

Minutes of the Joint Meeting of the Plan Teams for the Groundfish Fisheries of the Gulf of Alaska (GOA) and Bering Sea Aleutian Islands (BSAI)

North Pacific Fishery Management Council
 1007 West Third, Suite 400
 Anchorage, Alaska 99501
 November 15, 2021

Groundfish Plan Team Membership:

BSAI Team		GOA Team	
Grant Thompson	AFSC REFM (co-chair)	Jim Ianelli	AFSC REFM (co-chair)
Steve Barbeaux	AFSC REFM (co-chair)	Chris Lunsford	AFSC ABL (co-chair)
Diana Stram	NPFMC (coordinator)	Sara Cleaver	NPFMC (coordinator)
Mary Furuness	NMFS AKRO	Obren Davis	NMFS AKRO
Alan Haynie	AFSC REFM	Craig Faunce	AFSC FMA
Allan Hicks	IPHC	Lisa Hillier	WDFW
Lisa Hillier	WDFW	Pete Hulson	AFSC ABL
Kirstin Holsman	AFSC REFM	Sandra Lowe	AFSC REFM
Phil Joy	ADF&G	Nat Nichols	ADF&G
Andy Kingham	AFSC FMA	Jan Rumble	ADF&G
Kalei Shotwell	AFSC ABL	Paul Spencer	AFSC REFM
Cindy Tribuzio	AFSC ABL	Marysia Szymkowiak	AFSC REFM
		Kresimir Williams	AFSC RACE
		Andrew Olson	ADF&G

Administrative/Intro

Documents and presentations: The Joint meeting for the Groundfish Plan Teams (“Teams”) began on Monday, November 15, 2021 at 9:00am PST. Participation was remote via Adobe Connect. Roughly 95 people attended the meeting, but attendance varied throughout the meeting. All SAFE documents were posted to the [AFSC draft assessments page](#), and all other documents provided prior to or during the meeting as well as presentations given during the meeting were posted to the Teams’ [electronic agenda](#).

Minutes guidelines: Jim Ianelli reminded members to follow the Teams’ most updated guidelines for minutes.

Future meetings: Tentative dates for 2022 meetings are: September 19-23 and November 14-18.

Council updates: Sara Cleaver provided Council updates to the Teams. First, the SSC has finalized guidance on use of risk tables in groundfish stock assessments. Diana Stram sent this guidance out after the October Council meeting. If others need a copy of the guidance please email Diana or Sara. Items coming up at the Council’s December meeting in addition to final groundfish harvest specifications

include: Annual halibut charter measures, halibut abundance-based management in the BSAI, and consideration of an emergency action request to extend the Red King Crab Savings Area.

EBS/NBS Survey

Duane Stevenson summarized results from the 2021 trawl survey of the EBS and NBS, conducted May 31-August 16, 2021. Basic survey structure and data collection were reviewed. Changes in biomass and abundance were reviewed as were length and spatial distributions of pollock, Pacific cod, yellowfin sole, northern rock sole, and Alaska plaice.

Special projects that were covered included the NBS Pacific cod PSAT (tagging) project and some movement data from recovered tags were shared. A comparison of 15- and 30-minute trawl hauls were conducted to improve efficiency of the surveys and results are currently being analyzed. Lastly, the presenter described research on examining fish condition using a FatMeter and a study of physiological stress using blood chemistry and mucus.

The Teams inquired about the effects of the pandemic on surveys and were informed that although covid complicated planning and preparatory work, surveys were successfully conducted with no effect on methodology. The Teams also asked about the consistency of survey dates and were assured that the trawl surveys start reliably around Memorial Day in the EBS and then move on to the NBS afterwards. The Teams asked about limitations of stress and fat research during the narrow time frame of the survey and suggested reaching out to processors who measure oil and fat content in order to cover a broader portion of the annual cycle. The Teams also asked about cooperation with Russian counterparts to gain a more holistic understanding of the basin. Duane responded that efforts have been made and are ongoing, but thus far have been unsuccessful.

