December 1, 2018

re: Agenda items C2 GOA Groundfish Specifications and C3 BSAI Groundfish Specifications

Dear Chairman Kruse, Chairwoman Hollowed, and Members of the SSC:

The signatories below are active participants in the Bering Sea-Aleutian Islands and Gulf of Alaska groundfish fisheries. After attending the November 2018 BSAI and GOA Groundfish Plan Team meetings, we offer the following observations and points of concern for your consideration.

Risk Matrix Approach for Setting ABC < maxABC
In October 2018, when presented with the risk matrix approach for recommending a reduction from the maximum permissible ABC, the SSC stated that this approach would provide a clear classification of degree and basis for any potential reduction. SSC members also acknowledged that while assignment to a specific cell in the matrix would be subjective, clearly delineating the categories should improve transparency and help the Plan Teams and SSC structure future ABC decisions. At the time, we were hopeful this approach would help to eliminate some of the observed inconsistencies and lack of transparency (annually both within an individual assessment as well as between assessments for different species) when establishing an additional precautionary buffer to the maximum permissible ABC. However, after having now experienced the initial phase of this new approach, we have observed that inconsistency and a lack of transparency continue regarding recommendations for reducing ABC from the maximum permissible. Consistency and transparency do not involve simply doing the same thing year after year if that replicated approach does not align with the scientific process contained within the BSAI and GOA Groundfish FMPs. As seen in the execution of the species-specific examples below, the new risk matrix approach as applied to adjust the maximum permissible ABC appears to be inconsistent with the Council's established scientific process of using quantitative models for determining sustainable groundfish specifications.

The harvest control rules used to determine maxABC and OFL are defined in Amendment 56 to the BSAI and GOA Groundfish FMPs. Amendment 56 was developed to implement a precautionary approach to fisheries management. One of its principal attributes is the "buffer" created between the fishing rate that would produce the largest harvest over time (maximum sustainable yield; F_{MSY}) and the maximum allowed harvest with the rate of allowed harvest (F_{ABC}) lower than the MSY rate ($F_{MSY} = F_{OFL}$). When F_{MSY} is not known, the buffer is measured from an F_{MSY} proxy (e.g., the stock natural mortality rate or the $F_{35\%}$ harvest rate). Amendment 56 specifies the maximum allowable fishing (F_{ABC}) and overfishing (F_{OFL}) rates for each groundfish species (or species-complex stock) in a series of six Tiers based on the availability of reliable stock information.

Under Tier 1, which operates with the greatest amount of information, a reliable estimate of the stock-recruitment relationship is required. Also required are estimates of stock biomass and B_{MSY}, and a reliable description of the risk or uncertainties attending the variables involved in calculating F_{MSY}. In contrast, under Tier 5, applicable when reliable information on the effects of fishing is limited, the maximum permissible ABC is commensurate with fishing at a maximum rate 25 percent below the rate of natural mortality. Further, a Tier 6 classification applies to stocks for which the only reliable information available is historic catches. For these stocks, maxABC is set equal to 75 percent of the average catch during a specified set of years. This schedule of harvest control rules intentionally allows NMFS and the Council to employ a management strategy that provides for slightly more aggressive harvests on those stocks where a relatively large quantity of high-quality, reliable information is

available. To this end, a primary objective of the Amendment 56 harvest control rules was to reduce the possibility that a groundfish stock could become depleted due to allowed harvests. Specifically, the Tier 1-3 harvest control rules include a provision to rebuild stocks to the target reference point via an automatic reduction in fishing rates when biomass is lower than the target reference point. This automatic rebuilding factor serves to reduce the maximum exploitation rate in rough proportion to the size of the most recent spawning biomass estimate. For Tier 1 stocks, the automatic rebuilding algorithm adjusts F_{ABC} when stock biomass is determined to be below B_{MSY}. In this way, the ABC depends on the state of the stock.

From a sustainability perspective, a risk matrix should be used as a critical thinking and evaluation tool for deciding whether an additional uncertainty buffer, beyond that already encapsulated by the Amendment 56 groundfish harvest control rules and Tier classification system, is warranted. Completion of the risk matrix for a particular groundfish species should not automatically equate to a reduction in the maximum permissible ABC, nor should it be applied after the fact to justify a predetermined outcome. The groundfish Tier system was designed and implemented to: 1) compensate for uncertainty in estimated fishing mortality rates at a level of MSY by establishing fishing mortality rates more conservatively as biological parameters become more imprecise; 2) relate fishing mortality rates directly to biomass for stocks below target abundance levels so that fishing mortality rates fall to zero should a stock become critically depleted; and 3) maintain a buffer between ABC and the overfishing level. The Tier system is intended to advance the ability of the Council to balance achieving optimum yield on a continuing basis with use of the best scientific information available as required under the Magnuson-Stevens Act.

