions. This may improve the current HCRs that are specified under the BSAI and GOA Groundfish and BSAI Crab fishery management plan (FMP) Tier systems.

2. Background and progress to date

In December 2024, following the final [report](#) of the Council's Climate Change Task Force, a [report](#) of the Council's Climate Scenario Planning Workshop held in June 2024, and the [results](#) of the National SSC (SCS8) meeting, the Council initiated a [Climate Workplan](#). The first priority of the workplan is to review current Council Tier systems for groundfish and crab stocks and to consider climate-informed biomass targets and limits and climate-robust or forecast-informed harvest control rules.

In June 2025, the SSC held an [HCR workshop](#) to frame an approach and prioritize HCR adjustments. The workshop received updates on the ongoing work by both CLIM teams including an overview of the HCRs and ecosystem cap evaluations that are currently underway and the suite of models that have been developed to conduct the evaluations. The SSC reviewed ten potential HCRs and recommended four HCRs for further evaluation and indicated the following species of concern as a starting point: BSAI and GOA pollock, Pacific cod, sablefish and snow crab. The Joint Groundfish Plan Teams later recommended adding Pacific Ocean Perch (POP) to the initial list of species. The SSC recommended these four HCRs to show contrast amongst HCRs that provide for declining fishing mortality at high stock sizes (HCR 5 and HCR 10), flat fishing mortality at high stock sizes (HCR 1, status quo) and scenarios that vary according to an environmental covariate to provide insight into bridging from qualitative risk tables to quantitative HCRs (e.g., HCR 7).

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² Note that unless the Council indicates otherwise the default assumption is that HCR consideration is for the maxABC control rule only not modifications to the OFL control rule.

³ "Perform better" is intended to reflect the degree to which HCRs meet established Council objectives which are not yet explicitly defined.

The overarching objectives of the SSC's recommended HCRs are shown in the table below⁴.

Description of the objective that the HCR is intended to achieve		HCR #
Status quo HCR	Status Quo baseline sloping control rule used for BSAI and GOA Groundfish	HCR 1
Lower fishing mortality at high stock size HCRs	Maximize ecosystem and SSB by increasing reserves and buffering against environmental shocks and enhancing long-term sustainability	HCR 5
	Similar objectives as with HCR 5 but provides increased buffering against environmental shocks through proportional reductions in fishing mortality	HCR 10
HCRs with environmental covariates	Transition from qualitative risk tables to explicit analytical approach for species whose productivity is known to vary with environmental conditions	HCR 7

The Council agreed with the SSC recommendations and [moved](#) that the subset of four HCRs under consideration by the analytical team be presented to the Plan Teams during their fall specifications cycle with the feedback from the Plan Teams then provided to the SSC to help inform further refinement and recommendations to the Council. Staff developed a [white paper](#) summarizing the current set of HCRs under consideration for simulation testing by the ACLIM and GOACLIM teams. Both the Groundfish and Crab Plan Teams reviewed the draft paper during the fall specifications cycle with recommendations from the Teams provided in the sections below.

3. Next steps

a. Joint Groundfish Plan Teams (JPT)

The Joint Groundfish Plan Teams received a report at the September Plan Team meeting ([HCR presentation to JPT](#)) and recommended that POP be included with the SSC recommendations as an additional species of potential concern. The Teams also discussed what circumstances could trigger the use of alternative HCRs, and the importance of articulating a clear rationale for moving towards climate resilient HCRs as well as the importance of the development of a trigger (or range of triggers) for implementing alternative HCRs. Such a range would need to rely on evaluations of relevant indicators. For example, the alternative triggers could include options for actions should exceptional circumstances occur, such as moving to an alternative HCR if an adverse event such as a marine heat wave occurs, or if evidence indicates productivity has clearly changed. Alternatively, if simulations demonstrate that alternative HCRs (for some or all stocks) may be more likely to consistently meet high priority objectives than current HCRs under shifting environmental conditions, then a trigger for implementing alternative HCRs may not be needed. In this case, the current HCRs by Tier level could be replaced with the more climate

⁴ See [An Overview of Stage 1 \(2025-2026\) Alternative HCR Evaluations Through ACLIM and GOACLIM, September 2025](#)

resilient HCRs. The Teams requested that further development of these ideas be done in a workshop and a Joint Plan Team meeting to recommend a range of triggers and additional considerations to be brought forward to the SSC.

A [public HCR workshop](#) (January 20) followed by a [Joint Groundfish Plan Team meeting](#) (January 21) are scheduled for discussing triggers for moving from status quo to a potential suite of more climate resilient HCRs in setting maximum Acceptable Biological Catch (ABC) levels in the annual groundfish harvest specifications process by the North Pacific Fishery Management Council and the desired objectives of doing so. The Joint Plan Teams will then discuss and make recommendations for a range of potential considerations for the SSC for the use of alternative HCRs in the harvest specifications process to set maximum ABCs.

b. Crab Plan Team (CPT)

The CPT received a HCR update [presentation](#) at the November CPT meeting. Due to the federal shutdown the CPT did not have the benefit of their full membership. Given the importance of this issue and the differences between implications for the Crab Tier system as compared to the Groundfish Tier system, the CPT has scheduled a follow up discussion to provide recommendations and clarifications on direction (as requested by Council staff) at the [January CPT meeting](#).

c. February SSC

In February, the SSC will receive the reports from the Plan Teams as well as staff suggestions for how to organize any recommended approaches into a workplan with goals and objectives and alternatives for consideration by the Council (in June). Following the SSC meeting and pending their recommendations, staff will continue to develop and expand upon this work to provide a more comprehensive discussion paper of these alternatives and related analysis for SSC, AP and Council review in June 2026.

d. June Council meeting

In June the SSC, AP and Council will review a discussion paper building upon the work in 2025 and 2026 to date laying out overarching recommendations for goals and objectives of climate resilient HCRs as well as updated simulation testing of some of the HCRs for a range of species. The Council may decide at that time to develop a purpose and need statement including overarching objectives for this analysis as well as some draft alternatives built around the Council's recommended objectives. A draft timeline and workplan for this analysis (as well as other aspects to the Council's Climate workplan) will also be made available for review and recommendations.

4. Process

If the Council chooses to move forward with consideration of alternative HCRs, amendments to each of the 3 FMPs (BSAI groundfish, GOA groundfish, BSAI crab) are necessary to modify the current Tier systems and HCRs. As with any Council analysis, the Council would develop a

purpose and need statement (including objectives) for the action and a suite of alternatives for analysis.

Given the technical nature of this analysis, the Council would likely rely heavily on the advice of the SSC and Plan Teams in developing these objectives and alternatives. The alternatives could include a range of triggers for when an alternative HCR would be initiated and/or a range of alternative HCRs for meeting Council objectives. The Council could also consider whether the HCRs should apply to all or a sub-set of stocks. Feedback from both review bodies will likely be iterative as HCRs are selected and tested in order to meet Council objectives. Once these objectives and alternatives are determined by the Council, an amendment analysis will be developed and reviewed through the Council process.