A separate presentation was given by Lukas DeFilippo on the effects of removing corner stations from the EBS survey grid to reallocate those resources elsewhere. Several analytical approaches were performed (design based and model-based using empirical data and simulations) and demonstrated that removing those stations had minimal impact on estimates of groundfish biomass, with the exception of yellow Irish lord. The Teams found the presentation very persuasive and were generally in favor of removing those stations to use the resources elsewhere, pending acceptance by the Crab Plan Team (CPT) and SSC. Comments from members of the CPT present urged caution given that the presentation has not been made to the CPT yet, and the effect of dropping those surveys from crab assessments has not been presented. The ecological importance of the area was also highlighted. It was acknowledged by the Teams that no changes should be made without acceptance from the CPT, who will be presented with the analysis in January 2022. The presenters also provided assurances that if corner stations are dropped, reallocation of resources would likely be used to address other questions regarding crab stock assessment that may be higher priority.

Essential Fish Habitat

Jodi Pirtle provided an update of the iterative review of components 1 (EFH descriptions and maps) and 7 (prey species lists and locations) of the 2022 Essential Fish Habitat 5-year Review. The next steps in the EFH process are presentations to the Crab Plan Team and Ecosystem Committee in January 2022, and to the SSC in February 2022. The Teams thank the EFH analysts for the development and application of the EFH models, the responsiveness to stock assessment author reviews, and for the detailed report describing the review process.

Comments on Assessments in General

The Teams acknowledge the added challenges of conducting stock assessments during the recent pandemic and under extended telework. Authors cannot “walk down the hall” to discuss assessment issues and are often working somewhat in a vacuum. The Teams recognize these challenges and the impacts they may have on assessment reviews. The Teams suggest that informal reviews be conducted out of cycle, so that they are not part of the crunch at assessment deadlines.

With staff retiring, new hires, and staff changing assessments, authors have highlighted a need for more transparent and reproducible assessments. To this end, the Teams encouraged authors to collaborate on issues they have in common to develop shared tools for use by all authors. Examples of these tools could include data extraction and processing scripts, data weighting methods and tools for deriving these weights, assessment model code and guidelines for model evaluation, use of dynamic reporting templates for SAFE documents such as with R Markdown, and development of stock assessment teams for standardizing groups of similar assessments (e.g., development of a generic flatfish model). The Teams support this effort as it will likely lead to more efficient, consistent, and streamlined assessments.

In the context of the sablefish ESP, the Teams discussed how management changes may not be able to be distinguished from biological changes in some of the indicator time series, as in the case of high incidental catch of small sablefish in the BSAI. This indicator could be reflective of shifts in the fish distribution, changes in fleet behavior, or changes in management, and therefore is a challenge to categorize within the ESP. The ESP is used to report the indicator, not necessarily to explore the causality, which falls within the purview of the stock assessment. The Teams noted that some indicators may have ambiguous impacts on the stock. For example, the decrease in BSAI incidental catch could be interpreted as “good” because the fleet behavior has changed, but could also be interpreted as “bad” if considered an indicator of a decrease in abundance of small sablefish.

The Teams recommend that, for ESPs in general, when a fishery performance indicator may have ambiguous interpretations, no traffic light color coding should be assigned, but the scoring (which is indicative of a trend, but not the relationship of the indicator to stock health) should be maintained.

Sablefish

The sablefish agenda item began with a presentation by Kalei Shotwell on the Ecosystem and Socioeconomic Profile (ESP) of the sablefish stock for the first time in a Report Card format. This simplified template included current year data, although some indicators were missing, and a “traffic light” status indicator.

The Teams noted that changes in behavior due to observer restructuring in 2013 likely had impacts on some fishery performance indicators.

The Teams recommend that the authors explore the impacts of the 2013 switch to a new deployment plan and subsequent coverage changes on CPUE.

