Draft SSC Report
June 2025

SSC Balance of Report

SSC Administrative Discussion

SSC Membership (1 of 2)

- SSC members Dr. Mike Downs and Dr. Patrick Sullivan have indicated that they are stepping down at the end of 2025.
- The SSC ***appreciates*** their contributions to the SSC and ***thanks*** them for their service.

SSC Administrative Discussion

SSC Membership (2 of 2)

- Should the Council extend a call for SSC nominations, the SSC recommends prioritizing the following expertise:
  - A social scientist with a background in anthropology, sociology, human geography or related fields
  - A scientist with experience in stock assessment, fishery population dynamics and harvest control rules/policy
- In addition, if or when these positions are filled, the SSC highlights it would be beneficial to identify individuals with experience working with AK coastal communities and expertise in in LKTKS information in the context of management

SSC Administrative Discussion

Overview of EOs and May CCC Discussion (1 of 4)

- The SSC received a presentation from NPFMC staff that summarized the CCC discussion of:
  - Executive Order 14276 - Restoring American seafood competitiveness
  - EO 14192 - Unleashing Prosperity through Deregulation
  - As well as considerations provide to the RFMCs in responding
- The SSC ***offers*** some initial thoughts, as implementation has occurred quickly.
- The SSC ***looks forward*** to offering further scientific input as necessary.

SSC Administrative Discussion

Overview of EOs and May CCC Discussion (2 of 4)

- The CCC discussed the EO direction for increased stock assessment prioritization and to be less risk-averse.
- The SSC ***notes***:
  - the extensive stock prioritization process for groundfish in the recent past at the NPFMC
  - the federal management system in the North Pacific, through its FMPs applies management to balance risk of overfishing with statutory requirements for MSY and OY under the MSA
  - This system is complimented by the robust public advisory process of the NPFMC

SSC Administrative Discussion

Overview of EOs and May CCC Discussion (3 of 4)

- The SSC ***notes*** that risk has a specific meaning with respect to OFL and ABCs
- The SSC ***recognizes*** that with reduced budgets/staff there will be increased uncertainty due to:
  - Reduced assessment frequency
  - Fewer surveys
  - Decreased catch monitoring

  and this is combined with a simultaneous reduction in precaution
- The SSC ***emphasizes*** this is counter to risk mitigation policies designed to prevent overfishing and the associated negative long-term impacts on harvesters and communities.

SSC Administrative Discussion

Overview of EOs and May CCC Discussion (4 of 4)

- The SSC ***discussed*** that enhancing the value of fisheries goes beyond only increasing the amount of catch
- The SSC notes analytic efforts, such as the sablefish MSE project, may be a valuable area of future development to inform TAC decisions.
- Particularly with reduced staff and funding, the SSC ***notes*** that identifying the most critical types of economic,s social and community information needed to comply with MSA National Standards and guidelines may help prioritize resources to address needs related to the EOs

SSC Administrative Discussion

Future Meetings (1 of 1)

- The SSC considered ideas to alleviate scheduling issues for December 2025, as the SSC does not have the capacity to include all required agenda items.
- Of the options discussed, the SSC ***suggests*** the most viable option is for the SSC to meet in late Jan./early Feb. in person and drop the April 2026 meeting (should the Council wish to go to 4 meetings in 2026)
- The SSC also ***recognizes*** the value of meeting concurrently with the NPFMC and other advisory bodies.
- The SSC ***notes*** that if the number of informal meetings or workshops increases due to a decrease in regular meetings, workload may not decrease and scheduling challenges will increase.

B1 Plan Team Nominations

- The SSC received nominations for:
  - Dr. Meaghan Bryan for GOA Groundfish Plan Team
  - Dr. Caitlin Stern for BSAI Crab Plan Team
- The SSC ***finds*** these nominees to be well-qualified and ***recommends*** the Council approve their nominations.

C2 Crab Harvest Specifications

General Crab Comments

- The SSC ***recommends*** that the CPT consider defining full and update assessments
- The SSC ***recommends*** that the CPT provide GMACS version updates in each report highlighting major version changes assessments
- The SSC ***recommends*** that each crab SAFE chapter include a clear description of the buffers used over the most recent five years
- The SSC ***requests*** that crab assessments include a plot comparing the model-estimated time series of mature male biomass from the current assessment with the time series from the ten previous assessments.

