NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
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Report from the Joint Meeting of the Groundfish Plan Teams

November 16, 2026

BSAI Groundfish Plan Team Members:

Steve Barbeaux	AFSC REFM (co-chair)	Kirstin Holsman	AFSC REFM
Kalei Shotwell	AFSC REFM (co-chair)	Andy Kingham	AFSC FMA
Cindy Tribuzio	AFSC ABL (vice chair)	Beth Matta	AFSC REFM
Diana Stram	NPFMC (coordinator)	Andrew Seitz	UAF
Lukas DeFilippo	AFSC	Jane Sullivan	AFSC ABL
Allan Hicks	IPHC	Andrew Olson	NMFS AKRO
Lisa Hillier	WDFW	Andrew Whetten	ADF&

GOA Groundfish Plan Team Members:

Jim Ianelli	AFSC REFM (co-chair)	Lisa Hillier	WDFW
Chris Lunsford	AFSC ABL (co-chair)	Pete Hulson	AFSC ABL
Sara Cleaver	NPFMC (coordinator)	Nat Nichols	ADF&G
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Introduction

The Joint Bering Sea Aleutian Islands (BSAI) and Gulf of Alaska (GOA) Groundfish Plan Teams met at the Alaska Fisheries Science Center, Seattle, WA on November 16 and 20, 2026 to review a joint agenda of information to inform groundfish harvest specifications for 2027-2028. All Teams members were present (in person or remote) with the exception of one member of the GOA team on sabbatical. Between 20 - 60 members of the public, state and agency staff were also in-person or online throughout the meeting.

Council updates

Sara Cleaver and Diana Stram provided an overview of upcoming Council activities and noted meeting dates for next year: Virtual meeting September 20-24(t) and in person November 15-19.

Economic Report

Rusty Dame presented the economic report and the Teams and public discussed the following questions:

- **Rockfish grouping.** Rusty explained that "other rockfish" included all rockfish except those analyzed separately. This grouping differs from the managed Other Rockfish stock complex.
- **Engagement indices.** Rusty said he believed the indices drew on both federal and state fisheries and would confirm. He clarified that the indices exclude Community Development Quota (CDQ) groups.
- **Seattle-based ownership.** Rusty acknowledged that the treatment of Seattle-based ownership was a limitation of the analysis. The ACEPO authors are discussing how to address it.
- **Ex-vessel and wholesale values.** Rusty suggested that capital investment, labor costs, and competition among buyers could all contribute to the widening gap between ex-vessel and wholesale values.

- **Catcher/processor prices.** There is no observable ex-vessel price for catcher/processors because they process their catch onboard and sell the processed product. The analysis uses estimated ex-vessel prices for some species, such as Atka mackerel, to allow comparisons across species. The report cards omit those estimates.
- **Principal component analysis.** Rusty said the first principal component often explained more than 80% of the variation in engagement. In one crab example with few communities, the first component alone did not capture engagement well, so the second component could also be considered.
- **What changed since June.** The current report includes data through 2025, while the June version included data through 2024. The government shutdown delayed the update.
- **Amendment 80 data.** Rusty welcomed an offer to help with Amendment 80 economic data.

Ecosystem Status Reports (EBS, AI, GOA)

Elizabeth Siddon (BS), Ivonne Ortiz (AI), and Bridget Ferriss (GOA) provided summaries of the Ecosystem Status Reports (ESRs). No red flags were noted for any of the regions in 2026.

The Teams made no formal recommendations but discussed the following ideas for future work:

- For all regions, the Teams suggested additional work on the MOM6 Eddy analysis and to work with the MOM6 team to develop eddy indices that provide information on biological productivity. The Teams appreciate the effort of the MOM6 Team and look forward to seeing continued development of products/indicators in the future.
- The Teams appreciated the GOA ESR recap of the 2025 key messages. For the future, the Teams suggested exploring a retrospective quantitative measure of how well forecasts are performing.
- In the GOA, the Teams continue to recommend exploration of ecosystem dynamics between EGOA (closed to trawling) and CGOA/WGOA (open to trawling).
- In the GOA, the Teams suggested further evaluation of the seabird catch of zero catch in 2025. In the future, it would be helpful to report catch by gear as well since the majority of seabird catch is assumed to be by hook and line.

