

Council	Does the Council have a formal risk policy?	What does this policy address: only ABCs, all Council decisions, etc.?	Does the Council also have a separate ABC control rule policy?	When was the current policy adopted? Was this the initial policy, or does it modify an earlier policy?	What is it called (e.g. risk policy, ABC control rule tiers, etc.)?	Is the policy FMP-specific, or does one policy address all FMPs managed by the Council?	How was the policy adopted (e.g. in a plan amendment or other Council action, established as a policy in an operations handbook, etc.)?	Is the policy incorporated into the regulations?	What decisions does the policy address (e.g., determination of ABCs, all management decisions, etc.)?	What factors are included in the policy: biological, economic, environmental, assessment uncertainty, etc.?	Was the policy tested using Management Strategy Evaluation (MSE)?	Does the policy address flexibility in applying its provisions? For example, in a Council with tiered ABC control rules based on assessment uncertainty, can the SSC modify its ABC recommendation in either direction based on other factors?	Does the SSC deviate from the ABC control rules?	Has the Council evaluated its risk policy? What were the key conclusions of that evaluation? Did the Council modify its policy as a result?
MAFMC	Yes	ABC control rule and a default level of uncertainty for the OFL	The Omnibus Amendment addresses both the ABC control rule and risk policy	The current rules were implemented in December of 2020. Prior to this, there was an omnibus framework action in 2018, and an interim framework action to the Mackerel, Squid and Butterfish FMP in 2012. The ABC control rule and risk policy were initially implemented in 2011.	Omnibus ABC and Risk Policy Framework Adjustment	All FMPs	Framework adjustment to the original Omnibus Amendment	Yes (85 FR 81152) and regulations - https://www.ecfr.gov/current/title-50/part-648/subpart-b	ABCs, uncertainty in OFL, and risk policies specific to rebuilding plan.	Control rule - There are 4 Tiers of assessments. The SSC evaluates nine criterion to determine scientific uncertainty - these include ecosystem considerations, data quality, biological factors, and others. The risk policy considers biological implications - MSE reviewed stock productivity sensitivity analysis; and economic - modeled catch levels and net economic gain/loss and stability for comm/rec. Environmental considerations are not in current regs; however, the Council is considering a separate risk policy for forage species (EAFM guidance doc).	Yes, in two different iterations. In 2017, Dr. John Wiedenmann (Rutgers University) conducted an MSE to consider the biological and fishery yield implications of different risk policy alternatives (Wiedenmann 2018). The MSE included an evaluation of five different alternatives, including the current risk policy, assuming two different OFL CV distributions (60% and 100%) with variable natural mortality, recruitment, and stock assessment data for summer flounder, scup, and butterfish. In 2019, Dr. Wiedenmann updated the MSE with new information and alternatives, and was also linked to an economic model developed by Doug Lipton and Cyrus Teng. (See Section 5.2 of the narrative summary for more information, including links to the context).	The risk policy is formulaic and does not incorporate flexibility. This is stated in the regs, 50 CFR 648.21(c)(1): "Unless otherwise allowed in paragraph (c)(2) or (3) of this section, for instances in which the application of the risk policy approaches in paragraph (b) of this section using OFL distribution results in a more restrictive ABC recommendation than the calculation of ABC derived from the use of FREBUILD at the MAFMC-specified overfishing risk level as outlined in paragraph (a) of this section, the Scientific and Statistical Committee (SSC) shall recommend to the MAFMC the lower of the ABC values." However the risk policy works in concert with the tiered control rule, where the regs state 50 CFR 648.20: "The SSC may deviate from the control rule methods and recommend an ABC that differs from the result of the ABC control rule application, however, any such deviation must include, despite not having a separate, formal risk policy, the process that has been proposed in the new ABC control rule (CR) includes flexibility in three areas: 1) SSC assessment of uncertainty when developing ABC recommendations, 2) Council determination of risk tolerance (P*) to apply through the ABC recommendations, and 3) Allowance of carry-over and phase-in for specific situations. These provisions are not explicitly separate from the ABC CR but will be built into the new ABC CR through the amendment.	Yes, the SSC does have the flexibility to deviate from the control rule, although this occurrence is rare. For tiers with an OFL, all fisheries have fallen into Tier 3 - assessments, where the SSC has nine criteria they will evaluate to determine scientific uncertainty, which are detailed in the 2020 SSC report (linked in the narrative summary). The SSC can, and has, modified previous ABC recommendations and has done so in either direction. The SSC does review previous ABC recommendations on an annual basis, although a change in either direction does not happen too often. A change to a previous ABC recommendation typically occurs when compelling new information is available or a new analysis has been completed (e.g., a Canadian assessment for Atlantic mackerel).	Yes, the MAFMC started to evaluate its original policy in 2016. In 2017, during the initial risk policy review, the Council agreed to postpone final action until after the completion of additional analyses, which more fully consider the social and economic impacts and trade-offs of different risk policy alternatives. The conclusion from the MSE stated the Council could take a little additional risk and result in increased economic benefits (e.g., summer flounder). The Council specified that the evaluation should assess the short- and long-term trade-offs between stock biomass protection, fishery yield, and economic benefits. Development of the Omnibus Risk Policy Framework was reinstated in 2019, and the final rule published in 2020.