C2 Crab Harvest Specifications

Aleutian Islands Golden King Crab

- MMB for the EAG increased from 2014 to 2022 and declined from 2023. MMB for the WAG decreased after 2008 and declined steadily to a low in 2021 with a slight increase since 2022.
- Tier 3 stock on an annual cycle
- The SSC ***recommends*** Model 23.1c, the 2024 base model as recommended by the assessment author and the CPT
- SSC ***concurs*** with CPT on the OFL, 25% ABC buffer (as used last year), and the resulting ABC
- Based on model results, AIGKC is not overfished. Overfishing will be evaluated in October when catch is finalized

C2 Crab Harvest Specifications

Aleutian Islands Golden King Crab

- The SSC ***supports*** CPT research recommendations.
- In addition, the SSC had a number of recommendations for the author/CPT that are outlined in the SSC Report

C2 Crab Harvest Specifications

Snow Crab Model Runs

- The GMACS version update led to increased abundance estimates, altered reference points, and shifted peak biomass year (from 2018 to 2019).
    - The SSC stressed the need for clear documentation whenever coding (model) updates result in changes to estimates, although further detail is not currently requested due to higher priorities including convergence issues
- The SSC ***recommends*** the following models for September
    - Model 25.3 (GMACS update, and updated catch and growth data)
    - Model 25.3 with externally-estimated growth
    - Simplified Tier 4 model (similar to Tanner/BBRKC)
    - If convergence issues persist with Model 25.3, bring forward Model 25.2 (without updated growth)

C2 Crab Harvest Specifications

Snow Crab Model Runs

- The SSC ***supports*** the September CPT discussion of the currency of management for this stock and recommends consideration of a simplified ABC control rule focused on large-sized male crab as an alternative
- The SSC ***supports*** MSE for EBS snow crab to evaluate potential ABC control rules, currency of management
- Additional SSC recommendations:
  - Complete maximin analysis using Ricker stock-recruitment curve
  - Clarify updates to discard estimation and accounting procedure due to observed differences in revised data
  - Explore potential for smaller male size at molt to maturity during periods of lower large male snow crab (per Canadian research)
  - Investigate potential to directly link natural mortality to appropriate bottom temperature metric

C2 Crab Harvest Specifications

Bristol Bay Red King Crab Model Runs

- The SSC ***recommends*** that the author brings forward models
  - M.24.0c.2 (updated base model with new GMACS version)
  - Tier 4 “fallback” model
- The SSC ***recommends*** prioritizing the following analyses
  - Assess spatial aggregation of directed fishery and of survey metrics such as CPUE, size, and sex ratio.
  - Development of additional size bins across entire time series
  - Development of common framework for use of BSFRF data across crab stocks.

C2 Crab Harvest Specifications

Tanner Crab Model Runs

- The SSC ***recommends*** model 22.03d5 (the 2024 base model) and the GMACS model (G25.05) be brought forward in October as recommended by the CPT.
- The SSC also ***recommends*** a Tier 4 calculation similar to 2024.
- The SSC ***supports*** all CPT recommendations for improvements to the draft ESP for October.

C2 Crab Harvest Specifications

Norton Sound Red King Crab Model Runs

- The SSC ***appreciates*** the work completed by the new assessment author to improve this assessment
- The SSC ***concurs*** with the CPT recommended models to bring forward for final specifications in December (24.0b and 25.0a)
    - The SSC ***requests*** an additional model based on 24.0b and explores alternative parameterizations or constrains F
- Given that implementing model-based indices of abundance did not improve model fits to the survey, the SSC supports the CPT recommendation to continue exploring this in research-track models.
    - A future option to explore is a single model-based index that combines all three surveys for this stock.

C2 Crab Harvest Specifications

Pribilof Island Blue King Crab Model Runs

- The SSC ***agrees*** with the recommendation to maintain the corner stations in the surveys pre-2024 for future assessments as recommended by the stock assessment author and the CPT.
- The SSC ***recommends*** the model that uses a Tweedie distribution with a first-order autoregressive (AR(1)) spatiotemporal model in *sdmTMB* as recommended by the assessment author and the CPT.
- The SSC ***supports*** all CPT recommendations to improve and provide the appropriate diagnostics for the *sdmTMB* model.
- The SSC ***supports*** all requests outlined by the CPT for the sdmTMB analyses.

