

Scientific and Statistical Committee’s  
Groundfish Subcommittee  
Report on Groundfish Assessment Process Review, and revisions to the  
Terms of Reference for the 2025 assessment cycle.

Pacific Fishery Management Council  
online meeting

January 17-18, 2024

**A. Background**

The Scientific and Statistical Committee’s (SSC) Groundfish Subcommittee (GFSC) met January 17-18, 2024 to a) evaluate the 2023-2024 groundfish stock assessment review process to solicit process improvements for future reviews, b) review proposed changes to the Terms of Reference (TOR) for the Groundfish Stock Assessment Review (STAR) Process for 2025 and 2026 and TOR for the Groundfish Rebuilding Analysis for 2025 and 2026, c) review proposed changes to the Accepted Practices Guidelines for Groundfish Stock Assessments in 2025 and 2026. Members of the 2023 stock assessment teams (STAT), the Groundfish Management Team (GMT), the Groundfish Advisory Subpanel (GAP), and public stakeholders were in attendance. Prior to beginning the agenda, it was noted that Julia Coates was the official CDFW designated SSC representative for this meeting, and that the listing of individuals in the agenda on the first day was to ensure an opportunity for participation, but was not intended to “assign” participatory duties.

**B. Perspectives on the 2023 stock assessment process**

**B.1. Center for Independent Experts**

Owen Hamel briefly summarized reports from the Centers of Independent Experts (CIE) that participated in the 2023 STAR panel reviews. The reports were neither available nor broadly circulated prior to the meeting, and thus were not discussed in great detail. The meeting recommended that it would be helpful to make the reports available to the Council community and continue any discussions or recommendations based on the reports, prior to final adoption of the 2025-2026 TOR.

The comments from CIE reviewers followed two general themes, those related to process considerations and those specific to the review process. The common reviewer among the three STAR panels noted the increased workload associated with reviewing four stock assessment models (STAR panels 1 and 2) versus review of only two stock assessments (STAR panel 3). Further, it was noted that the data-moderate assessments (rex sole and shortspine thornyhead) required similar levels of work and review as benchmark assessments. Within the STAR panel, CIE reviewers suggested spending additional time discussing uncertainty around natural mortality ( $M$ ) (potentially modeling time-varying  $M$  where appropriate), stock-recruit steepness ( $h$ ),  $\sigma_R$ , fit of the growth curve, condition, length-weight relationships, catch reconstructions, development of

abundance indices (design- versus model-based), when to begin estimating recruitment deviations, guidance for selection of states of nature, clarifications of the technical merits/technical deficiencies section of the STAR panel report, and exploration of alternative assessment model types (e.g., Bayesian, state-space).

## B.2. Groundfish Management Team

The GMT provided a document ([GMT January 2024](#)) outlining their perspectives on the 2023 stock assessment cycle. The GMT would benefit from more involvement in data-related conversations earlier in the process to ensure all sources of data are identified and available for the assessment. The pre-assessment workshops were helpful, but data presentations were often at a high level. The GMT proposes to create a checklist for each species in the assessment cycle and follow-up with the STAT to ensure all data have been identified. Catch reconstructions are currently sent to state representatives. The GMT requests that catch reconstructions also be sent to an identified GMT contact for confirmation. In addition, early outreach to state data stewards is helpful because they are often supplying data for multiple assessments.

## B.3. Groundfish Advisory SubPanel

The GAP representative at all STAR panels, Gerry Richter, was not able to participate in the meeting and provided a report via email. He reported that from his perspective the 2023 cycle went very smoothly and the transition of Council Staff was great. Among the nearshore species assessed, there was a clear need for expanded fishery-independent surveys that could include trawling in shallower depths and additional hook and line surveys in rocky habitat. Louie Zimm (GAP) agreed that the copper rockfish assessment went particularly well due to outreach and engagement with stakeholders, which did not occur to the same extent in previous cycles. Steve Godin (GAP) pointed out the need for increased spatial management due to large areas of the California coast that are not fished (e.g., Marine Protected Areas) or lightly fished due to limited access (e.g., distance from ports).

## B.4. STAR Panel Chairs

Observations from the STAR panel chairs largely followed those from CIE reviewers. Reviewing only two models was preferable to reviewing four models and data-moderate assessments required similar levels of review as benchmark assessments. Some clarification for how to evaluate structural versus data uncertainty with respect to decision tables would be useful. Clarifying data needs in the STAR panel report sections for merits and deficiencies in the TOR would be useful. Likelihood profiles over  $\sigma_R$  were useful in multiple STAR panels, though it should be pointed out that they provide only qualitative information.