SAFMC	No, there is not a separate risk policy. The Comprehensive ABC Control Rule incorporates the risk tolerance policy.	N/A	The Comprehensive ABC Control Rule Amendment is the primary risk policy. It includes a new ABC control rule, criteria and procedures for phase-in of ABC changes, and carry-over provisions for unused ACLs.	The revised ABC Control Rule is in the process of being finalized and implemented in early 2023. It modifies the previous policies from 2015 (for the Snapper Grouper FMP only) and 2011 (Comprehensive Amendment).	Comprehensive ABC Control Rule Amendment	It applies to three FMPs: Dolphin, Wahoo Fishery, Golden Crab Fishery, and the Snapper Grouper Fishery. It does not apply to the Coastal Migratory Pelagics or Spiny Lobster FMPs, which have shared jurisdiction with the GMFMC, or the Shrimp and Coral/live bottom habitat FMPs.	A comprehensive amendment to the FMPs.	No, not at the time of this review (as the Amendment is under secretarial review). However, the original ABC Control Rules (2011 and 2015) were incorporated into regulations.	ABC control rules and phase-in of ABC control rules, uncertainty in assessments, and carry-over provisions.	The SSC proposed an evaluation method for developing a stock risk rating that includes biological, human dimensions, and environmental attributes to inform the risk of overfishing. Refer to page 12 of the Draft EA (or Appendix 6 of the narrative summary) for more information.	No, not for determining the ABC control rule. However, there are MSE processes planned for other actions in Dolphin Wahoo FMP (SEFSC-led initiative) and Snapper-Grouper FMP.	The SSC may provide an ABC that deviates from strict application of the approved ABC CR if necessary to address scientific uncertainty, recruitment variability, declining population trends, or available information. If the SSC deviates from the ABC CR, it must provide a written explanation describing why the deviation was necessary, how the alternative ABC recommendation is derived, and how the alternative ABC prevents overfishing, addresses scientific uncertainty and the Council's specified risk tolerance level for the stock.	Yes, the original ABC CRs were implemented in 2011 and 2015, and started to be evaluated in 2016. In applying the current ABC CRs (as specified in the Comprehensive ACL Amendment and Snapper Grouper Amendment 29), to different stocks and assessments from 2012-2016, the SSC began to express concerns that the rules lacked adequate resolution to distinguish differences in uncertainty levels across assessments, did not address continued developments in data-poor assessment methods, and mixed uncertainty evaluation (an SSC role under the MSA) and risk tolerance determination (a Council role under the MSA). Additionally, the existing CR does not provide a means to make use of 2020 guidance for National Standard 1 that increased the flexibility available to regional fishery management councils for managing catch limits by allowing phasing in of	

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PFMC	No	N/A	Yes, the Groundfish FMP includes a sigma-P* policy to determine the ABC buffer, and harvest control rules (HCRs) to determine the ACL if spawning biomass is estimated to be in the precautionary zone.	The policies in the Groundfish FMP were initially adopted with Amendment 23 in 2011. Since this time, the HCRs were revised in 2015, and the the Council adopted new approaches for determining sigma values in 2019, following SSC recommendations.	The Groundfish FMP primarily uses the term harvest control rules (HCRs), as well as sigma values and P* values, which is referred to as the sigma-P* approach.	There is not one policy, as each FMP has unique HCRs. Both the Groundfish and Coastal Pelagics FMPs utilize the sigma-P* approach.	Amendments to the FMP	The SSC-recommended method for incorporating scientific uncertainty is referred to as the sigma-P* approach and is discussed in detail in the final rule for the 2011-2012 biennial harvest specifications and management measures (76 FR 27508, May 11, 2011) and 2013-2014 (77 FR 67974, November 12, 2012).	The sigma-P* policy addresses the determination of ABCs. The HCRs address the determination of ACLs, if an additional reduction is warranted.	No	The SSC can only modify ABC recommendations down.	Yes, with good rationale, and typically a short-term deviation to add precaution, although this is rare.	The HCRs were evaluated as part of Amendment 24 to the Pacific Groundfish FMP (2015) to develop default HCRs. In 2018, the SSC held a meeting to start the process to review analyses pertaining to the scientific uncertainty in estimating OFL (sigma). The SSC recommendations for sigma values were adopted by the Council in 2019. These recommendations are referenced in the narrative summary (Section 2.3).	