C2 Crab Harvest Specifications

Pribilof Island Red King Crab Model Runs

- The SSC ***recommends*** models 25.1 and 25.3 be brought forward in Octobers as recommended by the CPT.
- The SSC ***recommends*** this assessment remain in the GMACS framework and not be transitioned into a simpler (i.e. REMA) method.
- The SSC ***suggests*** the CPT discuss and provide a recommendation for a revised assessment frequency (e.g., 4 years) and timing for future assessments, with the goal of aligning with the schedule for PIBKC
- The SSC ***requests*** additional bridging details be made available for the transition into the GMACS framework.

C2 Crab Harvest Specifications

General ESP Updates

- The CPT discussed a new approach to categorize ESP indicators into predictive and contextual indicators.
    - Predictive indicators are those with statistically-significant relationships between an environmental or ecological observation and a population process such as recruitment or mortality.
    - Contextual indicators do not provide a quantitative prediction, but are considered useful to inform a management concern or risk table category.
- The SSC ***supports*** this approach, but requests an opportunity to review a example ESP where this approach is applied.

C2 Crab Harvest Specifications

General ESP updates/Socioeconomic information

- The CPT requested feedback on socioeconomic indicators for ESPs, emphasizing the need for a discussion at the CPT, SSC, and Council levels about what socioeconomic information is most useful.
- The SSC ***agrees*** that more discussion is critical to clarifying how to include the best available economic, social, and community information across a range of Council decision-informing analytic products, including ESPs.
- The SSC ***highlights*** the value of rescheduling the SSC agenda item/in-meeting workshop that had been planned for this meeting regarding the inclusion and availability of socioeconomic information in the Council process.

C2 Crab Harvest Specifications

Risk Tables (1 of 3)

- The SSC ***concludes*** that CPT was generally headed in the right direction with risk table implementation
- The goal when using risk tables is not to change current practices, but to provide consistent and continuing documentation that support the buffer recommendation
- While there are currently no default buffers for crab by tier level
    - There is a history of established practice in which larger buffers are recommended for higher tiers with greater uncertainty
    - Within a tier level, larger buffers are associated with stocks where the uncertainty or concerns are greater.

C2 Crab Harvest Specifications

Risk Tables (2 of 3)

- The SSC recognizes that the current crab risk tables differ from groundfish where reductions in ABC below the maximum permissible are applied sparingly.
- For crab, a buffer is used for every stock to reduce the ABC below the maximum permissible that is functionally at the OFL in the absence of ABC control rules.
- The CPT intends to include the uncertainty due to the tier level in the risk table, since this uncertainty plays a role in the buffer consideration. The SSC suggests that if the CPT follows this course, that the tier level concern be listed separately in the risk table.

C2 Crab Harvest Specifications

Risk Tables (2 of 3)

- The CPT proposed that risk tables be prepared for all annual crab assessments. The SSC ***supports*** this approach
- The SSC ***recommends*** that risk tables also be developed for SMBKC, PIBKC, and PIRKC, though these can be given lower priority given limited resources.
- The SSC ***endorses*** the CPT plan to develop a table to track buffers, risk table scores, and buffer justifications.

C2 Crab Harvest Specifications

Model-based Indices Update

- The SSC appreciated the extensive spatiotemporal modeling work being done to develop model-based indices for crab stock assessments, which addresses long-standing SSC requests.
- The SSC ***agrees*** with CPT in prioritizing development of spatiotemporal models for NSRKC and SMBKC, since this would address immediate challenges in these assessments.