Dan Goethel presented the full assessment of sablefish. The recommended model (21.12) is an update of model 16.5 and includes a time block for a survey (and fishery CPUE) selectivity change in 2016. This also represents a slight modification of the model that the authors recommended at the September Joint Plan Team meeting (Model 21.10). The change from Model 21.10 is the use of an age-based GLM to estimate maturity *without* incorporating information on skipped spawning. The recommended model improved the fit to the survey indices and better stabilizes the recruitment estimates as demonstrated in retrospective analyses. Dan noted that the proposed model fit the composition data worse at younger ages.

He pointed out that small sablefish began appearing in larger numbers in deeper depth strata (i.e., > 400 m) on the annual longline survey in those years. The Teams discussed how the distribution of stations in each depth bin may affect this result, and survey staff noted that all stations sample down the slope, with approximately half of the sets shallower and half deeper than 400 m. The Teams noted that, in the Western GOA, small sablefish first showed up in shallower depths, but have now expanded their distribution to deeper depths. Dan noted that this appears to be a recent development and could be indicative of a change in the ecosystem and distribution of forage or expansion to adult habitats at smaller sizes due to their higher densities.

The Teams discussed the issues related to how estimated year class strengths changed over time. Two hypotheses were posed: 1) that natural mortality is higher than assumed; or 2) selectivity and availability have varied. The authors' recommended model included changes in selectivity and availability. Dan explained they had explored natural mortality in alternative models, but more work was needed to parameterize age-specific natural mortality rates.

The model is disaggregated by sex, but a 50:50 sex ratio was assumed. The Teams suggested research into sexual dimorphism including an evaluation of whether the sex ratio has changed over time. Presently the proportions at length (and age) are by sex instead of over sexes. Dan pointed out this was already high on the priority list for research.

The authors explored the impact of leaving out individual survey time series (i.e., the longline survey, fishery CPUE, and the NMFS GOA bottom trawl survey; Fig. 3.54). This type of exercise was useful to illustrate how recruit estimates and trend information are affected. Dropping the longline survey was most sensitive, especially relating to the recent recruitments after 2013.

The Team noted that maturity-at-age, including the influence of skip spawning, should remain a research priority.

The Teams discussed performance metrics for different sablefish catch strategies. For example, alternative management measures could be developed which consider more explicitly the population age structure by areas. An MSE, including what has already been done, could inform apportionment-related decisions. Dan noted that MSE work is planned to cover these factors and they are seeking to fill a post-doc position for this purpose.

The Teams supported the authors' planned research to develop an MSE.

The author highlighted potential data concerns, including: availability of logbook data, incorporation of electronic monitoring (EM) data, the transition to pot gear, and biological sample collections from both trawl fisheries and from vessels participating in the fixed-gear EM program (or lack thereof). The International Pacific Halibut Commission (IPHC) provides voluntary reported logbook data to the AFSC for use in the sablefish stock assessment. These data are always a year delayed, but the 2020 logbook data were not available in time for incorporation into the 2021 assessment. While these data do not substantially impact the model, they provide critical information for the stock assessment, including whale depredation data, and may be used to inform future apportionment.

The Teams agree that the fishery CPUE and logbook data are valuable to the assessment and recommend that the agencies involved prioritize access to these data so they are available with sufficient time to be incorporated into the assessment.

The fixed-gear fleet has undergone, and will continue to exhibit behavioral changes. This impacts the data streams for this assessment. Vessels are voluntarily participating in the EM program in favor of carrying

at-sea observers. This shift reduces the number of vessels that can carry observers, which in turn reduces both the haul level data used in assessments, and biological sampling. EM data are collected differently from at-sea observer data, and currently cannot be incorporated into a CPUE index for the assessment. Similarly, the fleet is transitioning to pots, a gear type not historically modeled in the assessment, and further complicated by vessels fishing different types of pots (e.g., rigid or slinky/collapsible). The Teams support development of methods to incorporate both EM and pot gear data into the assessment. Biological samples are not available from EM vessels, nor from trawl fishery bycatch. The Teams support discussions with FMA to determine if sampling from either fleet is possible. The Teams also suggested analyses which: examine historical catch data to see if there are any correlations between small fish and trawl catch during large recruitment events; incorporate uncertainty in catch by areas (i.e., the proportion of catch in each area); and the impact of using a fixed F ratio among the fleets.

