

## Best Scientific Information Available: North Pacific Fishery Management Council Discussion Document - April 2022

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### Discussion:

In 2018, NOAA issued a procedural directive that required each Region to develop a regional Best Scientific Information Available (BSIA) framework that describes how it implements NOAA Fisheries general BSIA framework. The required elements of this framework should include: a timeline, the roles of each partner in the process, and a description of modifications from the general framework (if required). Upon completion, the document should be available to the public. This document provides the draft framework for management of groundfish resources in the Bering Sea Aleutian Islands (BSAI), Gulf of Alaska (GOA), crab resources in the Bering Sea Aleutian Islands and the scallop off Alaska ([BSAI Groundfish FMP](#), [GOA Groundfish FMP](#), [BSAI Crab FMP](#), and [Scallop FMP](#)). The partners involved in provision of BSIA include the Alaska Fisheries Science Center (AFSC), the Alaska Regional Office (AKRO), the North Pacific Fishery Management Council (NPFMC), the Alaska Department of Fish and Game (ADF&G), the International Pacific Halibut Commission (IPHC; halibut Discard Mortality Rates, DMRs) and NOAA Fisheries Headquarters. The deadline for completion of this document is May 2022. This document provides an opportunity for review and comment prior to final submission in May.

This document outlines how the BSIA is considered at each step of the review and approval process. The process begins with the collection of information relevant to population status and the assembly of the stock assessment. With the exception of Demersal Shelf Rockfish, the AFSC prepares all groundfish assessments. Crab stock assessments are prepared by scientists within ADF&G and AFSC. Scallop stock assessments are all prepared by scientists within ADF&G. These assessments undergo peer review by relevant NPFMC Plan Teams ([BSAI and GOA groundfish Plan Teams](#), [BSAI crab Plan Team](#), and [Scallop Plan Team](#)), Center of Independent Expert panels, and final recommendations are made by the NPFMC Scientific and Statistical Committee (SSC). Specification of key biological reference points (e.g., Acceptable Biological Catch (ABC), Overfishing Levels (OFL) and relevant spatial allocations) are adopted by the SSC and they are used by the NPFMC to establish groundfish annual total allowable catch specifications (TAC) at a level less than or equal to the ABC. NOAA Fisheries officially certifies that the stock assessment and/or management decision is based on BSIA through this multi-layered peer review process. Table 1 provides a roadmap of the different roles and responsibilities of different partners in the process (Table 1). The activities included in the spreadsheet are not a comprehensive summary of all of the quality control steps that occur to ensure that decisions are based on BSIA. The document serves as a guide for the review process.

## Timelines for Groundfish, Crab and Scallop:

### Groundfish

The following provides an overview of the review schedule for determination of Best Scientific Information Available for groundfish stocks. It should be noted that the public has an opportunity to comment during reviews by the Plan Teams, SSC and Council as well as opportunities to comment on Federal Register notices of harvest specifications.

**January - August** Stock assessment authors review comments and suggestions from the Plan Teams, SSC and CIE reviews, and explore alternative model configurations or the implications of using alternative data sets.

**January - July** CIE reviews of selected stocks.

**July** - Program leaders within AFSC distribute stock assessment assignment memorandum highlighting the dates of upcoming review panel meetings and timing for in-house review.

**September** - Groundfish Plan Teams review proposed model changes and make recommendations for which model configurations should be brought forward.

**September** - The Groundfish Plan Teams review the halibut discard mortality rate (DMR) working group report and recommends DMRs for the upcoming season.

**October** - The SSC reviews proposed model changes, the Plan Team recommendations, and makes recommendations for which configurations should be brought forward. The SSC recommends proposed groundfish specifications for the next 2 years. Public comment is received prior to the SSC making recommendations on proposed groundfish specifications.

**October** - The NPFMC adopts proposed groundfish specifications. The NPFMC receives public comment prior to decision making. NMFS publishes proposed groundfish specifications in the Federal Register and requests public comment for 30 days.

**October** - Assessment authors update models with in-year data to the extent practicable, compile the draft stock assessment documents according to the Stock Assessment and Fishery Evaluation (SAFE) Guidelines, submit their assessments for in-house review, and prepare presentations for the Groundfish Plan Team meetings

**October** - The SSC reviews the DMR working group report and recommendations from the Groundfish Plan Teams and approves DMRs for the upcoming season.

**November** - Groundfish Plan Teams review updated models and make recommendations for ABC and OFL.

**December** - SSC reviews updated models, reviews the Plan Team recommendations, makes final recommendations for ABC and OFL, and approves the final SAFE report. Public comment is accepted prior to SSC final recommendations.

**December** - Based on the SSC's OFL and ABC, the NPFMC recommends the ACL, which is usually set equal to the ABC, and TAC, which may be equal to or less than the ABC, for final groundfish specifications for the next 2 years to the Secretary of Commerce. Public comment is received by the NPFMC prior to action.