Sablefish Assessment

Dan Goethel and Matt Cheng presented the sablefish assessment for 2026 and recommended model 26.2_FAA for management advice. They also presented alternative allocations of the coastwide ABC into area-specific BRDs.

Model 26.2_FAA is built from model 25.12 which was preliminarily reviewed and endorsed by the Plan Team in September 2025 but was never explicitly recommended for management due to the 2025 Federal Shutdown. That model introduced changes to M that are the source of much of the sensitivities and reduction in spawning biomass and catch advice in subsequent models, including model 26.2_FAA, which was the author-recommended model. The Teams discussed this and agreed that between the CIE review that occurred in 2026, as well as the preliminary Plan Team review in September 2026, they had enough information to say “the bridges have been built” and they accept the changes re: the changes to M that occurred between 23.5 and 25.12 and moving forward to model 26.2_FAA was appropriate.

Model 26.2_FAA downscales the overall biomass estimates and reference points compared to previous models. The authors attribute this downward scaling to a) the removal of the interpolated longline survey indices that were done in the previous models, and b) disaggregation of age composition data by sex.

The Teams noted that a Fleets-As-Areas (FAA) model is structured such that the longline survey indices are region-specific instead of interpolated (over missing years) for the entire stock and area. Each regional index thus can better acknowledge missing years and, importantly, have distinct selectivity according to age-specific abundance within each region. The authors also identified that splitting compositions into each area results in a reduction of the effective sample size.

New simulation results were presented that were not available in the document, and showed improved performance of estimates in the terminal year for fleets-as-areas models. Fleets-as-areas models tend to explain the transitions between low and high abundances better. These simulations are informative for looking at specific differences in fleet structure, but many assumptions are the same for the spatial operating model and the estimation models.

M is a major source of uncertainty in spawning biomass and catch advice, but is significantly constrained in the assessment model because when estimated it results in unrealistic estimates. The assessment authors mentioned that there has been limited research on estimating M in the past and some changes in weights on various likelihoods showed better ability to estimate M. However, there was insufficient time to continue this exploration for this assessment. The Teams revisited a past discussion about ways to use an M-at-age.

A Team member questioned if using a temperature covariate on growth had been attempted. The author responded they would be very hesitant to do this on a stock that is so variable, mobile, etc.
The Teams discussed the effects of using periods of mean recruitment and time-varying selectivity on reference points. Specifically, the phase plot of fishing mortality vs biomass may be inaccurate because the reference points change throughout time based on what period of mean recruitment is used and what selectivity is assumed. It may be possible to calculate the points on an annual basis, but this was not discussed. The Teams did note that some recent research suggests that moving reference points may present some risks to management. The authors noted they had previously attempted time-varying selectivity for the fishery, but it proved difficult to get the model to converge. The Teams suggested they try some alternative time blocks on time-varying selectivity.

The above conversation began with a question from the public asking “does it seem reasonable that the spawning biomass was lower from about 2005-2015 during a period of more consistent data and stable biomass.” Another related question from the public asked how the stock was sustainable if it was overfished for 15 years during that period. Past models did not show the stock was overfished or overfishing was occurring at that time.

Another question from the public asked if the presence of a GOA survey and/or a better survey would impact the author’s confidence in the projections for next year. The authors responded that simulations showed less uncertainty with comprehensive survey estimates and another survey would increase their confidence.
A member of the public asked if the GOA TAC was set above the BRD and the total mortality was less than the coastwide ABC, would this result in biological harm. The authors responded that it would unlikely cause biological harm, especially if it was a short-term departure.