## B.5. Stock Assessment Teams

The STATs provided a document ([STAT January 2024](#)) that identified issues which were broadly categorized under four topics with potential solutions for each identified issue. Those topics related to 1) data and the pre-assessment workshops, 2) review and documentation, 3) process, and 4) research and data needs. In particular, it was observed that ground rules need to be established and

followed to promote a more respectful and productive environment. The scope of data-moderate assessments should be clarified in the TOR with respect to whether growth can be estimated internally to the model fitting process or must be pre-specified. Further, the content of assessments should be clarified for stakeholders. For example, data-moderate does not mean information-moderate nor does an abundance of data necessarily imply high information content.

## B.6 Council Staff

As noted previously, the transition of Council staff was seamless. The TOR is repetitive in places, which will be discussed later. It is not always clear what information is needed in the various versions of the assessment documents (pre-STAR, post-STAR, etc.) and the associated deadlines.

## C. Recommendations for improving the stock assessment process

### C.1. Pre-assessment Planning (GMT and National Marine Fisheries Service (NMFS) feedback and recommendations)

#### *a. Successes and challenges regarding data delivery to STATs*

There were several improvements from the 2021 assessment cycle, including an emphasis on pre-assessment workshops and clearer expectations for data delivery. STATs and state-based data stewards also met frequently to discuss available data sources and their appropriate usage. One challenge, however, was insufficient communication among the GMT, state-based data stewards, and STATs. The GFSC concurs with the GMT's assertion that it would be beneficial for a member of the GMT to be included on email communications and calendar invitations for meetings that pertain to data used in stock assessments.

#### *b. Format, process, and level of engagement in pre-assessment data workshops*

There is a clear need to enhance attendance and engagement in pre-assessment workshops. There was some discussion about the intended audience for these meetings. Because STATs and data stewards are in communication prior to pre-assessment workshops, the GAP, GMT, stakeholders, and other interested parties should be the focus. This would promote transparency and access early in the stock assessment process while also creating opportunities to solicit additional insight about potential data sources and their uses. Given existing workloads, meeting participants and the GFSC do not recommend holding these workshops in conjunction with Council meetings. The timing of pre-assessment workshops needs to coincide with when the STATs are best prepared. The consensus was that STATs should work with the GAP and GMT to identify the most appropriate timing of and increase stakeholder participation in pre-assessment workshops. Council staff can work on the necessary coordination and increase outreach efforts.

#### *c. Successes and challenges regarding data and other deadlines for the 2023 cycle*

NMFS identified a need to advance some data deadlines to allow for sufficient processing time and effective integration of data into the preliminary assessment. The GFSC was in favor of a proposed December 1 deadline for near-complete time series (i.e., all except for the most recent year of data). The 12-week data deadline would still apply for the final year of data and all model-based indices. CA-, OR-, and WA-based data stewards agreed to the utility and feasibility of an earlier deadline for some data sources (e.g., catches, length compositions). There is also a need to

identify the stocks that will be assessed earlier during the next cycle to facilitate the completion of necessary ageing. Advanced planning and earlier access to data will limit the frequency of major changes to assessment models already in development. Apart from process-based considerations, the GFSC recommends better alignment of the timelines in Appendix A and Appendix H of the TOR (see [2023-2024 version](#) for Appendix reference). To increase transparency, the GFSC recommends removing Appendix A from the TOR and preparing a more accessible calendar of events for online viewing (e.g., [see example from Western Pacific here](#)).

## C.2. Stock assessment reviews

### *a. Review panel ground rules and discuss need for a STAR-specific code of conduct*

There was broad recognition that ground rules specific for the STAR panels and/or GFSC review meetings are needed. These rules would be applicable to all the attendees at the panel/meeting, including but not limited to the panelists, STAT members, and those participating in providing public comment. Some comments and/or body language may be perceived as offensive/personal attacks to certain attendees at the panel. It is the responsibility of EVERYONE at the panel to look out for these incidents. Placeholder ground rules will be based on the Council's harassment policies and rules for other public meetings. The SSC will propose revisions to these ground rules to include information about what to do and whom to contact in the event that there is a code of conduct concern during a stock assessment review.

For future panelists, the Science Centers can provide comments back to the CIE and/or reject proposed CIE reviewers with reason in the future. For local experts, the Council staff maintains a list of potential reviewers. Certain concerns can be added to this list for consideration in selecting invited reviewers.

### *b. Continue discussions on review process and capacity for data-moderate assessments*

Both data-moderate assessments in the 2023 cycle were conducted using the Stock Synthesis (SS) platform and demographic data were incorporated in the model (length-based). These two assessments were reviewed with two additional full assessments (two area models of the same species) at one STAR panel, with the three species being assessed having very different life history characteristics.

There was general recognition and agreement that reviewing length-based data-moderate assessments conducted using SS is just as time consuming as reviewing the full/benchmark assessments. This was not expected when planning for the 2023 STAR panels based on the experience from previous cycles when other modeling platforms, such as the index-based method of Depletion-Based Stock Reduction Analysis (XDB-SRA), were used. Models such as XDB-SRA use indices of abundance and do not use demographic data. Reviews of the assessments based on these types of models are generally not as time consuming. Data-moderate assessments may cause management challenges when the stock is below the minimum stock size threshold (MSST).

