

C4 Scallop SAFE and Plan Team report

Data

- 2018 Dredge Survey
 - 3rd survey in time series
 - Large increase in small scallops
 - **Recommend** explicitly defining goals of the survey design
- Ageing methods continue to be refined
- **Recommend** exploring utility of NMFS bottom trawl survey catches of scallop
- **Recommend** integrating community participation and social economic data into the body of main SAFE

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Assessment

- **Agree with** SPT and author's ABC/OFL recommendations which are the same as last year (OFL = 585 t, ABC = 90% OFL = 527 t).
- **Recommend** a framework that clarifies what the assessment data needs are to move toward an age-or-length structured model
- **Recommend** exploring moving SAFE to a biennial schedule, with executive summaries in alternating years
- **Request** more information on the way fishery CPUE data are standardized

C6 CQE Fish-up in 3A

- The SSC *recommends* that the document be released for public review, and further *recommends* the analysts:
 - Provide an analysis of the NMFS recommendation to allow C class vessels to fish CQE quota for the whole season without the limitations and costs of Alternatives 2 and 3.
 - Consider the precedent-setting nature of this action by projecting the impacts on other CQEs, communities, QS value, and individual IFQ holders.
 - Consider the following: use ownership addresses instead of home port for participating vessels
 - Replace the reference to *anecdotal information* with *local knowledge*.

C7 Observer Fee

- The SSC agrees that observer data are valuable and *recommends* that the document be released for public review with several revisions to enhance the assessment of the benefits of observer coverage facilitated by the increased fee.
- Many of the benefits arising from the collection of observer data that are discussed in section 4.4 are evaluated in a qualitative manner or within the context of the effects the fee on the representativeness metrics of the annual observer deployment plan.
- The SSC *requests* that the authors add information to the analysis that identifies the channels through which the proposed alternatives can generate benefits for the fleet. Analysts should attempt to quantify the largest sources of economic benefits to make clear to the public that they are receiving a return on their fee expenses.

D2 Salmon Stock Determination Criteria

- Revisions to the Salmon FMP are needed to comply with the Ninth Circuit Court's ruling to include the Cook Inlet net fishery
- The Council directed the SSC to review escapement-based status determination criteria (SDC) options and overcompensation analyses for consistency with NS 1 and NS 2.
 - NS 1 – “conservation and management measures shall prevent overfishing while achieving ... the optimum yield (OY) from each fishery ...”
 - NS 1 guidelines include specification of SDC so that overfishing and overfished determinations can be made for stocks and stock complexes
 - NS 2 – “conservation and management measures shall be based upon the best scientific information available”
- SSC review focused on Alternative 2 (Sec. 2.5.2 cooperative management with state) in discussion paper and a separate overcompensation analysis

Alternative 2 of Discussion Paper

- Salmon stocks are separated into three tiers:
 - **Tier 1** – stock-specific catches and escapements available
 - **Tier 2** – lack stock-specific catches; thus managed as a complex indexed by indicator stocks
 - **Tier 3** – no reliable estimates of escapement, but have reliable catch histories
- Control rules and status determination criteria (SDC)
 - **Tier 1 and 2** – based on escapement goals and includes estimates of MFMT and MSST; for Tier 2, estimates are aggregated for mixed stocks based on indicator stocks
 - **Tier 3** – ABC and OFL estimated from catch only, akin to Tier 6 groundfish stocks

SSC Comments on Alt. 2 of Discussion Paper

- Although still under development, **proposed SDC appear to be on track to meet MSFCMA requirements for National Standard 1**
- **Control rules used to estimate SDCs appear to be compliant with National Standard 2 by making use of the best scientific information available**, including the best data (e.g., catch, escapement, stock ID), models (e.g., S-R models) and analyses (e.g., escapement goals)
- Specific SSC comments include:
 - For Tiers 1 & 2, although MFMT and MSST are provided, OFLs and ABCs need to be explicitly defined
 - The document should address sources of uncertainty and should relate uncertainty to the buffer between OFLs and ABCs
 - It is unclear how catches in EEZ vs. state waters will be estimated

SSC Comments on Alt. 2 of Discussion Paper

- Additional specific SSC comments include:
 - Most salmon catches are taken in state waters, but control rules are estimated for federal waters only. Consider estimating SDCs on a stock-wide basis.
 - Proposed MFMT control rule is based on the lower bound of the MSY-based escapement goal range, which does not appear to be very conservative. Consider alternatives, such as Smsy.
 - Please clarify the current and likely future availability of genetic tools to allocate catches by stocks currently in Tiers 2 and 3.
 - Address whether marine mammal requirements for salmon as prey may necessitate considerations of prey thresholds (e.g., Steller sea lion set asides for groundfish).