A final question from the public was if increasing fishery age sampling would help with this assessment. The authors noted that from the collected otoliths, a subsample is selected and aged. Therefore, more otoliths are collected than are used in the assessment due to limited capacity in the age and growth program. It was confirmed that observers are collecting, and will continue to collect, more sablefish otoliths than can currently be aged. However, increasing the number of ages in the assessment would likely reduce uncertainty.

The Teams had considerable discussion of allocation and defining BRDs in the context of the C-5c Council motion from October 7, 2025. One point of that motion is:

If the Council anticipates any stocks or stock complexes where it may want to deviate from BRDs when setting TACs, it intends to use the October/December harvest specifications process to seek quantitative or qualitative input from the Plan Teams and SSC. Useful information from the SSC could include whether the previous year's BRDs, or small changes from the current SSC-recommended BRDs, would be likely to result in biological impacts to the stock or stock complex.

A member of the public commented that the discussion on BRDs was helpful regarding flexibility, and noted that there are additional fleet/user restrictions within the apportionments that can cause issues. The Teams noted that this is outside of the purview of the Teams to recommend BRDs on factors other than biological considerations.

The Teams acknowledged the current MSE work for sablefish as an example of how to investigate management approaches for a coastwide stock where the FMPs are not specified for management with a spatial model.

The Teams recommended using the 26.2_FAA assessment model for management advice in 2027, noting that this model is new for 2026, changes assumptions of natural mortality, incorporates the longline survey regional data with fewer assumptions than a coastwide model, and is supported by closed-loop simulations compared to a single region model. Some of the major changes for 26.2_FAA compared to the last assessment model used for management (23.5) is conversion to SPoRC as a modelling platform, a reduction in the central tendency of the natural mortality (M) prior, removal of some data, fitting age compositions for each sex, asymptotic selectivities, and the use of fleets-as-areas to model the longline survey data without interpolated data.

The Teams recommended examining residual patterns in age and length compositions and consider time-varying selectivity using environmental covariates or alternative time blocks to improve the patterns in 26.2_FAA. The Teams recommends conducting additional sensitivities to M including examining a stage-based M parametrization and conducting a likelihood profile on M without a prior to examine the information of each data component related to M.

The Teams supported an increase in ageing capacity at AFSC to support additional ageing of samples for sablefish that are already collected. This is important for sablefish management because more ages could reduce uncertainty in the stock assessment. It was noted that the fleets-as-areas model splits age compositions into multiple regions which results in smaller sample sizes per region. Age data from different regions may provide disparate indicators of recruitment and other population dynamics. In alignment with recommendations from the 2026 CIE review, the Teams supported the use of simulation exercises to evaluate appropriate sample sizes and determine optimal subsampling across areas.

The Teams supported the author-recommended apportionment and noted that short-term departures in BRDs from biological distribution would likely not result in sustainability concerns. In particular, the Teams did not see an increase in risk departing from the distribution of what would have been the previous year's BRDs (they were not called BRDs at that time) for next year, with the intent to move towards biological distribution in the future. The Teams discussed whether maintaining the GOA at a harvest level comparable to 2026 could be supported biologically despite the lower 2027 coastwide ABC. The Teams sought to distinguish its scientific evaluation of biological risk from allocation decisions reserved for the Council. Members considered the 2026 GOA TAC as a potential upper bound for a temporary redistribution. Discussion also emphasized that any adjustments must remain within the coastwide ABC derived from the recommended assessment. The Teams agreed that a bookend departure from biological distribution such that the BRDs in GOA would not exceed the 2026 TAC levels and where BSAI BRDs were reduced to account for those increases in GOA would not appreciably increase biological risk to the stock in the short term. This is supported by estimates of catchability (the combination of selectivity and availability) in 26.2_FAA and the spatial model showing larger older fish in the GOA, and recent above average recruitment that should support a sustainable spawning biomass in

the near-term. The Teams did not specifically consider the sustainability beyond this bookend distribution, other than noting there would be increased concern, especially if realized for multiple years.

