

# Draft SSC Report June 2021



**Full SSC Report  
(with the exception of D-4 Risk Table  
Workshop Report)**



# SSC Administrative Issues

- The SSC received a presentation from Diana Evans (NPFMC) on several administrative issues
  - Planning for the October 2021 Council meeting was underway and a final decision on whether the SSC meeting would be virtual would be made in August
  - Sea Grant fellow, Angela Forristall, published a summary document for IFQ amendments that can be found on the Council website
  - NPFMC has postponed the seventh national meeting of the Council Coordination Committee's Scientific Coordination Subcommittee (SCS7) until 2022 so that the meeting can be held in person



# B-1 Plan Team Nomination

- The SSC reviewed the nomination of Andrew Olson (ADF&G) to the GOA Groundfish Plan Team
- The SSC ***finds*** Mr. Olson to be well qualified and recommends the Council approve his nomination



# B-5 AFSC Report

- The AFSC Report included a summary of
  - Surveys completed/underway/planned in 2021
  - How AFSC is planning to address recent EOs related to climate change and environmental justice
  - Plans for informing Ecosystem Based Fisheries Management
  - Plans to address/respond to NOAA Climate and Fisheries Initiative
  - Areas requiring expanded AFSC focus
  - Areas where input and feedback from the SSC would be useful



## B-5 AFSC Report cont.

- The SSC **appreciated** the update and the vision for future work
- The SSC **continues to highlight** the critical nature of surveys
- The SSC **supports** the AFSC Arctic research mission
- The SSC **acknowledges**
  - AFSC's longstanding work with fishing communities and Tribal entities
  - AFSC's proactive approach to developing best practices for incorporating LK and TK in the research process
- The SSC **supports** AFSC research efforts to assess and quantify the inequality of the effects of environmental change across communities, fishing sectors, and fishery participant groups
- The SSC **requests** notification if/when NOAA promulgates official guidance on how to address EOs

## B-5 AFSC Report cont.

- The SSC *supports* AFSC efforts to
  - Analyze and quantify risk posed by climate change
  - Address the questions of how and when to re-evaluate reference points and inform management in response to climate-driven changes in ecosystems, stock productivity and distribution
  - Evaluate optimal methods for addressing increased uncertainty due to climate change within the assessment and management processes



# C-1 2020 Observer Report

- The SSC **thanks** the agency and industry for their rapid response to adapt to the challenges of COVID-19 including the adoption of blended in-person and virtual training.
- The SSC **requests** that the Fisheries Monitoring Science Committee (FMSC) investigate the factors underlying the higher than expected time between the receipt of EM video and completion of review to evaluate whether the expected cost benefits of EM monitoring will be fully realized.
- The SSC **encourages** further investigation of apparent observer effects with respect to the duration of observed trips for selected strata.



## C-1 2020 Observer Report cont.

- The SSC ***supports*** NMFS recommendation for the development of an integrated evaluation of the partial coverage category. The SSC welcomes the opportunity to review and comment on the design of this holistic evaluation and its results.
- The SSC ***supports*** NMFS plans to develop an analytic method to address bias in estimates of halibut weights in the IFQ fishery
- The SSC ***recommends*** FMSC works with stock assessment scientists to communicate potential impacts on key data streams
- The SSC ***supports*** continued collaboration with industry partners to further develop EM and looks forward to reviewing the proposed NFWF project to explore the performance of portable EM systems.





# C-3 BSAI Crab Harvest Specifications

## Aleutian Islands Golden King Crab

- The SSC **recommends** model 21.1a, in agreement with author and CPT
- The stock is in Tier 3a
- AIGKC is not overfished; overfishing for 2020/2021 will be assessed October
- SSC recommends a 30% ABC buffer from the maximum permissible, larger than the 25% CPT recommendation, and previous 25% buffers
  - retrospective pattern in EAG model
  - convergence concerns indicating parameter confounding in WAG model
  - declining trend in the year:area interaction CPUE series likely to be used in the next assessment



# C-3 BSAI Crab Harvest Specifications

## Aleutian Islands Golden King Crab

- The SSC **supports** the CPT and other research recommendations:
  - Additional maturity modelling and possibly holding studies to provide better input data
  - Exploring the use of the NMFS Aleutian Islands trawl survey data
  - More detail in reporting the CPUE standardization to enable use of the year:area interaction model
  - Routine projection of incomplete in-year catches
  - Progress toward a model using GMACs
  - Continued consideration of one combined model with 2 areas vs. 2 separate models



# C-3 BSAI Crab Harvest Specifications

## Pribilof Islands blue king crab

- Full assessment (biennial), biomass low since 1999, no indication of recruitment
- The SSC **recommends** RE model as recommended by author and CPT (adopted in 2015)
- Projected 2021/2022 MMB at mating = 0.18 kt; MSST = 2.05 kt
- Tier 4c for status determination – overfished
- Tier 5 for OFL = 0.00116 kt; overfishing determination in October
- 25% ABC buffer (as recommended by author/CPT, same as 2019)