Additionally, the expectations of data-moderate assessments are not clear in the 2023-2024 TOR. Proposed revisions, especially in Appendices E and J, will be provided for full SSC review in March 2024.

The need to conduct more update assessments more frequently to comply with the schedule specified in the FMP was also discussed. The GFSC acknowledges the importance of this issue, but how to utilize different types of assessment to provide solutions was beyond the scope of this meeting.

*c. Projections and decision tables for draft and final assessments, revisited*

The GFSC agreed that the decision table should not be required in the pre-STAR draft, because the states of nature would not be defined prior to the STAR panel. However, an OFL/ABC/ACL projection in the pre-STAR draft, based on the STAT's proposed base model and assessment category sigma value, under the default harvest control rule, would help the GMT prepare alternative catch streams to be used in the decision table. There was general agreement to include such a table as a requirement in the pre-review draft. The GMT will provide an example of an appropriate table to include in the revised TOR. Concerns were raised that providing these projections before reviews may make the process results-driven, which is something to be avoided.

*d. Consistency in comparing assessment sigma estimates with default sigma values*

This is an important and complicated topic, but it was beyond the scope of this meeting. It is recommended that the full SSC discuss this topic in a future meeting.

*e. Role of GMT and GAP representatives prior, during, and following review*

Contributions from GMT and GAP representatives are important and appreciated. Specific language will be added to the TOR to better facilitate their participation in pre-assessment workshops and during the STAR panels. For example, STAR panel chairs should provide a dedicated time for discussions prompted by the GMT and GAP at the end of each day, though GMT and GAP input is welcome any time during the STAR panel. Some data responsibilities can also be specifically assigned in the TOR, such as historical changes in gears and/or market demands.

*f. Improvements and challenges in availability of documents and files during review*

Meeting participants generally agreed that the PFMC Publicly Accessible Materials ([PAM](#)) website worked well and is a large improvement. The use of this tool made virtually all panel documents, such as daily panel requests and responses, available to all panel participants and the public in close to real time.

*g. Other*

Other topics discussed under this agenda item included a clarification that requests made after the STAR panel, such as from the GFSC or GMT, should represent requests from the subcommittee or the management team, instead of individual review panel or team members. It is recommended

to include language in section 5.10 of the TOR to address this issue. It was also noted that public comments should be routed through proper channels to the STAT to avoid additional demands on the STAT. A recommendation to consider scheduling the GFSC review with the September Council meeting was also made, and will be discussed at the March 2024 meeting.

### C.3. Recommendations for improving the stock assessment process - GFSC, SSC, and PFMC review of post-STAR assessments and reports

#### *a. Timing considerations (ongoing issues related to tradeoffs between STAT workload, GFSC review time and briefing book deadlines)*

The subcommittee discussed the need to set the deadlines for reports early, and agreed with the need to frontload this as much as possible while being cognizant of how tight the schedule is. The GFSC also supported being more explicit when defining deadlines, as was suggested by the Science Centers, including using fixed dates or more detailed instructions to avoid confusion around holidays (i.e., 3 weeks equals 21 days, not 15 business days).

#### *b. Discussion of process for assessment updates, catch-only projections, and rebuilding plans (strategies for improving throughput, addressing analytical capacity)*

The GFSC agreed on the overarching need to increase throughput of assessments by facilitating greater use of stock assessment updates. One recommendation that would help enable this was to alter the TOR guidelines for assessment updates to enable STATs to drop data sources that might be found by the STAT to be inconsistent with other information (while recognizing that both a rationale for the change and a sensitivity to the change should be included in the draft document). Proposed language reflecting this revision will be added to the draft TOR for 2025-2026.

#### *c. Engagement considerations: how to better hear, address and/or respond to concerns prior to adoption by PFMC (improve communication of results, evening assessment sessions, other)*

Engagement and sharing of information with the Council and the public was found to be problematic during the 2023 assessment cycle and the GFSC discussed how best to improve this process. In the past, the GFSC and STATs would hold evening sessions during Council meetings to facilitate open discussions about the assessment and work to address concerns before they reached the Council floor. The GFSC supported bringing these sessions back in the future, although there were concerns raised about STAT time and travel to a Council meeting just for an evening session. These sessions also take away from time for Council and advisory bodies doing other work. There was also a suggestion that the GFSC and STAT could hold an open briefing and discussion in advance of the Council meeting, akin to what is done by the Ad Hoc Ecosystem Workgroup (EWG) and Integrated Ecosystem Assessment (IEA) team for the Ecosystem Status Report (ESR) report. In the past, Council floor time was also used for these discussions, but that is challenging given competing demands on time. Conversely, however, to the extent such evening sessions or other open discussions could preclude extended discussions on the Council floor, or requests by the Council for additional analyses and review, they may be worthwhile investments.