**January - February** - The Secretary of Commerce reviews and approves final recommendations for the next two years. The proposed groundfish specifications approved in October are superseded through this process when the final harvest specifications are published in the Federal Register.

## Bering Sea Aleutian Islands Crab

**January** Crab modeling workshop reviews proposed changes to models.

**January** Crab plan team (CPT) reviews Norton Sound Red King Crab (NSRKC) assessment and makes recommendations for ABC and OFL.

**February** SSC reviews NSRKC assessment and CPT recommendations for ABC and OFL. The SSC makes its own recommendation for ABC and OFL.

**February** The NPFMC receives the recommendation for ABC and OFL.

**February** ADF&G sets the guideline harvest level (GHL) for NSRKC less than the ABC recommended by the SSC.

**April** - Crab assessment authors are assigned. Assessment authors work on proposed model changes or alternative data uses.

**May** - CPT reviews proposed model changes and proposals for alternative use of available data. CPT recommends ABC and OFL for Aleutian Islands Golden King Crab (AIGKC)

**June** - SSC reviews CPT recommendations for model changes and/or changes in the use of available data. SSC selects preferred models for assessments in fall. SSC reviews CPT recommendations for ABC and OFL for AIGKC and recommends ABC and OFL.

**June** - NPFMC receives SSC recommended ABC and OFL for crab.

**June** - ADF&G sets GHL for AIGKC less than the ABC set by the SSC

**June-July** - CIE reviews conducted on selected Bering Sea crab stocks.

**August** - Results from AFSC bottom trawl survey delivered to crab assessment authors. ADF&G provides updated catch estimates to crab assessment authors.

**September** - CPT meets to review assessments for remaining Bering Sea crab stocks. The CPT develops recommendations for ABC and OFL.

**October** - The SSC reviews the updated stock assessments and the CPT recommendations for models and buffers, and ABC and OFL. The SSC recommends the ABC and OFL for remaining Bering Sea crab stocks.

**October** - The NPFMC receives the SSC recommended specifications for ABC and OFL.

**October** - ADF&G sets the GHL for the remaining Bering Sea crab stocks less than the ABC recommended set by the SSC.

## Scallop

The following provides an overview of the review schedule for determination of Best Scientific Information Available.

**January** - Scallop assessment authors are assigned. Assessment authors work on proposed model changes or alternative data uses.

**February** - The Scallop Plan Team (SPT) reviews proposed models and data and recommends an ABC and OFL for scallop.

**April** - SSC reviews the updated stock assessment and the SPT recommendations for models and their proposed ABC and OFL. The SSC recommends the ABC and OFL for scallop.

## Salmon Fisheries

The Southeast Alaska troll fishery is currently the only commercial salmon fishery authorized by the Salmon FMP. This fishery is subject to the Pacific Salmon Treaty as well as the Magnuson-Stevens Act and the laws of the State of Alaska. Thus, the NPFMC must coordinate its management with NOAA Fisheries, the State of Alaska, and the Pacific Salmon Commission. The NPFMC evaluates and accepts the harvest levels set by the Pacific Salmon Commission and the State of Alaska, as long as those levels are consistent with the Council's policy and objectives and the national standards of the Magnuson-Stevens Act and incorporates the best scientific information available on stock abundance. Additionally, the North Pacific Anadromous Fish Commission prohibits directed fishing for salmon outside of the EEZ (>200 nautical miles offshore) in the North Pacific.

## Arctic Fishery Management

The Arctic Management Area is closed to commercial fishing inside the EEZ between 3 and 200 mi until such time in the future that sufficient information is available with which to initiate a planning process for commercial fishery development. The planning process and criteria the Council will consider for authorizing fishing using the BSIA in the Arctic Management Area are provided in Chapter 2 of the [Arctic FMP](#).