# C-3 BSAI Crab Harvest Specifications

## Pribilof Islands blue king crab

- The SSC ***supports*** the CPT recommendation to move the timing of the PIBKC assessment back to September for the CPT
- The SSC ***looks forward*** to receiving stock status template report for blue king crab in the near future



# C-3 BSAI Crab Harvest Specifications

## Snow crab - Model Runs for September

- Authors focused on options to address retrospective patterns
- The SSC **commends** authors for their hard work in addressing existing model challenges
- The SSC **supports** the CPT recommended models for September
  - 20.1: status quo
  - 20.1g: GMACS version of status quo
  - 20.2: re-weighted size composition data
  - 20.2 + time-varying fishery selectivity
- The SSC **recommends** that if an alternative variant of the status quo model is preferred, that a parallel version of the GMACS model is created if time permits



# C-3 BSAI Crab Harvest Specifications

## Snow crab - Model Runs for September

- The SSC **supports** CPT recommendations to
  - Continue development of the GMACS model
  - Revisit data weighting considering all data inputs
  - Explore time blocks for fishery selectivity coinciding with rationalization
- The SSC further **supports**
  - Continued exploration of VAST for survey index standardization given observed shifts in stock distribution into the NBS
  - Research to identify optimal methods defining minimum size for defining MMB



# C-3 BSAI Crab Harvest Specifications

## Tanner crab - Model Runs for September

- Authors focused on addressing issues with parameters hitting bounds during estimation
- The SSC **commends** authors for diligence and hard work in addressing existing model challenges (20 models explored)
- The SSC **supports** the transition from normal to lognormal likelihood for fishery catch and bycatch data
  - Assumes more appropriate multiplicative error structure



# C-3 BSAI Crab Harvest Specifications

## Tanner crab - Model Runs for September

- The SSC **supports** the CPT recommended models for September
  - 20.07: base model from September 2020
  - 21.22: implements changes to address parameter bounding issues and Dirichlet-multinomial likelihood for size compositions
  - 21.22 + pre-specification of growth increments based on external estimates
- The SSC **supports** CPT recommendations for model development
  - Exploration of methods for reducing complexity in selectivity
  - Exploring impact of changing reference timeframe for model





# C-3 BSAI Crab Harvest Specifications

## Tanner crab - Model Runs for September

- The SSC **requests** that September 2021 documentation included plots of standardized residuals for size compositions
- The SSC **supports** continued exploration of VAST indices for this stock and research to address data weighing considerations
  - SSC sees no need for continued exploration of the two area-specific VAST models, preferring a single model covering the entire stock and post-hoc apportionment as needed



# C-3 BSAI Crab Harvest Specifications

## Bristol Bay red king crab - Model Runs for September

- Eight scenarios considered that address the way that natural mortality, observer data, catchability and the use of VAST estimates are modeled
- Evidence of higher natural mortality
- The SSC **supports** CPT recommendations:
  - Base model (19.3d, improved observer estimates and sample sizes)
  - Model 19.3e (separate survey catchabilities)
  - Model 19.3g (19.3d, with VAST estimates)
- The SSC **recommends** new model (19.3d simplified: one natural mortality, catchability, and NMFS survey selectivity for both sexes and over time)
- The SSC **requests** additional work on age validation (for natural mortality estimation)

# C-3 BSAI Crab Harvest Specifications

## Crab Plan Team Report - 2021 Survey Planning

- The SSC **appreciates** the CPT's consideration of the assessment cycle, specifically the data dissemination timelines, in their planning process.
- The SSC **notes** that full survey coverage of the EBS and NBS are expected for 2021, but delays in data availability are expected (vessel and BBRKC re-tows).
- The SSC **supports** CPT concerns that survey timing and the crab assessment cycle may impact data availability for assessments going forward.



# C-3 BSAI Crab Harvest Specifications

## Crab Plan Team Report - VAST Models

- The SSC **supports** continued work on VAST
  - Land barriers, development and standard reporting of diagnostics
- The SSC **commends** establishment of VAST expert review committee
- The SSC **supports** CPT recommendation that VAST estimates be produced for BBRKC in the fall and that authors continue to refine the Tanner and snow crab VAST models.
- The SSC **supports** CPT recommendation that Tanner crab models be constructed for the full EBS population and then partitioned into eastern and western management areas.
- The SSC **recommends** incorporating Northern Bering Sea data in snow crab models.

# C-3 BSAI Crab Harvest Specifications

## Crab Plan Team Report - BSFRF Survey Selectivity

- The SSC **recognizes** BSFRF for their continued support of research  
The SSC **commends** B. Stockhausen (AFSC) for his continued work on this analysis
- The SSC **supports** the CPT's assessment that this work is important for refining crab assessments but that it is too soon to conclude whether that aggregated approach or the haul-level approach will be most useful for crab stock assessments and that work continue to refine both approaches.



# C-3 BSAI Crab Harvest Specifications

## Crab Plan Team Report

- Research Priorities
  - The SSC *commends* CPT for their work on research priorities
  - The SSC *notes* updates to research prioritization provided under Research Priorities (agenda item D-5).