Sablefish ESP

Kalei Shotwell and Rusty Dame presented on the Sablefish ESP.

The Teams discussed the regional quotient indicators during the socioeconomic indicator section of the presentation and that many factors can impact these trends. The Teams suggested adding a regional quotient to track the number of active vessels. The author agreed that including active vessels would help balance the value added regional quotient. Another team member made a note to include a range or another metric to understand what low-growth means for sub-juvenile sablefish and how it relates to the stock assessment. The author clarified that this age would not be in the assessment but can revisit the explanation for low-growth including looking at DSEM.

Forage Fish

Johanna Vollenweider presented the 2026 Forage Fish Report, which includes trends in selected forage species and their interactions with federal groundfish fisheries through incidental catch. The biennial report uses bottom trawl survey observations to describe trends in prevalence and density and draws on pelagic surveys and predator diets for context. In the Bering Sea, bottom trawl indicators for capelin and eulachon rebounded from recent lows in 2026, and Pacific sand lance returned to around its long-term average. The 2026 surface trawl forage index remained near historic lows in the southeastern Bering Sea and was slightly below average in the northern Bering Sea. In the Gulf of Alaska, the latest bottom trawl survey in 2025 found herring in a record share of tows and high abundance of magistrate armhook squid, while estimated capelin biomass declined from 2023.

The Teams discussed whether bottom trawl and pelagic survey observations could be compared quantitatively to identify shared trends. The presenter noted that the surveys sample different habitats and seasons. For herring, the summer bottom trawl and fall pelagic surveys may encounter fish at different stages of their migration. Members also noted that different species drive the northern and southern Bering Sea pelagic aggregates. Capelin and herring influence the northern series, while age-0 pollock and juvenile sockeye salmon contribute to the southern series. These differences matter when interpreting the aggregates as indicators of prey availability.

A member suggested using dynamic factor analysis (DFA) to identify trends shared by the survey series. Members discussed whether predator diet observations, including seabird diets, could provide an additional comparison. Members also noted the apparent association between squid indicators and temperature as a topic for further investigation. The Teams supported exploring DFA or a similar approach to compare survey indices.

The Teams also discussed how gaps in the Togiak herring stock assessment affect interpretation of Bering Sea incidental catch relative to the biomass-based limit. An update during the meeting indicated that the Alaska Department of Fish and Game had funding and intended to continue aerial surveys, but poor weather had prevented flights in recent years. The absence of a commercial fishery also limited recent fishery-dependent age and length information. A member asked whether a historical spike in incidental catch of other forage species could reflect changes in gear or fishing activity. The presenter noted that the spike was not apparent in the species indicators and that its cause had not been investigated. The NMFS Alaska Region is currently analyzing the biomass-based trawl prohibited species catch limits (PSC) for Pacific herring in the Bering Sea and herring savings areas. The analysis is tentatively scheduled to be presented to the Council in May 2027.

Sablefish DMR

Council staff described the April 2025 Council action allowing voluntary careful release of small sablefish by eligible individual fishing quota (IFQ) and community development quota (CDQ) harvesters using pot or hook-and-line gear. Staff explained that a discard mortality rate (DMR) would inform in-season discard accounting and estimates of total fishing mortality used in the assessment. Staff sought feedback on a possible proxy for initial implementation and on the information the Teams would need to review a rate.

Staff described the 22-inch threshold as part of a voluntary release provision. Harvesters could retain small fish. Staff also explained that separate catcher-processor provisions allow discards of fish of all sizes. Under the approach described, a discard allowance would be set aside from fixed-gear total allowable catch before the fishing year. Staff explained that the allowance would be established before fishing began, outside individual IFQ accounts, and that reaching it could trigger a prohibition on further discarding for the remainder of the year. Members asked how the first-year allowance would be established and what discard estimates the DMR would be applied to. Staff indicated that those details and the implementation date remained open.