The GFSC also discussed the assessment summaries and who best to deliver them. Concerns were raised about the level of responsibility that is being put on STAR Panel chairs. The STAR Panel chair is not always the best person to brief the Council on assessments, but the STAT is not always available either. Concerns were also raised about issues that were raised by the Council during the September 2023 meeting that were addressed in the 1-page summaries provided by the STAT, and the need to ensure that the Council is aware of and utilizing the information provided.

During the public comment period that followed this agenda item, members of the public noted a perception that they should not approach the SSC with their concerns, leading to a barrier to sharing their concerns and insights. The GFSC recognizes the need for better communication and engagement during review panels and at all steps of the review process, and is interested in finding ways to bridge this gap, particularly with respect to language barriers. It was noted that explicitly seeking comments from management teams and advisory subpanel representatives each day could help to cover questions and concerns also shared by members of the public. Members of the public also spoke of the need to expand hook and line surveys and to conduct a closed areas workshop.

#### **D. Recommendations and revisions for the 2025-2026 stock assessment terms of reference (TOR): TOR sections 3-5: roles and responsibilities**

##### *D.1. Responsibilities for developing code of conduct*

A code of conduct for STAR panels and other groundfish review meetings should be developed by the GFSC or SSC and included in, or referenced, in Section 3. Assignments for developing the code could be made at the March 2024 SSC meeting. The Council code of conduct, the Council harassment policy, and advisory body ground rules would provide a useful starting place for developing language, as would the language and introductory slides provided at STAR panels 2 and 3 during 2023. Standard language for use in responding to incidents violating the code of conduct may be helpful, as would training on how to respond in a non-confrontational way that moves the meeting forward in a positive direction.

##### *D.2. Responsibilities for enforcing code of conduct (need/plan for a scripted response?)*

It is recommended that the STAR panel (or other meeting) chair provide an overview of the contents and intent of the code of conduct, and it be shared with meeting participants prior to the meeting. STAR panel members and Council staff should share in the responsibility for enforcing the code of conduct (though everyone in the process has responsibility to adhere to the code of conduct and to call things out if others are not, including the Science Center host).

##### *D.3. Consideration of revised timelines and/or processes (e.g., formal approval) for data streams, including catch histories*

The GFSC discussed the proposal to add a new deadline of December 1 for all except the final year of data. Given that STATs can download data directly in some cases (e.g., PacFIN), this should include an advisory to data stewards noting that they would have a responsibility/obligation to let the STATs know by this and other deadlines if for some reason the data currently available on sites may not be complete or correct. Given that there is now a proposed December deadline, it should be abundantly clear which year we are referencing for each deadline. A list of data types likely to be available earlier

and helpful to STATs, such as landings estimates, would be helpful in making this change. Recognition that data stewards do not have complete control over preparation of all data from a state is also important. There should be some flexibility for new deadlines this cycle given these are new.

Clarifications should be made on what happens if data are late despite the STAT's best effort to request and obtain data. At the bottom of page 20 (2023-2024 version), there is a need to address the issue of corrections to previously provided (on-time) data that come in after the deadline as well.

*D.4. Minor edits, bookkeeping (e.g., where is "section 5"?)*

The GFSC agreed to continue to keep the ideal of reviewing no more than two species-area assessments during a STAR panel, recognizing that this would not always be possible (particularly in cases in which there were 3-4 assessments for the same species), but also discuss the reality of the demands for assessments and what we can do. This could mean a dedicated workshop to work through some of the workload issues as they are becoming increasingly complicated.

There was some discussion of revising the language referring to limiting the "mop-up" to two assessments. However, because the amount of time needed to review each assessment at the "mop-up" depends on the complexity of the issues being addressed in each case, there was consensus to give the GFSC leeway to decide what they are capable of reviewing at the mop-up.

There is language referencing a potential second "mop-up" meeting after the first. While, in rare cases, special meetings may be needed for various reasons at any point during the cycle, this should not be a regular occurrence, so this language should be removed.

There is a need to clarify language throughout regarding STAR panels, including the roles of panel member and panel advisor, what is needed for each STAR report section, how to get at and quantify model uncertainty, and alternatives and leeway for decision tables.

*D.5. Revision of language regarding stock structure (consistency with Amendment 31), recognition that model structure can be at finer scale with STAT rationale*

While recognizing that the Amendment 31 stock definitions should generally be used to inform stock structure, with models aligning with the stock definitions that were made through that process, it was also acknowledged that the Amendment 31 process is not immutable. New information could lead to changes in the best available science to inform stock definitions, which would result in a need to change these stock definitions within the groundfish fishery management plan (FMP), following the process outlined in Council Operating Procedure 9. However, there was recognition that we lack a clear process for evaluating questions as to whether currently defined stocks should now be combined or split. One question raised was whether differences in exploitation history and status are still sufficient to have state-level stock definitions. A different process would presumably be necessary if there were new genetic, tagging, or other data to indicate something new about stock structure. There was agreement that any potential changes should be identified and initiated early in the cycle, whether these are simply changes in modeling sub-stocks, or changes in stock definitions. There was recognition that the latter would involve a larger conversation and process with the Council and NMFS regional office, given the perceived need for an FMP amendment. There was general recognition that this is an evolving process.