SSC Comments on Alt. 2 of Discussion Paper

- SSC appreciates the opportunity for early evaluation of the potential changes in the salmon FMP for consistency with NS 1 and NS 2
- **The SSC requests a similar early look at Section 4.3, *Economic and Community Impacts of Salmon Fishing*, for an evaluation for consistency with NS 8 and associated relevant best scientific information available**

Overcompensation Analysis

- A separate report considered the evidence for overcompensation in the recruitment of for the Kenai River late-run and Kasilof River sockeye salmon stocks
- **Compensation** is tendency for population productivity to decline as spawner abundance increases – i.e., total numbers of recruits produced reaches asymptote.
 - ➔ Surplus escapement expected to result in foregone yield in current year, but no reduction in future recruitment
- **Overcompensation** is tendency for recruitment to decrease at high levels of spawning abundance
 - ➔ Surplus escapement expected to result in both foregone yield in current year, as well as reduced recruitment (and yield) in future years

Overcompensation Analysis

- Four alternative Ricker stock-recruit models fitted to two stocks
- For Kasilof River stock, strong support for an autoregressive Ricker model, which acknowledges that process errors may not be fully independent over time
 - ➔ $S_{msy} = 235,000$ sockeye; $MSY = 629,000$ sockeye
- For Kenai River stock, a marginally better fit was associated with a Ricker model with the brood year interaction that includes the statistical interaction term
 - ➔ $S_{msy} = 1.03$ million sockeye; $MSY = 3.14$ million sockeye
- Two general stock-recruit models were also fitted, which allow the data to indicate support for Ricker (can allow for overcompensation) or Beverton-Holt models (does not allow for overcompensation)
 - ➔ Upshot –little support for overcompensation in the two stocks

SSC Comments on Overcompensation Analysis

- The analysis of overcompensation is well done
- The SSC agrees with the conclusions of this overcompensation analysis, which include:
 1. Stock-recruit model fits are consistent with ADF&G's findings in their most recent escapement goal review for these stocks;
 2. Estimates of S_{msy} and MSY for the Kenai River and Kasilof River, respectively, and
 3. Limited evidence for overcompensation across the observed range of spawning abundances (escapements)

D4 Halibut Abundance-based Management

- The SSC commends the workgroup's effort to develop MSE model for evaluating ABM alternatives
 - The SSC strongly **supports** this analytical approach
 - The SSC **suggests** sensitivity analysis around assumptions about age-invariant natural mortality and constant PSC utilization rates
- The SSC **recommends** adopting an exploratory approach to understand the policy elements that generate the greatest policy contrasts
 - A hypothesis-based approach will provide greatest insight about the biological and behavioral mechanisms through which ABM affects performance measures.
 - Initial exploration should focus on policy scenarios rather than ranges of biological parameters.

D4 Halibut Abundance-based Management

- For reporting the exploratory analysis, **the SSC recommends:**
 - An explicit baseline biological scenario under status quo management, to demonstrate that it generates observed stock features
 - Reducing duplication in the performance metrics
 - Explain the mechanisms through which performance metrics change, in addition to reporting tables of performance metrics across various policy scenarios
- **The SSC is concerned** that an understanding of model behavior needs to be developed before recommending specification of policy alternatives, and thus **the model is unlikely to be ready to evaluate policy scenarios for for initial review in October**

D5 Economic Data Reports (EDRs)

- EDR data has been used in a variety of important applications
 - Program reviews; Economic SAFE reports; stock assessments; RIRs for Council actions
- **The SSC concludes EDRs are essential to meeting data and analytic requirements of National Standards 2, 4, 5, and 8**
 - They provide data for which there are no other sources or proxies
 - Especially cost and crew employment footprint information
- Experience can be leveraged to reduce reporting burden, increase data usefulness, and expand data utilization
 - The SSC notes that the North Pacific is far below the national norm in the rate of collecting cost data from the fleet

D5 Economic Data Reports (EDRs)

- The SSC **supports** analyst recommendations to:
 - Reduce EDR duplication with other data sources
 - Consider standardizing EDR variables across programs to reduce analyst learning curves and increase accessibility
 - Apply the standard rule-of-three confidentiality practice
 - Consider alternatives to third-party data verification
 - Clarify the goals of the EDR program to reduce the perception of disincentives to reveal management-relevant financial information
 - Increase visibility of EDR information through expanded inclusion in annual SAFE reports
- **The SSC recommends coordinating with the SSPT to evaluate data streams in the context of programmatic data gaps**

D9 Economic SAFE

- The SSC only reviewed the Groundfish Economic SAFE. A revised version of the crab economic SAFE that will be provided to the Crab Plan Team at their May 2019 meeting and will be available to the SSC for review at the June 2019 Council meeting.
- The SSC sees great utility in the Economic Report Card metrics and would like to see an expanded discussion of the changes or trends in indicators, along with the potential causes for some of the changes.
- Authors should strive to limit redundancy between sections.
- Authors should scrub the document for data consistency. (e.g., select a common time period for data extraction).

D9 Economic SAFE

- The price projections presented in Section 6 are a thoughtful way to provide updated price data.
- The process of comparing last year's projections to the realization of the most recent prices provides useful information on the robustness of the price "nowcast" estimates.
- It would be useful to see a larger number of price projections and realizations from past years in one table as the nowcasts continue to be published.
- Seeing the magnitude and direction of the prediction errors that arose could give some indication of bias in the estimates, volatility in the pricing, and the relative prediction accuracy across species or product forms.

D9 Economic SAFE

- The SSC particularly appreciates the responsiveness to comments from the SSC last year in Section 10 (Communities).
 - The SSC would prefer to see the specific fisheries these communities are engaged in or dependent upon for future policy analyses.
 - The SSC has suggested using a consistent approach, with community level information being presented to the degree possible but aggregated to the borough level where confidentiality restrictions dictate.
- The community sketches were very informative.
 - The SSC would prefer to see a standardized format in which the breadth of the available information dictates the length.
 - The SSC also recommends the addition of data that display the demographic differences, where relevant, between the general community population and locally present if relatively transient processing workers drawn from labor pools outside of the community.