The Teams agreed with the authors' recommended model, 21.12, and the ABCs and OFLs proposed (with the whale depredation included).

The Teams discussed the potential for expansion of current alternative harvest scenarios demonstrating possible impacts on future ABCs. An expanded analysis could ultimately include economic impacts (separate from ABC discussions). This type of analysis could demonstrate tradeoffs of future harvest levels on quantities other than just fishing effort, spawning biomass, and ABC.

The risk table was updated and the Teams agreed with the authors' reported risk levels.

The Teams discussed including information on economic tradeoffs in the fishery performance section of the risk table, but also noted that this information would be more appropriate to TAC discussions than ABC discussions.

The Teams agreed with the authors' recommended apportionment strategy. The Teams noted that the whale depredation model will need to be revisited as data streams change with changes in observer coverage due to EM and availability of whale depredation information in logbook data. The apportionment is currently in the second year of a 4-year stair step from the previous fixed-apportionment strategy to the 5-year survey average strategy. The Teams historically examine apportionment from a biological standpoint, and given the stair-step procedure, it is possible that a scenario could occur where at the end of the 4 years there is a much smaller proportion of small fish in the Bering Sea. The author noted that the 5-year average strategy is designed to dampen the effects of such hypothetical swings.

Economic SAFE

Ben Fissel presented the Economics SAFE Report, which is similar in format to recent years. Data for the Economic SAFE are available here <https://reports.psmfc.org/akfin/f?p=501:2001> – thanks to Jean Lee. Also available are a broader set of related data and data visualizations at the AKFIN/AFSC Human Dimensions of Fisheries Data Explorer (<https://reports.psmfc.org/akfin/f?p=501:2000>).

The SAFE updates available economic information for 2020; as always, there is a one-year delay in most economic data. The SAFE includes 2021 current-year price projections and figures that compare inseason catch rates throughout the year.

Market profiles were done in collaboration with McKinley Research Group; the economic SAFE chapter information provided to the Teams is complete through 2020. An updated, more current report will be available early next year. It will go into further detail about tariff and COVID-19 impacts and will be in next year's economic SAFE. The authors have also created Economic Performance Reports (EPRs) that give stock-specific socioeconomic information, some of which have been incorporated into ESPs. Content

is still evolving. The Annual Community Engagement and Participation Overview (ACEPO) [Report](#) will be presented at the February SSC Meeting.

Ben presented a variety of 2020 summary statistics and trends and discussed revenue impacts from COVID-19, which included a notable decrease in prices for many of the products with significant exports to Asia. The Teams asked about the role of tariffs, and Ben noted that for Atka mackerel, for example, tariffs were significant issues in late 2019 and early 2020. Some impacts were not COVID or market related; catch / TAC was within a typical range, except for BSAI pollock where fish were apparently more dispersed which, along with other factors, led to poor fishing conditions.

A COVID-19 voluntary i-mpact survey of harvesters and processors was conducted by McKinley Research Group, although the extent to which this survey is representative is unclear. Salmon harvests were heavily represented among respondents and the survey did not break results down by species.

The Teams commended the author and ESSR for their contributions, especially the website presented as part of AKFIN. The Teams briefly discussed the SSC October 2021 suggestion “that it may be prudent to undertake a comprehensive review of how socioeconomic information is incorporated in a range of evolving Council decision-informing products” and to consider holding a regional workshop similar to the national Socioeconomic Aspects in Stock Assessment Workshop (SEASAW).

The Teams agree that it would be useful to have a coordinated effort to improve the integration of socioeconomic work, but recommend that this be done in careful consideration of existing workload as part of the process and that a broad discussion with NOAA, SSPT, and Council staff be undertaken in this planning process.