Table 1. NPFMC Groundfish, Crab and Scallop Review Procedures

BSIA Framework Action		NPFMC - Groundfish	NPFMC - Crab	ADF&G - Scallop, Crab, DSR	NOAA Fisheries (AKRO or HQ)
<b>Stock Assessment</b>	Assessment prioritization	Center works with NPFMC, Plan Teams and SSC to prioritize and schedule stock assessments. <a href="#">(Hollowed et al. 2017)</a>	Center works with NPFMC, Plan Teams, SSC and ADF&G to prioritize and schedule stock assessments	For DSR and assigned crab see NPFMC crab and groundfish.  ADF&G works with NPFMC to prioritize and schedule scallop stock assessments.	AKRO contributes to the prioritization and scheduling of groundfish stock assessments through membership on Plan Teams and SSC.  HQ Tracks the assessment schedule for all stocks in the region.
	Overseeing research needed for assessment	Center conducts outreach regarding research needs and compilation of data for groundfish assessments.	Center works with ADF&G to conduct outreach regarding research needs and compilation of data for Bering Sea and Aleutian (BSAI) Islands crab stocks.	ADF&G works with the Center to conduct outreach regarding research needs and compilation of data for the scallop assessment, BSAI crab assessments and Demersal Shelf Rockfish (DSR).	
	Conduct and complete assessment	Center takes the lead in conducting stock assessments for groundfish. Center, Plan Teams and SSC develop standardized guidelines for preparing stock assessments.	Center takes the lead in conducting assigned crab stock assessments. The Crab Plan Team (CPT) and SSC develop standardized guidelines for stock assessments.	ADF&G takes the lead in conducting the scallop assessment, Demersal Shelf Rockfish, and assigned crab stock assessments. The Plan Team and SSC develop standardized guidelines for groundfish and crab stock assessments. ADF&G works with the Scallop Plan Team (SPT) to establish guidelines for the assessment.	
	Assessment working groups	(1) Center staff assemble author teams to conduct groundfish stock assessments. (2) Author teams carry out and consider analyses, and recommend analyses and outputs to be evaluated by peer review.	(1) Center staff assemble author teams to conduct crab stock assessments. (2) Author teams carry out and consider analyses, and recommend analyses and outputs to be evaluated by peer review.	(1) ADF&G staff assemble author teams to conduct the DSR, scallop, and assigned crab assessments. (2) Author teams carry out and consider analyses, and recommend analyses and outputs to be evaluated by peer review.	Staff participate in assessment working groups, as appropriate.
	Assessment model selection	Author teams identify a preferred model. Center staff participate as members of the Groundfish Plan Team. Groundfish Plan Teams review the author team's proposed model(s) for consideration, and the basis for biological reference points and projection of short term OFLs, consistent with the SAFE guidelines. The SSC reviews the GPT and author team recommendations for biological reference points and projection of ABC and OFLs. A	Author teams identify a preferred model. Center staff participate as members of the Crab Plan Team to review the author team's proposed model(s) for consideration, and the basis for biological reference points and projection of short term OFLs, consistent with the SAFE guidelines. The SSC reviews the CPT and author team recommendations for biological reference points and projection of ABC and OFLs. A preferred model is	Author teams identify a preferred model. ADF&G staff participate as members of the Groundfish PT, CPT and SPT to review the author team's proposed model(s) for consideration, and the basis for biological reference points and projection of short term OFLs, consistent with the SAFE guidelines. The SSC reviews the GPT, CPT, SPT and author team recommendations for biological reference points and projection of ABC and OFLs. A	Staff participate in assessment working groups, as appropriate.

		<p>preferred model or ensemble of models is identified.</p> <p>The <a href="#">SSC Handbook</a> outlines how best practices in peer review are achieved.</p>	<p>identified.</p> <p>The <a href="#">SSC Handbook</a> outlines how best practices in peer review are achieved.</p>	<p>preferred model is identified.</p> <p>The <a href="#">SSC Handbook</a> outlines how best practices in peer review are achieved.</p>	
<b>Peer Review</b>	Assessment Review	<p>In addition to the review process outlined above, stock assessments periodically undergo review by the Center of Independent Experts (CIE). These reviews are conducted at least once every 5 years. The Center has the lead on organizing the CIE reviews of assessments.</p> <p>Subject matter experts participate in the CIE review and often include Council staff and scientists from ADF&amp;G, the Center and the Alaska Regional Office (AKRO). The meetings are open to the public and members of the Plan Teams, SSC and Council Staff regularly attend the review.</p> <p>These reviews are not intended to select a preferred model nor a specific recommendation for ABC or OFL. These reviews are intended to seek advice on whether the current model configurations represent BSIA. In addition CIE reviewers provide advice on how to improve the model(s) in the future.</p> <p>Authors, Plan Teams and the SSC consider peer review panelist reports and identify areas of future research on assessment approaches.</p>	<p>In addition to the review process outlined above, stock assessments periodically undergo review by the Center of Independent Experts (CIE). These reviews are conducted at least once every 5 years. The Center has the lead on organizing the CIE reviews of assessments.</p> <p>Subject matter experts participate in the CIE review and often include Council staff, and scientists from ADF&amp;G, the Center, and the AKRO. The meetings are open to the public and members of the Plan Teams, SSC and Council Staff regularly attend the review.</p> <p>These reviews are not intended to select a preferred model nor a specific recommendation for ABC or OFL. These reviews are intended to seek advice on whether the current model configurations represent BSIA. In addition CIE reviewers provide advice on how to improve the model(s) in the future.</p> <p>Authors, Plan Teams and the SSC consider peer review panelist reports and identify areas of future research on assessment approaches.</p>	<p>In addition to the review process outlined above, crab stock assessments periodically undergo review by the Center of Independent Experts (CIE). These reviews are conducted at least once every 5 years. The Center has the lead on organizing the CIE reviews of assessments.</p> <p>Subject matter experts participate in the CIE review and often include Council staff and scientists from ADF&amp;G, the Center and the AKRO. The meetings are open to the public and members of the Plan Teams, SSC and Council Staff regularly attend the review.</p> <p>These reviews are not intended to select a preferred model nor a specific recommendation for ABC or OFL. These reviews are intended to seek advice on whether the current model configurations represent BSIA. In addition CIE reviewers provide advice on how to improve the model(s) in the future.</p> <p>Authors, Plan Teams and the SSC consider peer review panelist reports and identify areas of future research on assessment approaches.</p>	<p>NOAA Fisheries HQ tracks the outcome of the peer review with respect to conclusions about stock status through briefings by NEFSC before and after the peer review.</p>
<b>SSC Recommendations for ABC and OFL</b>		<p>The author team considers whether a reduction in the ABC is required based on <a href="#">Risk Tables</a> and recommends a reduction if required. This recommendation is reviewed by the Groundfish Plan Teams. The SSC reviews the author and Plan Team recommendations for reducing the ABC based on <a href="#">Risk Tables</a> and selects a recommended ABC.</p>	<p>The author team considers whether a reduction in the ABC is required and recommends a reduction if required. This recommendation is reviewed by the Crab Plan Team. The SSC reviews the author and Plan Team recommendations for reducing the ABC and selects a recommended ABC.</p> <p>The SSC reviews the CPT's</p>	<p>The crab author team considers whether a reduction in the ABC is required and recommends reductions if required. This recommendation is reviewed by the Crab Plan Team. The SSC reviews the author and Plan Team recommendations for reducing the ABC and selects a recommended ABC.</p> <p>The SSC reviews the GPT, CPT and SPT</p>	