# C-3 BSAI Crab Harvest Specifications

## Crab Plan Team Report

- Risk Tables
  - The SSC **commends** author and CPT work to explore draft Risk Tables for SMBKC and snow crab.
  - The SSC **addressed** general questions from the CPT in the full Risk Table Report (agenda item D-4).
  - While guidance for Risk Tables (based on groundfish) will not be finalized until the October Council meeting, the SSC **supported** authors bringing forward draft risk tables for snow crab and BBRKC in October.



# C4 Trawl Pacific Cod CV LAPP

- The SSC **commends** the analysts for a comprehensive description of the potential impacts of a large suite of elements
- The SSC **finds** that the EA/RIR is not ready to advance to final action and **requests** to review the analysis after a preferred alternative or set of alternatives be identified
  - Multiple elements have significant interactions with one-another, and with the current structure of the fishery (existing cooperatives in some vessels' primary fisheries)
  - Effects will likely be different for AFA and non-AFA vessels, so analysis should identify responses for each





# C4 Trawl Pacific Cod CV LAPP

- The SSC **suggests** additional analysis of
  - The extent to which the LAPP will drive *consolidation* or *specialization* in the fleets, and the effects on employment, crew working conditions associated with each
    - Predictions based on prior experience should consider the factors that make those experiences applicable
  - Market power effects of multiple elements of processor protection should be considered cumulatively
    - Stranded capital claims should be valued, as should compensation
  - The scale of gear conversion should be predicted, and if extensive, effects on whales should be considered.



# C4 Trawl Pacific Cod CV LAPP

- The SSC ***recommends*** measurable objectives be articulated for the LAPP, so a data collection may be designed to support review and adaptive management
- The SSC ***recommends*** a general consideration of the implications of climate change on the harvesting fleet and engaged communities be included in the cumulative effects section
- The SSC ***recommends*** the description of elements be reduced and the analysis be more concise and focus on predicted effects

## D-3 Bering Sea Fishery Ecosystem Plan

- The SSC **commends** the CCTF on the strong improvement in graphics, much clearer delineation of various groups and tasks, and plain language incorporated into the overview of the work plan. The graphics in particular clarify the process by focusing on relationships among products and where they plug into the existing management process.
- The SSC **supports** the proposed timeline and goals for the CCTF from now until September which include:
  - (1) Updating a collation of climate change data sources
  - (2) Producing a synthesis of current climate readiness in a Climate Briefing
  - (3) Outlining the climate change report for communication



# D-3 Bering Sea Fishery Ecosystem Plan

- The SSC ***commends*** the FEP Team on their progress with outreach and communication materials.
- The SSC ***supports*** the continued development of the Bering Sea Ecosystem Health Report (BSEHR) and looks forward to seeing the draft product in March 2022.
- The SSC ***recommends*** the FEP Team continue to evaluate the use of "health" in the BSEHR product title (suggestions were provided including "ecosystem evaluation report" and "ecosystem dashboard").



## D-3 Bering Sea Fishery Ecosystem Plan

- The SSC **recommends** the FEP Team carefully consider the indicators selected for the BSEHR to ensure they cover a suite of broad and local indicators, including indicators that are atypical for other ecosystem reports (e.g., marine debris, pollution), and indicators that capture the multidimensional complexity of the system.



# D-5 Research Priorities Process

- **February 2020:** Workshop, curation of *Critical Ongoing Monitoring (COM)* database priorities
- **April 2021:** New Top 10, curation of *Urgent* and *Important* database priorities, developed narrative summary of *COM* priorities, subgroup drafted new process document, and SSC discussed revising process
- **June 2021:**
  - subgroup revised process document prior to meeting (included narrative summary of *Strategic* priorities),
  - SSC members suggested revisions to the process document online prior to meeting,
  - subgroup process document with SSC suggested revisions posted on agenda prior to the meeting (SSC Report, Appendix B)



# D-5 Research Priorities Process

- **June 2021 (continued):**
  - Received presentation from NPRB
  - curation of *Strategic* database priorities
  - added new *COM* priority to the database for the collection of fishery dependent data and catch accounting
  - adopted new narrative summarizing *Strategic* priorities, recommended expanding “Marine mammals” category and changing title to “Protected species” to include seabirds
  - discussion of subgroup process document with SSC suggested revisions



## D-5 Research Priorities Process

- The SSC **thanks** the Plan Teams, FEP Team, and Council staff for developing and reviewing the database and developing past Top 10 priority lists
- For the 2024 triennial review, the SSC **recommends**
  - 1) SSC and PTs no longer review and curate database
  - 2) Narrative overview of *COM* and *Strategic* priorities be included on the NPFMC website and updated (if necessary) triennially
  - 3) Plan Teams, SSPT, FEP, and other on-ramp groups will continue to produce 3-5 priorities with ~150 word abstract for Top 10 consideration
  - 4) SSC select Top 10 with ~150 word abstract





## D-5 Research Priorities Process

- Prior to the 2024 triennial review, the SSC ***recommends***
  - 1) Council staff work to develop on-ramps with SSC subgroup input
  - 2) SSC subgroup develop clear criteria by which Top 10 submissions will be evaluated
  - 3) SSC subgroup engages with NPRB
  - 4) SSC subgroup revise the process document and bring back to SSC for review and public input