*D.6. Discuss whether to request draft executive summary in draft assessments*



The consensus of the GFSC and meeting participants is that the executive summary should be required for pre-STAR draft assessments. The executive summaries are very useful in identifying areas to focus on in particular, and are helpful for many people participating in the process. Projection tables should be included in these draft executive summaries, though decision tables should not be required (see section C.2.c.).

*Other Topics in TOR sections 3-5:*

In Section 5.5., language should be changed to indicate that for each STAR panel, there will be a Science Center point of contact, but that may be a different person for each meeting.

In Section 5.10., regarding formal requests from the SSC or GFSC to the STAT, the revised TOR should clarify that formal requests for additional analyses should come from the review panel Chair or from the Council staff member, with acknowledgement that the request reflects a desire of the panel, the GFSC or the full SSC.

In GMT and GAP responsibilities, with respect to the STAR panel and planning the pre-assessment workshop, there is a need for better communication with the STAR panel advisors, who should be invited to meetings throughout the process. During the STAR panel, the STAR panel chair should solicit GMT and GAP representative comments every day and throughout the STAR panel. It would be helpful if GAP and GMT representatives could provide information on changes in gear and market demands over time at the pre-assessment data workshop, or at some point following the workshop. A follow-up discussion with the GAP on this is needed.

From the GMT report for this meeting, items 6 and 7 should be addressed. For item 7, the GMT would like to request revised language on how and when groups request revised projections (as happened this year – from CA and OR), and will have language to discuss at the March 2024 Council meeting. The GMT noted in their item 6 that the first paragraph in section 5.7 states that the GMT should provide catch streams. The fourth paragraph then clarifies that the GMT should be providing catch streams potentially in the final model year, the initial two projection years, and the subsequent projection years. There is a need to clarify in the first paragraph which years of the catch stream are being referred to.

The GMT identified as their item 7 that over the past cycle there were two situations in which states wanted to request revisions to the GMT-provided removal assumptions. The lack of clear process and a timeline as to when revisions need to be provided and reviewed, and by whom, led to confusion and delayed the SSC's ability to approve the OFLs. A solution to such challenges would be to amend the TOR to provide guidance about when these requests need to be submitted by and the documentation required for GMT review. If the expectation is that the GMT must review and approve removal assumptions that are requested by another body, the TOR should make this clear. There was agreement that these points should apply to data-moderate assessments as well.

Additional suggested modifications to the TOR include agreement that the section on projections and decision table/states of nature should be split and it should be noted that pre-STAR drafts should have projections (see 2023-2024 TOR Appendix B section K) but do not need to have decision tables or states of nature, which should be developed during the STAR panel. It was noted that Appendices B and D need to be amended on requirements for an executive summary, as well as cross referenced so that they better align. The idea of a 1-page summary, something similar to what is included in Pacific hake assessment (see page 5 of the [2023 Pacific hake assessment](#)), was discussed, but the decision was made to query the Council community regarding the utility of this summary before making this a

requirement. Finally, it was noted that there is an ongoing effort to look at standardizing assessment documents across NOAA Science Centers that may provide future guidance with respect to the TOR.

**D. Recommendations and revisions for the 2025-2026 stock assessment terms of reference: TOR sections 6-11**

*D.7. Revisit discussion of merits of including harvest projections and/or decision tables in draft assessments.*

The GFSC agreed with the GMT request to include initial projections in draft assessments, and the GMT provided an example of a draft projection table that will be included in the TOR for the 2025 assessment cycle.

*D.8. Discuss guidance for alternative approaches for recommending or determining both states of nature and harvest projections in decision tables (e.g., structural versus model uncertainty).*

The GFSC agreed to include language in the TOR to clarify that structural or model uncertainty may be appropriate alternatives to statistical uncertainty (see pages 12-13 of 2023-2024 version).

*D.9. Discuss revisions or improvements in TOR related to category designations.*

The GFSC agreed with the request (made via the NMFS West Coast region) that final versions of stock assessments should include a reporting of the category designation recommended by the full SSC, following formal adoption of the assessments for use in management by the Council.

*D.10. Resolve inconsistencies within current TOR (e.g., align TOR appendix B and D, who provides assessment overview to GFSC).*

The GFSC discussed some inconsistencies between Appendices B and D of the TOR, and in considering these issues also discussed whether both appendices were needed. As Appendix B provided more detailed descriptions of what should be included in assessments, and Appendix D was found to be useful to Council Staff and review panel chairs, there was general agreement that there was merit in keeping both appendices, so long as they could be better aligned and inconsistencies could be addressed. The meeting chair agreed to take the first pass at attempting to address these inconsistencies, with help from NWFSC assessment staff.