GMFMC	No	N/A	Yes, there is an ABC control rule policy	The ABC control rule was implemented in 2011 (effective date in January 2012). This is the original policy, and portions of this are currently being revised in a new amendment that will build on previous efforts, including a draft generic amendment for carryover provisions and framework modifications in 2019. The SSC also started to analyze alternatives to the ABC	ABC Control Rule, and ACL/ACT Control Rules	The current ABC control rule was implemented as part of three actions: 1) Generic ACL/AM Amendment for the GMFMC's Red Drum, Reef Fish, Shrimp, Coral, and Coral Reefs FMPs, 2) Amendment 18 to the FMP for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic, and 3) Amendment 10 to the FMP for Spiny Lobster in the Gulf of Mexico and South Atlantic. There are	Amendments to FMPs	Yes, see Section 4.2 of the narrative summary for links to the regulations.	Determination of ABCs and ACLs/ACTs	No	Yes; however, it is unlikely that the SSC would make a more liberal decision.	Yes; however, if the SSC is aware of uncertainty unaccounted for by the model, it can deviate from specifications in the ABC control rule to better account for scientific uncertainty.	Yes, see Section 4.3 of the narrative summary for details. The Council is currently in the process of modifying its control rules, and a new amendment will be in progress in 2023.	

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NPFMC	They have a management policy that has a number of policy objectives around making management decisions, but not a specific risk policy.	The NPFMC has a number of management policies. None of them are specific to risk policies; however, the Harvest Specification Policies include an ABC and TAC setting policy, which is included in Section 2.1 of the narrative summary. The Ecosystem Policy advises the Council to	Yes	The initial ABC control rules were approved by the Council as amendments 44/44 to the groundfish FMPs (GOA and BSA) in 1996, and were effective starting in January 1997. The control rules were then revised by the Council in 1998 as Amendments 56/56. In 2022, the Joint Groundfish Plan Teams and SSC started a workgroup to address the current policies, and that	OFL Control Rule (Tier System) - If a stock is in a tier level where biomass can be determined, a sloping harvest control rule is applied.	The OFL Control Rule is FMP specific, for groundfish.	Amendments to FMPs. Also, the housekeeping amendment(s) brought language alignment with the MSA for the ACL and ABC control rule.	Partially, the annual harvest specifications are in rulemaking, categorized by year and area on this website: https://www.fisheries.noaa.gov/alaska/sustainable-fisheries/alaska-groundfish-harvest-specifications , but not the general Control Rule/Tier System approaches, which are in the FMP.	Their management policy addresses a number of objectives around decisions. The control rules address setting OFL and ABCs.	The Risk Table incorporates environmental and economic factors (see Appendix 2A in the narrative summary). The Control Rule (Tiers) only considers assessment uncertainty (see Appendix 2B in the narrative summary).	No, although the Goodman et al. (2002) paper on groundfish evaluates the efficacy of the Tier System. (https://citeserx.ist.psu.edu/document?repid=rep1&type=pdf&doi=30abc09298f4fc13d017c697511aa1bd11f739)	The SSC can only modify it down. The maximum permissible ABC is set by the tier and can't go higher, unless the tier changes.	Yes, they can; but only to reduce it.	In November and December 2022, the Joint Groundfish Plan Teams and the SSC identified a need for a workgroup to address the current policies for the application of harvest control rules for groundfish, and new approaches for accounting for changes in ecosystems related to climate change. While both the Plan Teams and the SSC identified several topics of interest related to this general topic, the recommendation was to allow the February 2023 SSC workshop to inform the specific scope and focus of a potential workgroup. Previously, the SSC held a workshop on risk tables, and summarized their review of the subgroup recommendations in the June 2021 SSC report (agenda item D4 and Appendix A). See Section 4.3 of the narrative summary for more information.