D5 Subarea Apportionments Discussion Paper

- The SSC received a report on the role of subarea apportionments and the potential for whether these apportionments could have flexibility in the absence of specific conservation concerns
    - The report confirmed that subarea apportionments are not the ABC for the stock and therefore not equal to ACLs
- 3 methods were presented as options
    - **Method A**: Dissolve subarea apportionments when there is no conservation concern
    - **Method B**: Allow limited annual flexibility when there is no conservation concern
    - **Method C**: Increase the use of “reserves” for choke species, which may require regulatory changes

D5 Subarea Apportionments Discussion Paper

- The SSC was limited in time for this agenda item and was not able to address all questions posed
- The SSC ***supports*** changing the naming convention for subarea apportionments to avoid confusion with ABCs
- The SSC recognizes that by default, harvest should be spread out in relative proportion to the stock to preserve biocomplexity and reproductive potential, but that adding some limited flexibility to spatial apportionment is unlikely to compromise the biological sustainability
- The SSC ***recommends*** that Methods A and B are both suitable for future use
- The SSC suggests that Method C would require more information and did not discuss in detail

D5 Subarea Apportionments Discussion Paper

- The SSC viewed Method A as more long-lasting and Method B more likely to be responsive to arising fishery issues
- The SSC ***advises*** that flexibilities should be used judiciously and focused on non-target stocks where subarea apportionments are highly variable or survey data quality leads to greater uncertainty
    - The SSC does not favor broadly changing apportionments that have been appropriate and successful in most cases
- The SSC ***recommends*** that Method B flexibilities should be used for temporary fishery constraints and should not cumulatively shift subarea apportionments toward favored subareas

D5 Subarea Apportionments Discussion Paper

- The SSC was asked for its understanding of the spatial management policy and the Council's 2024 motion in the context of shortraker rockfish
  - In the absence of additional guidance, the SSC understands its role in December to be recommending the application of the best scientific method for determining apportionment without regard for potential constraints on fisheries
  - The SSC understands that the spatial management policy is only meant to be invoked for splitting subareas into smaller apportionments
- The SSC ***recommends*** that even if flexibilities are introduced, authors and Plan Teams continue to provide information forming the basis for historical apportionments

D6 Harvest Control Rule Workshop

- Council's October 2024 motion directed the SSC to hold a workshop
  - Workshop builds off Scientific Coordination Subcommittee 8 meeting and CCTF recommendations
- The SSC ***highlights*** the impressive scope of multidisciplinary work and state of the art research presented
- The SSC ***highlights*** the need for ongoing funding and staffing support
- The SSC discussion focused on:
  - Terms of reference for SSC/Plan Team/Agency working group
  - Ideas for scoping a workplan

D6 Harvest Control Rule Workshop

- The SSC ***recommends*** the following additions to the TOR
  - Include most likely scenarios to understand likely near- and long-term ocean conditions, alongside bracketing scenarios that represent mild to extreme warming
  - Consider near-term periods relevant to current business operations/community concerns, as well as longer-term periods when appropriate
  - As a starting point, suggested species are Pacific cod and walleye pollock in both the GOA and the BSAI, Alaska sablefish, snow crab and BBRKC in the Bering Sea
  - Consider HCRs that are flat fishing mortality at high stock size (e.g., status quo), cap based, and HCRs that vary according to an environmental covariate

D6 Harvest Control Rule Workshop

- TOR ***Recommendations*** **(**Cont.)
  - Clearly communicate model assumptions and uncertainty to a non-technical audience (e.g., a communication plan, dashboard, infographics)
  - HCR scenarios should be clear on what are adjustments to ecosystem caps versus adjustments to HCR shape or a combination of the two approaches, and the hypothesis being evaluated with each scenario
  - Indicate which modeling platforms are being utilized

D6 Harvest Control Rule Workshop

- The SSC provides the following advice in regard to the scope of the work plan:
  - Further exploration of multispecies and ecosystem linkages and highlighting those that might be useful for distinguishing differences among control rules and models.
  - Develop a small subset of HCRs to investigate sensitivities to changes in productivity, including marine heatwave events, and to identify the pros and cons of modifying biomass and fishing mortality reference points
  - Consider using species distribution models to explore potential range shifts (e.g. pollock into Russian waters)
  - The SSC notes that science advice for setting the OFL and ABC is non-economic in nature, but differing economic outcomes exist among HCR options

D6 Harvest Control Rule Workshop

- Workplan (cont.)
  - In addition to reporting total catches, the SSC ***suggests*** including catch stability and total value ($) over time as performance metrics for evaluating HCRs in the simulations.
  - The SSC ***suggests*** that the concepts of upside versus downside risk may be a useful metric to develop. This would provide a more nuanced understanding of risk across species and sectors.