There was recognition that, in many cases, a more detailed description is needed for the rationale on how age data were being used in some models; particularly models in which age data were sparse or not consistently collected and are often aggregated into “growth fleets.” The meeting noted that there could be an opportunity to address this in the accepted practices guidelines document, but also recognized that the nuances of how and where age data are used will vary by assessment and circumstance. Consequently, the model documentation and the review panels themselves would typically be the most appropriate place to have such conversations and ensure that decisions were documented appropriately.

With respect to pre-assessment data workshops, there was some discussion of whether there is a need to provide more detail or a checklist about what topics should be reviewed at these

workshops. A checklist could be helpful in ensuring key topics do not slip through the cracks, recognizing that as each assessment faces unique challenges, any such checklist or draft agenda should not be overly prescriptive. Such a checklist or draft agenda could also be a good place to highlight opportunities for GMT and GAP involvement in assessment elements that rely on their input (such as regulatory histories, market demand, or other insights from the fishery).

*D.11. Additional revisions or improvements to TOR (including improvements, streamlining for update, catch-only projections, rebuilding analyses).*

Council staff proposed synthesizing key pieces of information and associated responsibilities in this section in a more concise and easily referenced manner. There was general recognition that the entire TOR is in need of major reformatting and overhaul, but there was also recognition that this would require a considerable amount of effort and may not be accomplished in this revision. As one example of this, it was pointed out that Appendix E outlines basic requirements for data-moderate assessments, but this Appendix is very short relative to Appendices B and D, and the latter are more consistent with the reporting requirements of a data-moderate assessment developed using SS. This is likely a holdover from earlier years to provide guidance on key elements to include in model documentation for XDB-SRA models. A recommendation was made and agreed to that Appendix E could be moved to the accepted practices guidelines document as guidance for XDB-SRA style data-moderate assessments, and SS-based data-moderate assessments could generally follow the outlines and guidelines for full and update assessments (recognizing minimal emphasis on the age data typically excluded from such models). It was also recognized that it would be beneficial to provide more latitude in a stock assessment update to remove or add an index of abundance if there is a compelling reason to do so. Language to that effect should be incorporated into draft TOR revisions.

**E. Accepted practices guidelines for groundfish stock assessments in 2025-2026**

*E.1. Workshops recommended or anticipated prior to 2025 assessment cycle*

The subcommittee supports the use of workshops to revise the accepted practice guidelines for stock assessments in 2025-2026. For example, a workshop on aging using FT-NIRS is tentatively scheduled for June 2024 and discussion from this workshop could be used to revise the accepted practice guidelines. The subcommittee also discussed the following unscheduled, but previously proposed workshops:

1. Sablefish management strategy evaluation (MSE) workshop: The GFSC would support a workshop on this topic after Maia Kapur's (Alaska Fishery Science Center) dissertation chapter is accepted for publication in a peer-reviewed journal.
2. Spiny dogfish harvest control rule (HCR) workshop: The GFSC would support a workshop on this topic when the necessary research has been conducted. There were previous plans for Andre Punt's lab (University of Washington) to lead this work, but no one has been identified to lead the analysis.

3. Closed area workshop: The GFSC would support a workshop on this topic when there is new information to review and discuss. Brian Langseth (NOAA) has plans to begin work on this topic this summer (summer 2024).

*E.2. Clarification on best practices for the use of visual survey data for either/both relative or absolute abundance*

The GFSC would support a workshop on best practices for using visual survey data to estimate either relative or absolute abundance if there is new information to review and discuss and if there is an intent to use such information in a 2025 assessment.

*E.3. Suggestions for additional or improved diagnostics in r4ss*

The GFSC noted that Appendix I in the 2023-2024 TOR, which lists the tables and figures to be included in groundfish stock assessment reports and associated electronic materials, is outdated and requires review. The GFSC identified Appendix I as the place to require new figures requested during the 2023 review process and to update language describing the required figures. For example, “VAST QQ plots” should be changed to more general “Index standardization QQ plots” since indices are now calculated using sdmTMB (species distribution model in Template Model Builder) rather than VAST (Vector Autoregressive Spatial Temporal model).

*E.4. Potential improvements related to approaches for addressing spatial considerations*

The GFSC would support a workshop on improvements to approaches for addressing spatial considerations if there is new information to review and discuss. Brian Langseth (NOAA) has plans to begin work on this topic this summer (summer 2024).

*E.5. Guidance on implementing retrospective analyses*

During this stock assessment review cycle, CIE reviewer(s) expressed confusion regarding STAT approaches to retrospective analyses (see STAR Panel 2 report). The GFSC recommends delaying a discussion of improved guidance on retrospective analyses until after the CIE reports have been released to the full GFSC. There are many ways to compute the Mohn’s rho statistic used to summarize retrospective analyses and there are differences between how this is approached by STAT teams on the U.S. Atlantic and Pacific Coasts. Future discussion may therefore focus on whether to align approaches or how to clarify the approach used by U.S. Pacific Coast STAT teams.

