

Draft SSC Report February 2023



Balance of SSC Report

SSC Leadership Election

- The SSC re-elected Sherri Dressel (ADF&G) and Franz Mueter (University of Alaska Fairbanks) as co-chairs for 2023
- The SSC also re-elected Alison Whitman (ODFW) as vice chair

General SSC Comments

- The SSC extends a warm welcome to new members Dr. Michael Jepson (Independent contractor), Dr. Rob Suryan (NOAA-AFSC) and Dr. Martin Dorn (University of Washington)

C4 Arctic Essential Fish Habitat (1 of 3)

- SSC reviewed proposed updates to Arctic EFH for Arctic cod, saffron cod, and snow crab
- The SSC ***finds*** this analysis to be a substantive improvement over the past Arctic EFH with respect to SDM approach and life stages considered.
- The SSC ***supports*** updates to EFH Level 1 and Level 3 text descriptions and associated maps based on research findings.
- The SSC ***highlights*** that SDMs are only as informative as the data available and that in order to understand this rapidly changing ecosystem investing in standardized surveys and ongoing monitoring will be necessary.

C4 Arctic EFH (2 of 3)

- The SSC ***recommends*** for future Arctic EFH SDMs that modelling presence-absence (rather than presence-only) data is conducted, as this method is especially preferable when data are collected under non-random sample designs.
- The SSC ***recommends*** continued exploration of the feasibility of statistically intercalibrating observations across surveys/gears.
- The SSC ***recommends*** future model skill testing incorporate cross-validation that is blocked among warm/cold regimes and Beaufort/Chukchi seas
- The SSC ***supports efforts*** to incorporate local and traditional knowledge, and subsistence information into future EFH reviews and analyses

C4 Arctic EFH (3 of 3)

- The SSC **recommends** consideration of predator-prey relationships within SDMs
- The SSC **recommends** laboratory studies of temperature-dependent growth for snow crab to produce maps of growth potential for EFH Level 3 definitions. The potential for improved conditions for snow crab growth in a warming Arctic is likely to be an important management consideration in the future.
- The SSC understands that EFH definitions are only required for species described within the Arctic FMP, it **encourages** consideration of SDM efforts for other species within the Arctic region or potential new entrants to this ecosystem under a warming climate.

D3 Groundfish stock prioritization (1 of 5)

- Following recommendations in 2017 for a 5-year review and preliminary discussion in October, the SSC reviewed:
 - 13 proposed changes to stock assessment frequency
 - The process and timing of stock prioritization
 - Revised definitions for the categories/types of stock assessments
- The SSC ***supports*** the GPT recommendation to reduce the frequency of assessment for 10 of the proposed stocks.
- The SSC ***supports*** the GPT recommendation to maintain the frequency of assessment for BSAI northern rock sole and AI Pacific cod due to pending change/development of these models.
- The SSC ***recommends*** that BSAI yellowfin sole be maintained as an annual assessment due to the importance of this fishery.

D3 Groundfish stock prioritization (2 of 5)

- The SSC **recommends** that future prioritization need not occur only on a 5-year schedule, but that a complete schedule for all stocks be compiled and made available for the Council process for revisions as needed. Subsequent changes to this schedule may then be considered on a case-by-case basis as the need arises
- The SSC **recommends** that assessment frequency be maintained for assessments where there are:
 - Critical model or Tier concerns
 - There is potential for interaction between species or fisheries
 - There are upcoming non-assessment analysis needs
 - The SSC has determined that a buffer from the maximum permissible ABC is warranted
- The SSC **recommends** that criteria be developed defining the process for triggering an assessment in a scheduled 'off' year or for elevating an update assessment to a full assessment.

D3 Groundfish stock prioritization (3 of 5)

- The SSC ***supports*** the proposed types of stock assessment:
 - Operational full assessments – standard analysis and review product
 - Operational update assessments – minor changes from previous, light review
 - Partial catch projections – updated catch and projections only, minimal review
 - Catch monitoring update – comparison of catch to ABC; table including all stocks each year
- The SSC ***requests*** that a 5th category of ‘Research assessments’ be defined to include analyses not immediately feeding into management but undergoing external peer review (CIE).