To this end, members of the BSAI and GOA groundfish industry believe that any recommended reduction from the maximum permissible ABC should be a high bar of consideration accompanied by compelling reasons identified for achieving a specific, quantitative biological/stock or ecosystem objective. For example, this year a 45% maxABC buffer for sablefish was recommended and approved by the Joint Plan Team in order to achieve a spawning biomass $B_{40\%}$ target over the next two years. In addition, while the assessment author did not specifically apply the risk matrix, a 13.6% maxABC buffer for GOA Pacific cod was recommended and approved by the GOA Plan Team so that the stock continues to have a greater than 50% probability of remaining above $B_{20\%}$ (if the stock falls below $B_{17.5\%}$, the fishery is considered overfished and a rebuilding plan is required regardless of cause for the decline). We understand these two ABC recommendations below the maximum permissible. In addition, for both of these stocks, the actual fishery performance is aligned with the scientific concerns highlighted in the assessment. For the following three stocks, we disagree with the reduction from max ABC as derived from the stock assessments and hope that the SSC will consider our concerns in its deliberations.

EBS Pollock
EBS pollock stakeholders continue to question the use of a Tier 3 control rule for establishing a maxABC buffer to a Tier 1a stock that is currently estimated to be 136% of Bmsy. Under this approach, some important questions are raised: 1) What will be the approach for establishing a maxABC buffer if the EBS pollock stock faces a period of extreme concern? 2) How is this approach compatible with Yellowfin sole and Northern Rock sole as the other Bering Sea Tier 1a stocks (no maxABC reduction was recommended for either of these two flatfish species)? Much of the stated rationale for using a Tier 3 ABC for EBS pollock surrounds the uncertainty associated with the stock-recruitment relationship. However, it is our understanding that this uncertainty is already appropriately propagated in the stock assessment model through the use of a conservative prior on the steepness function. The current stock assessment estimates SPR at F_{MSY} of 30%, which is only slightly less than the default proxy of $F_{35\%}$ and

consistent with a natural mortality rate proxy. Adding an additional Tier 3 ABC buffer to the model output results in multiple buffers for the same inherent source of uncertainty.

In December 2017, the SSC noted that for EBS pollock, it is imperative that strong, plausible rationale be given for the large reduction for EBS pollock and to elaborate on the rationale associated and provide better quantitative and qualitative support for what was a 28% maxABC reduction recommended and approved last year. This is critical for all stocks, but especially for the largest commercial fishery in the U.S. While the industry greatly appreciates the work of the plan team and stock assessment authors every year, it was disconcerting to have an alternative ABC recommendation presented during the BSAI Plan Team meeting that was not included in the draft stock assessment available to the public. It was further disconcerting that the Plan Team members accepted this recommendation without any discussion. Using the risk matrix approach, the assessment authors originally recommended a 15% maxABC reduction under a Level 2 identified concern. A 30.1% percentage buffer from the maximum permissible ABC (realized under the Tier 3 control rule) on a Tier 1a stock with a Level 2 risk matrix concern does not serve to eliminate inconsistency or improve transparency in the process.

EBS Pacific Cod
After clear, well-articulated rationale by the author supporting the recommendation for establishing ABC at the maximum permissible, it is concerning to EBS Pacific cod stakeholders that the BSAI Plan Team instead chose to reduce from max ABC by 20%. In considering whether to set the ABC to maxABC, the assessment author pointed to SSC guidance from December 2017 on reducing ABC for the stock. The author noted that in 2017, the SSC concluded no reduction was warranted for the 2018 ABC despite a 5% decline in the combined EBS and NBS survey biomass and uncertainties about key indicators for the stock, including the persistence of the NBS biomass and the genetic relationship between EBS and NBS cod. In considering the 2019 ABC, the author cited quantifiable improvements on each of these points: the combined EBS and NBS survey is up 15%, the persistence of the NBS biomass has been corroborated (2018 survey), and the EBS and NBS fish have been shown to be genetically similar (Spies, et al). While not the only indicators of the health of the stock, the assessment author noted that the 2019 maxABC already constituted a 10% decline from the 2018 ABC, with a further decline projected in 2020.