Staff reported that no study had directly estimated a DMR for the Alaska sablefish IFQ fishery and that the available evidence was insufficient to estimate separate rates for pot and hook-and-line gear. The analysis of the Council action used 12%, 20%, and 35% as scenarios. The upper scenario provided contrast for evaluating possible effects of whale predation after release. The Teams questioned how well estimates from other fisheries or regions would transfer to Alaska, given differences in gear, handling, fish size, and whale interactions.

The Teams emphasized that a fleetwide rate would need to account for both handling mortality and predation after release. Some considered 12% too low, while others questioned whether even 35% would account for mortality when whales are present. There was no agreement on a numerical rate or lower bound. Members also raised concerns about how voluntary release could affect which fish are retained, how many are released, and how quickly the fleet uses the discard allowance. They noted that a shift toward pot gear could change how representative a single fleetwide rate is if discard mortality differs by gear. Differences between catcher vessels and catcher-processors also matter because the sizes of fish released may differ between the two sectors.

Members asked to remain involved as the sablefish release action moves through implementation and subsequent review. They identified catch accounting, estimation of discard mortality, and the treatment of discard mortality in the stock assessment as areas where the Teams may be interested in providing scientific advice. Members distinguished between having more time to review the existing analysis and obtaining new evidence; this would allow the Teams to evaluate how well the existing estimates apply to Alaska. Estimating an Alaska-specific rate would require better information on handling and post-release survival, including whale predation. Members suggested contacting NOAA protected resources staff and others who study whale–fishery interactions to determine what evidence is available and what could feasibly be collected. Gear modifications, including escape rings to reduce capture of small fish, were discussed as a possible research direction. Staff indicated that the request for DMR input would return to the Teams annually once the action is implemented, with the extent of review depending on whether new information is available.

The Teams did not recommend a numerical DMR; concluding that available information was insufficient to support a rate for the Alaska sablefish fishery. The Teams requested continued involvement as the action is implemented, with supporting information provided earlier in the review cycle. This agenda item will come up in future years during the Joint September meeting. The Teams wanted a briefing covering the analyses already completed, the proposed application of the DMR, and any new information relevant to catch accounting or the assessment. The Teams asked that new data and research

results be brought back to the Teams as they become available. Members highlighted whale interactions and post-release predation, as well as potential differences by gear and vessel sector, as priorities for future review.

Joint Plan Team Debrief Items

The Teams reviewed issues raised in-meeting during the BSAI and GOA Groundfish meetings, described below.

Risk tables

The Teams discussed how to interpret the fishery performance category and how to define and evaluate the categories that define different levels (e.g., level 2). The Teams recalled previous SSC guidance suggesting that this category should focus on information about the stock, rather than economic performance of the fishery. **The Teams requested clarity from the SSC** on some of the following questions:

- How should fishery performance be evaluated for non-target species when fishery CPUE may reflect trends in target species rather than the stock being assessed?
- Whether fishery performance should focus on identifying "flags" in fishery behavior that could provide additional information about stock status?
- What constitutes a Level 2 risk rating for fishery performance? E.g., should opposing trends between fishery CPUE and population indices automatically indicate elevated risk, particularly when fishery CPUE may not be representative of the stock?

The Teams also discussed whether risk tables should be developed separately for individual species within a stock complex. The Teams generally supported author discretion for most stock complexes, particularly where species are grouped because there is limited information available. The Teams proposed that if the author chose to evaluate the components of a stock complex separately, that they also provide an aggregated score.

SAFE Introductions

The Teams discussed whether to continue including ESR and Economic summaries in the SAFE report introductions, particularly now that there are "in-briefs" for these products. There was general support for retaining concise summaries, contingent upon resources, particularly where they provide additional context or a useful snapshot of information that may otherwise be difficult to navigate in the full reports. The Teams also proposed cross-referencing the ESR and Econ in-briefs from the SAFE introductions as an alternative or supplement.