**F. Other Business**

No changes were noted or discussed with respect to potential changes to the Terms of Reference for groundfish rebuilding analysis for 2025-2026, however the meeting noted that needed changes could become apparent as a result of the January 26, 2024 GFSC meeting regarding the 2021 stock assessment and 2023 rebuilding analysis for California quillback rockfish.

## Appendix A: Agenda

Scientific and Statistical Committee's  
Groundfish Subcommittee:  
Groundfish Assessment 2023 Process Review, 2025-2026 Terms of Reference/Accepted Practices  
Guidelines for Groundfish Stock Assessments

Pacific Fishery Management Council  
Via Webinar

January 17-18, 2024

Wednesday, January 17, 2024 – 8:30 AM

### A. Call to Order (8:30 am)

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|--|-----------------------------------|
| 1. Call to Order and Introductions       | John Field                        |
| 2. Webinar Instructions                  | Marlene A. Bellman                |
| 3. Overview of Webinar Objectives        | John Field and Marlene A. Bellman |
| 4. Assign Rapporteurs and Approve Agenda | John Field                        |

### B. Perspectives on the 2023 Stock Assessment Process

(8:45 a.m.; Hamel, Schaffler)

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|--|---|
| 1. Center of Independent Experts (CIE) |   |
| 2. Groundfish Management Team (GMT)    | Melanie Parker, Whitney Roberts, Katie Pierson  |
| 3. Groundfish Advisory Sub-Panel (GAP) | Gerry Richter   |
| 4. STAR Panel Chairs                   | Jason Schaffler, John Field, John Budrick   |
| 5. Stock Assessment Teams              | Chantel Wetzal, Melissa Monk, Markus Min, Joshua Zahner, Jason Cope, E.J. Dick, Ian Taylor, Brian Langseth, Kelli Johnson, John Wallace, additional STAT co-authors |
| 6. Council Staff                       |   |

Break (10:30 – 10:45 a.m.)

### C. Recommendations for Improving the Stock Assessment Process

(10:45 a.m.; Marshall, Barnes)

1. Pre-Assessment Planning
  - a. Successes and challenges regarding data delivery to STATs.
  - b. Discussion of format, process and level of engagement in pre-assessment data workshops.

- c. Discuss successes and challenges regarding data and other deadlines for the 2023 assessment cycle.

Lunch (12:30-1:30 p.m.)

C. Recommendations for Improving the Stock Assessment Process (continued)

(1:30 p.m.; Punt, Tsou)

2. Stock Assessment Reviews

- a. Review panel ground rules and discuss need for a STAR-specific code of conduct
- b. Continue discussions on review process and capacity for data moderate assessments
- c. Projections and decision tables for draft and final assessments, revisited
- d. Discuss level of need for consistency in how best to develop and compare assessment sigma estimates with default sigma values
- e. Role of GMT and GAP representatives prior, during and following review
- f. Improvements and challenges in availability of documents and files during review

Break (3:15 – 3:30 p.m.)

C. Recommendations for Improving the Stock Assessment Process (continued)

(3:30 p.m.; Free, Moore)

3. GFSC, SSC and PFMC review of post-STAR assessments and reports

- a. Timing considerations (ongoing issues related to tradeoffs between STAT workload, GFSC review time and briefing book deadlines)
- b. Discussion of process for assessment updates, catch-only projections and rebuilding plans (strategies for improving throughput, addressing analytical capacity)
- c. Engagement considerations: how to better hear, address and/or respond to concerns prior to adoption by PFMC (improve communication of results, evening assessment sessions, other)

<p>PUBLIC COMMENT PERIOD 4:45 p.m. (or immediately following Agenda Item C.3) Public comments, including comments on issues <u>not</u> on the agenda, are accepted <u>at this time</u>.</p>
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Thursday, January 18, 2024 – 8:30 AM

Brief recap of Day 1 (Field)

D. Recommendations and revisions for the 2025-2026 Stock Assessment Terms of Reference: TOR Sections 3-5: Roles and responsibilities

(8:30 a.m.; Barnes, Hamel)

- 1. Responsibilities for developing code of conduct
- 2. Responsibilities for enforcing code of conduct (need/plan for a scripted response?)
- 3. Consideration of revised timelines and/or processes (e.g., formal approval) for data streams, including catch histories

4. Minor edits, bookkeeping (e.g., where is “section 5”?)
5. Revision of language regarding stock structure (consistency with Amendment 31), recognition that model structure can be at finer scale with STAT rationale
6. Discuss whether to request draft executive summary in draft assessments

Break (10:15-10:30 a.m.)