WPRFMC	No	N/A	Yes, there is a tiered system of ABC control rules.	It was adopted in 2011, and it is the original policy.	Tiered ABC Control Rule	The policy addresses all of the Council's Fishery Ecosystem Plans (FEPs).	Omnibus Amendment for the Western Pacific Region to Establish a Process for Specifying ACLs and AMs. The action started in 2007 with SSC involvement.	Yes, the final rule published on June 27, 2011 (76 FR 3725) + 50 CFR Subpart A: Section 665.4 (ACLs), Section 665.12 (Definitions), Section 665.15 (Prohibitions)	Determination of ABCs, ACLs, and AMs	Assessment uncertainty is taken into account with tiers, and the ABC control rule is focused on biology. The ABC is reduced to the ACL using social, economic, ecological, and management uncertainty (SEEM factors). See the narrative summary, Section 3, for more information on this approach.	No	The SSC can reduce their recommendations, but cannot modify recommendations higher. The SEEM factors are all a reduction from the ABC.	Yes, the SSC can deviate, although only to reduce it. However, in practice, they have not deviated.	No, although the Council is starting conversations about developing a risk policy.
CFMC	No	N/A	Yes, there is an ABC control rule policy. One item the Council has not done is to develop a policy on setting its P* value, which may be viewed within or apart from the ABC CR process as determined by the SSC.	The current rules were adopted in 2022 with the implementation of the Island-Based FMPs. The CFMC modified an original policy from 2010 and 2011, Caribbean ACL amendments.	ABC Control Rule (CR) (Please see the ABC CR Tiers in the Island Based FMPs.)	The ABC CR is implemented through each Island-Based FMP; however, the same rule applies for each FMP.	The Island Based FMPs changed fisheries management in the U.S. Caribbean to three separate FMPs by area: Puerto Rico, St. Thomas/St. John and St. Croix, and USVI. Each included a four-tiered ABC CR used to define management reference points for all species under management.	Yes, the final rule has been effective since October 13, 2022 (87 FR 56204) + regulations are included in multiple subsections within 50 CFR Parts 600 and 622.	Determination of ABCs and ACLs	Assessment uncertainty is addressed by ABC CR Tiers 1-4, and are specifically addressed in sigma-min. Recent discussion on the use of ensemble approaches in the future also address uncertainty. Biological and ecological factors are also considered, especially when dealing with species in Tier 4 (data limited). These factors are also of special interest when considering herbivores and species with spawning aggregating behavior (e.g., groupers). Consideration of expert opinion from the District Advisory Panel members was also integrated in the SSC's development of the ABC CR policy. Economic considerations included the changes brought by hurricanes (Irma and Maria in 2017), an earthquake (2020), and the pandemic (2020). Events that have a great economic impact may be addressed in the future as part of issues with uncertainty.	No, but MSE was used in the process of establishing the ABC CR based on the specific Data Limited Models (DLM) explored for setting ABCs.	Yes, the ABCs set under the Island-Based FMPs and the spiny lobster amendment (ongoing) include flexibility in addressing their provisions. The SSC may modify its recommendations in either direction.	The ABC control rule policy was just implemented in October 2022. The CFMC and its SSC have been working on the spiny lobster amendment for re-specifying OFL, ABC, and ACLs.	Yes, they had an ABC Control Rule Work Group that met in 2016 and developed recommendations for the recently implemented ABC CR. These recommendations were presented to the SSC, and the SSC presented the ABC CR to the Council, and it was integrated into the Island-Based FMPs.