The Teams discussed how to better indicate that the final harvest recommendations coming from the SSC (ultimately the final rule) may differ from what is included in the SAFE Introductions (Plan Team recommendations) and the stock assessment chapters (author recommendations). The preferred approach was to (where appropriate), add clear direction to readers to the SSC minutes and the Council website or final rule for the most up-to-date specifications.

CLIM and HCR updates

Staff proposed coordinating with the Bering Sea and Gulf of Alaska climate modeling groups (ACLIM and GOA-CLIM) and the chairs on a September update. The scope would depend on progress, including any follow-up from the May Council discussion on HCRs and the status of projection-tool development and testing.

CIE Review Planning

Melissa Haltuch provided a CIE planning update including a description of what constitutes in-person and desk reviews. The discussion focused on review priorities, transparency, stakeholder participation, and improvements to how CIE findings are communicated and incorporated into the assessment process. The main takeaway was a request for more consistent communication and transparency about CIE reviews and their outcomes. There was general interest in having a more comprehensive picture of CIE reviews, including those for topics that are not specific to one stock assessment (e.g. REMA models, SPORC, Observer ADP). The group supported more intentional, early input from the Plan Teams, and SSC to shape CIE review questions, while recognizing that AFSC retains responsibility for the review and its contract with the CIE. The Council calendar will now include in-person review dates when available.

The following groundfish stocks will have CIE reviews in 2027 (likely Feb-June):

- In-person reviews: Greenland turbot
- Desk reviews: BSAI REBS, AI pollock, AK DLM (ORCS application to GOA sleeper shark), BSAI AK Plaice

Stock structure repository

The Teams supported compiling an inventory of completed stock structure analyses. Council and AFSC Staff will work to identify and consolidate existing materials and determine an appropriate centralized location for the repository, but noted decreasing capacity for developing and hosting these types of repositories. The goal is to improve access to historical stock structure analyses and provide a consistent means of tracking this work going forward.

Tier 4 F-based rates

Jane Sullivan raised a question that arose during the GOA rougheye and blackspotted rockfish assessment: how to convert spawning-potential-ratio-based instantaneous fishing mortality rates into Tier 4 catch advice when biomass is estimated from surveys. **The Teams requested SSC guidance on how to translate Tier 4 fishing mortality reference points into catch limits.** For GOA sharpchin rockfish, the only groundfish species currently assessed under Tier 4, maximum permissible ABC is calculated as $B^*F_{40\%}$ and OFL as $B^*F_{35\%}$, where B is the survey-based biomass estimate from REMA. The groundfish FMPs specify the Tier 4 SPR-based fishing mortality reference points. The Teams request clarification on whether to apply these rates directly to biomass or first convert them to annual exploitation fractions.

Direct multiplication follows current Tier 5 practice, which also applies instantaneous fishing mortality rates to survey-based biomass estimates. The same question therefore applies to Tier 5. Direct multiplication is consistent with interpreting B as mean biomass over the year under constant F. If the SSC prefers an annual exploitation fraction, the Teams request guidance on which conversion is appropriate given what the biomass estimate represents, including whether to use 1-exp(-F) or a catch equation that accounts for concurrent fishing and natural mortality.

Clarification would support consistent application across assessments as additional stocks are considered for Tier 4.

Concluding remarks

The Teams recognized Jim Ianelli and Sandra Lowe for their many years of service and contributions to the process. While Sandra departed from the Plan Team several years ago, her contributions had not been formally acknowledged in-person at the time due to virtual meetings. This was Jim's final Plan Team

meeting, after many years of chairing, and both Jim and Sandra were recognized for their commitment to and involvement with the Plan Teams. Their contributions extended well beyond what was visible during meetings, and their institutional knowledge and experience will be missed!