D. Recommendations and revisions for the 2025-2026 Stock Assessment Terms of Reference: TOR  
Sections 6-11: Assessment Types

(10:30 a.m.; Tsou, Field)

7. Revisit discussion of merits of including harvest projections and/or decision tables in draft assessments
8. Discuss guidance for alternative approaches for recommending or determining both states of nature and harvest projections in decision tables (e.g., structural versus model uncertainty)
9. Discuss revisions or improvements in TOR related to category designations
10. Resolve inconsistencies within current TOR (e.g., align TOR appendix B and D, who provides assessment overview to GFSC)
11. Additional revisions or improvements to TOR (including improvements, streamlining for update, catch-only projections, rebuilding analyses)

Lunch (12:30- 1:30 p.m.)

E. Accepted Practices Guidelines for Groundfish Stock Assessments in 2025-2026

(1:30 p.m.; Schaffler, Free)

1. Workshops recommended or anticipated prior to 2025 assessment cycle
2. Clarification on best practices for the use of visual survey data for either/both relative or absolute abundance
3. Suggestions for additional or improved diagnostics in r4ss
4. Potential improvements related to approaches for addressing spatial considerations
5. Guidance on implementing retrospective analyses

Break (3:15-3:30 p.m.)

F. Other Business

(3:30 p.m.; Field, Marshall)

1. Issues needing further discussion
2. Plan and timeline for completion of GFSC report

<p>PUBLIC COMMENT PERIOD 4:45 p.m. (or immediately following Agenda Item F) Public comments, including comments on issues <u>not</u> on the agenda, are accepted <u>at this time.</u></p>
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ADJOURN



## **Appendix B: Participants**

### **GFSC Members in Attendance**

Dr. Cheryl Barnes, Oregon State University, Newport, OR  
Dr. Julia Coates, California Department of Fish and Wildlife (Alternate), Marine Region  
Dr. John Field (Interim SSC GFSC Chair), National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA  
Dr. Chris Free, University of California Santa Barbara, Santa Barbara, CA  
Dr. Owen Hamel, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Dr. Kristin Marshall, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Dr. Tommy Moore, Northwest Indian Fisheries Commission, Forks, WA  
Dr. André Punt (Meeting Chair), University of Washington, Seattle, WA  
Dr. Jason Schaffler (SSC Vice-Chair), Muckleshoot Indian Tribe, Auburn, WA  
Dr. Tien-Shui Tsou, Washington Department of Fish and Wildlife, Olympia, WA

### **SSC Members in Attendance**

Dr. Will Satterthwaite, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA

### **Stock Assessment Team (STAT) in Attendance**

Dr. Aaron Berger, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Sabrina G. Beyer, University of Washington  
Dr. Julia Coates, California Department of Fish and Wildlife, Marine Region  
Dr. Jason Cope, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Dr. Vladlena Gertseva, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Madison Heller-Shipley, University of Washington  
Dr. Kelli Johnson, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Dr. Brian Langseth, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Markus Min, University of Washington  
Dr. Melissa Monk, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA  
Emily Sellinger, University of Washington  
Dr. Ian Taylor, National Marine Fisheries Service Northwest Fisheries Science Center,

Seattle, WA

Terrance Wang, University of Washington

Sophia N. Wassermann, University of Washington

Dr. Chantel Wetzel, National Marine Fisheries Service Northwest Fisheries Science Center,  
Seattle, WA

Dr. Alison Whitman, Oregon Department of Fish and Wildlife, Newport, OR

Joshua Zahner, University of Washington

### **National Marine Fisheries Service in Attendance**

Dr. Jim Hastie, National Marine Fisheries Service Northwest Fisheries Science Center,  
Seattle, WA

Keeley Kent, National Marine Fisheries Service West Coast Region, Seattle, WA

Maggie Sommer, National Marine Fisheries Service West Coast Region, Newport, OR

### **Groundfish Advisory Subpanel in Attendance**

Susan Chambers (GAP Chair), West Coast Seafood Processors Association

Steven Godin, Oregon Coast Anglers

Dave Kasheta, Coastside Fishing Club

Tim Klassen, Golden Gate Fishermen's Association/Reel Steel Sportfishing

Merit McCrea, Sportfishing Association of California

Louis Zimm, Sportfishing Boat Shearwater

### **Groundfish Management Team in Attendance**

Katie Pierson, (GMT Chair), Oregon Department of Fish and Wildlife

Melanie Parker, California Department of Fish and Wildlife (GMT alternate)

James Phillips, California Department of Fish and Wildlife

Whitney Roberts, Washington Department of Fish and Wildlife

### **Members of the Public in Attendance Participated in Public Comment**

#### **Pacific Fishery Management Council**

Caroline McKnight, California Department of Fish and Wildlife Designee

Corey Niles, Washington Department of Fish and Wildlife Designee

#### **Pacific Fishery Management Council Staff**

Merrick Burden, Executive Director

Marlene A. Bellman

Todd Phillips

Jessi Doerpinghaus