D3 Groundfish stock prioritization (4 of 5)

- The SSC ***recommends*** that for Tier 5 stocks on a four year frequency, the random effects model should be rerun and the OFL/ABC/apportionment calculations should be updated in year 3 if new survey biomass estimates are available.
- The SSC ***supports*** the development of clear definitions and guidelines for authors.
- The SSC ***recommends*** that the planned development of guidelines for stock assessment authors be considered in the context of a larger review of consistency with National Standard 2 guidelines for the inclusion of pertinent economic, social, community, and ecological information across the range of Council decision-informing SAFE documents.

D3 Groundfish stock prioritization (5 of 5)

- The SSC **notes** that critical information from regular surveys must be maintained as these data support a broad suite of species on differing assessment schedules and will likely provide the first indicators of change that can trigger assessment analyses and management response.
- The SSC **highlights** that uncertainty will inevitably go up with decreased assessment frequency and decreased assessment detail; however, the SSC emphasizes that this may be offset by freeing up time and resources to address unexpected events.
- The SSC recognizes that this process is intended to avoid surprises and avoid having to increase buffers as the time since the most recent assessment increases.

D6 – Climate Readiness Synthesis Report

- The SSC received a presentation from the BS-FEP, CCTF on the draft of the “Climate Readiness Synthesis” document.
- The report focused on providing a snapshot of our baseline readiness, in terms of Council processes and systems, and does so by quantifying how explicitly management tools, processes, or information include features related to climate change, without considering effectiveness.
- While the goal of understanding the status quo was agreed to be a valuable first step, it was less clear whether it is possible to have an accurate assessment of climate “readiness” without discussing the effectiveness of tools and the acquisition or availability of necessary data.

D6 – Climate Readiness Synthesis Report

- The SSC appreciated the emphasis the socio-environmental linkages and highlighted the importance of considering fishing communities throughout the document
- The SSC **highlights** a lack of exploration of the resilience of fishing communities in the report.
- SSC notes the past difficulties in developing community resilience measures.
- The SSC discussed that it could be helpful to explore the different scales at which community resilience may be described and **suggests** that it is important to elevate the potential importance of thinking across fisheries.

D6 – Climate Readiness Synthesis Report

- The SSC *suggests* the treatment of community resilience within the document and the document itself could be enhanced by clarifying the scope and goals and next steps.
- The SSC noted that the goals of climate readiness are related to achieving the national standards, but noted it is important to clarify what this implies at the level of species and communities.
- The SSC provided several recommendations for the workshops and scenario testing being planned by the taskforce.

D6 – Climate Readiness Synthesis Report

Section 1: Management

- This section provided an overview of management measures and an evaluation of the potential strengths and weaknesses of a subset of current management approaches in relation to climate adaptive attributes. The report ranks the management section as “*On the way to climate ready (2)*”
- The SSC **supports** this effort as an opportunity and a means to reassess management readiness over time, and suggests the “Opportunities for Improvement” row in Table 1-2 is a good starting point for identifying potential actions that can be formalized into specific recommendations (both near-term and long-term).
- The SSC **suggests** a useful outcome would be for CCTF to make recommendations on how the various items ranked in the management overview section and SAFE review could be altered to improve climate readiness.

D6 – Climate Readiness Synthesis Report

Section 2: SAFE Reports

- This section was ranked the highest of the sections in terms of readiness based on an assessment of how climate change information was accounted for in stock-assessments.
- The SSC noted that the approach taken of scanning SAFE documents for keywords may overestimate readiness and omitted key words related to community resilience.
- The SSC **recommends** the team consider focusing climate change modifications in ESRs and ESPs on relatively short-term responses to climate change effects for tactical management
- The SSC **suggests** considering inclusion of a species or stock specific risk or vulnerability table in the introduction chapter of each FMP area's SAFE (on-ramp 4.c).

D6 – Climate Readiness Synthesis Report

Section 3: Knowledge base

- An overarching theme of the knowledge base section is the critical importance of sampling
- SSC ***emphasized*** that frequent, consistent, and comprehensive sampling is the most important tool in our climate-readiness toolbox.
- The SSC ***commended*** the team on the section detailing LK/TK/subsistence information and strategies as excellent and cast a very broad net for the scope of information.
- The SSC ***supports*** the future efforts identified by the team in this section and continued coordination and synergies with the LK/TK/S taskforce.