		The SSC reviews the GPT's recommendations for ABC and OFL. The SSC recommends the ABC and OFL to the Council and the Advisory Panel (AP). The Council receives the SSC recommendation for ABC and OFL for each stock or stock complex.	recommendations for ABC and OFL. The SSC recommends the ABC and OFL to the Council. The Council receives the SSC recommendation for ABC and OFL for each stock or stock complex.	recommendations for ABC and OFL. For DSR, assigned crab stocks and scallop, the SSC recommends an ABC and OFL to the Council. The Council receives the SSC recommendation for ABC and OFL for each stock or stock complex.	
<b>SSC Comments</b>		The SSCs may also report on a variety of issues at the request of a Council, such as stock status and health, bycatch, habitat status, social and economic impacts of management measures and sustainability of fishing practices.  When reviewing an assessment and making ABC recommendations, the SSC certifies that the recommendations made are based on scientific information that meets NS2 guidelines	The SSCs may also report on a variety of issues at the request of a Council, such as stock status and health, bycatch, habitat status, social and economic impacts of management measures and sustainability of fishing practices.  When reviewing an assessment and making ABC recommendations, the SSC has certifies that the recommendations made are based on scientific information that meets NS2 guidelines	The SSCs may also report on a variety of issues at the request of a Councils, such as stock status and health, bycatch, habitat status, social and economic impacts of management measures and sustainability of fishing practices.  When reviewing an assessment and making ABC recommendations, the SSC has certifies that the recommendations made are based on scientific information that meets NS2 guidelines	
<b>Catch Specification</b>		Council Staff in concert with the SSC develop tables of the recommended ABC and OFL for each stock for the Council and AP. The Advisory Panel comments on the specifications. The Council recommends ACLs that cannot exceed the ABC recommended by the SSC. Council then meets publicly to approve specifications.	Council Staff in concert with the SSC develop tables of the recommended ABC and OFL for each stock for the Council. The Council meets publicly to approve the ABC and OFL.	The ADF&G sets the GHL for all BSAI crab and scallop stocks	NOAA Fisheries will inform the Council if there are concerns with the catch specifications during development. NOAA Fisheries will provide this notice in time for the Council to amend its recommendation.
<b>Archives</b>		The Center records the assessment results into a centralized repository (NOAA Fisheries' Species Information System).	The Center records the assessment results into a centralized repository (NOAA Fisheries' Species Information System).	The Center records the assessment results into a centralized repository (NOAA Fisheries' Species Information System).	NOAA HQ maintains the SIS system.
<b>NOAA Fisheries Approval</b>					On behalf of the Secretary, NOAA Fisheries reviews Council recommendations, and, if appropriate, certifies that such recommendations are consistent with the Magnuson-Stevens Act, the National Standards, including National Standard 2 and BSIA, and other applicable laws