Based on these factors, the author concluded that no further reduction from the 2018 ABC was justified. We were disappointed that the Plan Team, after selecting the model (16.6i) that best fit all four of the author's model selection criterion, nonetheless concluded that there was a need to set the ABC below the maxABC. Contrary to sablefish or GOA Pacific cod, no specific biological goal was cited by the Plan Team for reducing the ABC, let alone by 20%. Many of the concerns raised by Plan Team members were already considered by the assessment author when deciding to maintain the maxABC, while others, such as the potential double counting of cod by the survey, lack scientific evidence to support the concern. The risk matrix was then completed after the decision was made to reduce the ABC. In justifying the reduction, the Plan Team minutes note that the 20% reduction is similar to the average ABC from the four models considered to be selected. We find it concerning that a specific reduction would be justified on a simplistic averaging of the selected model and three lesser options, particularly without consideration of a model weighting scheme, which is identified by the SSC as a key component of ensemble modeling. It's unclear what scientific justification this offers for the Plan Team's reduction from the maxABC.

GOA Pollock

GOA pollock stakeholders note the lack of Plan Team consensus regarding use and application of the risk assessment matrix for this stock, which ultimately resulted in a recommendation for a 14.3% buffer from the maximum permissible ABC. While some Plan Team members supported the maximum permissible ABC projected from the assessment model, others supported a reduction in maxABC as was recommended by the assessment author. While acknowledging the assessment author's stated concerns, fishery participants are encouraged by the current healthy status of the GOA pollock stock both in numbers and size of fish. The 2018 acoustic survey indicates the second largest biomass in 30 years and the model estimate of female spawning biomass in 2019 is 62% of the unfished spawning biomass level (well above the 40% spawning biomass target level). It is worth noting that the 2018 Shelikof Survey missed the peak spawning period in 2018 with 45% of the adult females being spent, thus, the biomass estimate from the survey was most likely an underestimate of actual stock size. Additionally, acoustic survey results for the last three surveys (2017 winter, 2017 summer, and 2018 winter) show consistent high levels of pollock biomass, which matches recent fishery performance with participants reporting the best fishing in decades. As such, it is unclear what biological/stock goal will be achieved under a 14.3% maxABC buffer.

In summary, recommending a reduction from the scientifically derived maximum permissible ABC for a species is clearly warranted at times, but without a specified biological/stock status goal and with stocks well above biological targets, it should be very carefully considered and supported by strong rationale. Fishery stakeholders in the North Pacific have supported sustainable management for decades, understanding that these decisions have significant effect on fishery participants, dependent communities, and optimum yield for the nation's largest fisheries. We believe that the new risk matrix approach needs fine-tuning and clearly articulated guidelines for adjusting the maximum permissible ABC before its use within the specification setting process, whether that application is done at the Plan Team or SSC. In its initial application, we do not believe clarity or transparency has improved and feel an evaluation on the intent of the risk matrix versus its observed execution is necessary. The examples above illustrate our concern with the ad hoc nature of the risk matrix approach and resulting ABC recommendations based upon unquantifiable subjectivity that ultimately results in negative quantifiable impacts to fishery-dependent stakeholders. In this way, we agree with the GOA Plan Team minutes that state there are "Substantial concerns on how to implement the risk matrix." It is difficult to translate a qualitative matrix into a quantitative action. However, we do not fully agree with the statement that the "Risk matrix represents a new approach in formulating additional risks to the stock that are not inherently captured in the stock assessment model." The risk matrix should not be singularly focused on formulating additional risks. If the risk matrix is to be utilized going forward, it should be used as an evaluative tool for analyzing whether there is profound need for applying a further buffer on the maxABC for a stock. A key question that should be asked (and answered) by assessment authors, Plan Team members, and the SSC is how are the identified concerns (from the risk table) not adequately being accounted for under the Amendment 56 harvest control rules and/or an intentionally precautionary model structure such that an additional buffer is warranted?

Given the multiple concerns highlighted above, the signatories below would like the SSC to consider these factors in their deliberations to determine the 2019-2020 ABCs for EBS pollock, EBS Pacific cod, and GOA pollock, specifically regarding whether maximum permissible ABCs are more appropriate as projected by the recommended stock assessment models. Scientific integrity and accountability form the foundation of the Council's groundfish specifications process and we support maintaining this process through a consistent, transparent, well-articulated, and systematic approach.

Thank you for your time and consideration.

Sincerely,

Ruth Christiansen
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Ruth Christiansen, United Catcher Boats

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Julie Bonney, Alaska Groundfish Databank

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Chad See, Freezer Longline Coalition