D6 – Climate Readiness Synthesis Report

Future workshops and efforts

- SSC is strongly supportive of the next steps laid out that include specific and targeted evaluation of effectiveness through workshops and scenario testing.
- The SSC **recommends** the taskforce focus on how to *anticipate* or *respond* to infrequent shocks or tipping points, and **suggested** it may be useful to systematically develop a catalog of types of shocks and how they may manifest for specific stocks.
- The SSC **suggested** it may be helpful to conduct a retrospective assessment of available information, council bodies' efforts, and actions in the years preceding the GOA Pacific cod or EBS snow crab stock collapses to identify what we could have been known or done (or not done) differently.
- The SSC **encourages** the authors to think about taking advantage of data, processes, tools, and policy evaluation that relate to socioeconomics and are already in place or have been completed that may not have been explicitly developed for climate change resilience.

D6 – Climate Readiness Synthesis Report

Future workshops and efforts (continued)

- The SSC **recommends** working towards more actionable outcomes that include focusing on building the capacity to adapt and respond to climate change and less on flexibility.
- The SSC **suggests** assembling a collection of case studies might help to identify what actions have or have not worked elsewhere when considering actions for our region. A case study on Norton Sound Red King Crab (already recommended under agenda item C2) was suggested as potentially useful in this context.
- The SSC **encourages** the authors to think about taking advantage of data, processes, tools, and policy evaluations that relate to socioeconomics and are already available, but may not have been explicitly developed for climate change resilience.

D6 – Climate Readiness Synthesis Report

Future workshops and efforts (continued)

- SSC *suggests* identifying process guidance for the Council on how to accomplish complementary and simultaneous policy actions, or omnibus actions, as part of our climate ready toolbox.
- The SSC *supports* the continued exploration and goals of longer-term implementation (such as EBFM harvest targets based on long-term projections) as these have the potential to inform development of climate proactive solutions rather than being reactive.

SSC workshop (1 of 2)

- The SSC organized a 1.5 day workshop on “*Rapid change in the northern Bering and southern Chukchi seas – Identifying ecosystem responses and effects on the management of Federal fisheries*”
- Main questions addressed in the workshop:
 - What do we know about the current and near-term future environmental and ecological states of the northern Bering Sea and southern Chukchi Sea?
 - What data do we need to collect and monitor in the northern Bering Sea and southern Chukchi Sea to support ecosystem based fishery management of species in the Bering Sea Fishery Management Plans?
 - Science to Management: what tools do we have or need to apply these data to management of Bering Sea fisheries?

SSC workshop (2 of 2)

- The SSC thanks all presenters for their insightful and thought-provoking contributions and thanks Mr. Bill Tweit for providing the introduction to the workshop
- The SSC was very pleased with the number of participants and appreciates the thoughtful comments from a variety of stakeholders
- The SSC will synthesize the main outcomes of the workshop and provide final recommendations on next steps to the Council at the April 2023 meeting.

SSC workshop (draft recommendations)

Sessions 1 & 2 (Monitoring Needs / Knowledge Gaps)

- Maintain core surveys and time series
- Collect data to address processes of changes in ecosystem production
- Increase capacity to address bottlenecks to fish production
- Identify resources to establish minimum levels of monitoring in Chukchi Sea
- Pursue cooperative approach to survey NBS resources (industry, coastal communities)
- Develop technology (e.g. 'omics' / metabarcoding / eDNA) to assess all ecosystem components
- Expand tagging efforts (cooperatively) to monitor movement patterns and connectivity
- Identify expectations of tolerance levels and species that are more likely to move and/or find habitat in the NBS/Chukchi
- Assess the characteristics, and catch performance of fishing gear, including fishery-independent survey gears, towards improved estimates of fleet redistribution effects, and promoting fishing innovation

SSC workshop (draft recommendations)

Session 3: Tools & approaches to improve management

- Improve communication / minimize barriers (travel, technical language, cultural, etc)
- Expand SSC - Council communication
- Explore alternative approaches to current control rules
 - F-based controls vs biomass-based
 - Modification to existing HCR
- Collaboratively identify scenarios to explore through simulations
- Consider dynamic reference points finding balance between 'too dynamic' and 'too static' and consistency among stocks
- Identify optimal control rules or dynamic reference points
 - Consider catch stability vs. average catch vs. risk tolerance
 - Communicate directly with stakeholders and communities