

GROUND FISH MANAGEMENT TEAM REPORT ON STOCK ASSESSMENT PROCESS REVIEW AND PROPOSED PROCESS REVISIONS

The Groundfish Management Team (GMT) extends its thanks to the Lynker team for their report and to all the staff, Pacific Fishery Management Council (Council or “PFMC”) members, and fishing industry representatives who participated in the focus groups. The *Evaluation of the Pacific Fishery Management Council Stock Assessment Review Process* report ([Attachment 1](#)) contains many recommendations that, if implemented, could contribute to making meaningful progress towards restoring trust in stock assessments and strengthening the Council process. The GMT acknowledges workload and budget constraints across National Marine Fisheries Service (NMFS), state agencies, Council staff, and other bodies. While the GMT broadly supports this overall effort, we recognize that it is likely only a subset of the recommendations can be implemented.

Within Appendix A of this report, the GMT added our responses to Lynker’s recommendations to [E.3 Attachment 2](#). In this report, we provide high-level reflections on the Lynker recommendations and more detailed discussion on some of our recommendations.

The GMT’s top recommendations are:

- Create a centralized portal from which all information for current and past stock assessments (including resulting final OFLs, ABCs, and ACLs) is linked, searchable by stock. The existing PAM website could be repurposed to that end. This portal could contain additional sections such as links to educational materials, the PFMC stock assessment process overview, a stakeholder stock assessment engagement guide, the upcoming stock assessment schedule, and stock assessment FAQs;
- Conduct a pre-STAR assessment webinar at the time the assessment report is first made publicly available and, at that time, solicit stakeholder feedback for consideration during the STAR panel. Provide stock assessment feedback guidelines to stakeholders that explain what type of feedback is requested and sets expectations on how feedback is incorporated into the stock assessment process. Then include responses to feedback received in the final STAR panel report;
- Re-institute “fireside chats” at regular intervals at Council meetings, aimed at providing an informal engagement opportunity between fishing industry members and scientists to help create shared understandings.

Transparency

Many of the recommendations focus on providing stakeholder/audience-specific informational materials and improving accessibility of the process to stakeholders. The GMT concurs that this should be a high priority. We note that much of that material already exists, some within the Council’s own web domain and some on other agency’s websites. However, the materials (including those available through the Council’s website) are hard to find and scattered between briefing books, the PAM, the groundfish stock assessment documents page, and the SAFE documents page. We recommend consolidating assessment-related information currently available on the Council’s website into a single, intuitive location or portal on the Council’s website. The Southeast Data Assessment and Review website ([SEDAR](#)) is an excellent example of what this could look like. It has the following features that address multiple recommendations of the Lynker report:

- A ‘how to get involved’ section
- Process documentation and FAQ section
- A visual assessment schedule for the next years
- Stock assessments searchable by species where users can then see all previous assessments for that species, and each assessment has its own page that contains all relevant information used in that assessment, from data workshop to review documents

We recognize that this reorganization would take some work, and building the new stock assessment portal might need to be outsourced, but we think it is a worthwhile and highly needed investment. If creating a resource such as the SEDAR website is not feasible with existing (or anticipated future) budget and Council staff capacity, smaller steps towards the larger goal of consolidating stock assessment information in a single, intuitive location would still be a meaningful process improvement. This would directly address several Lynker recommendations to improve process Transparency, including action items #1a (Clarity in Process Navigation) and #1b (Information Accessibility), while also laying the groundwork to more effectively implement solutions recommended for other themes under the “website” or “misc.” category in Attachment 2. The GMT sees this recommendation as a high priority as it can enhance the efficacy of other process improvements.

Communication

Scientific Communication

The GMT acknowledges the dual importance of communicating stock assessment results to stakeholders and preserving the integrity and rigor of the scientific review process. Use of precise scientific language during STAR panels is necessary, and it is not practical to explain the technical workings of stock assessments to stakeholders during those panels. While STAR panels are not the ideal avenue for public education and outreach, the Council and its partners should provide those opportunities through online materials (see recommendations in the previous section of this report) and other engagement opportunities (see ‘Inter-body Communication’ below).

The GMT also notes that while scientific communication is important, some of the greater problems and mistrust within this system cannot be improved through better communication to stakeholders. Instead, trust can be better built through the co-creation of products through the sharing of knowledge by all parties.

Council Requests to the SSC regarding scientific advice

Regarding Lynker report recommendation 2b-ii (“Establish a technical referral protocol that allows the Council to request the SSC to reevaluate determinations when new information arises”), the Council already requests additional SSC review of scientific advice on an ad-hoc basis (for example, widow rockfish and California quillback rockfish). This suggests that some level of protocol would be beneficial for ensuring consistency and objectivity across stock assessments and cycles. However, the protocol will likely need to maintain some flexibility since each assessment typically has different challenges or issues.

We note that the SSC provides its advice in accordance with the policies laid out in the FMP, such as how to apply scientific buffers and criteria to determine whether overfishing is occurring. If the Council would like more flexibility in the scope of what the SSC can recommend, the Council may wish to re-evaluate existing FMP policies within the risk policy agenda item (currently slated for November 2026).

Additional flexibility in BSIA determinations in the stock assessment process could also be addressed via stock assessment “on/off ramps” under the TOR agenda item at this meeting. The GMT is supportive of stock assessment on and off ramps but also notes that there would need to be highly specific criteria and guardrails for recommending the on/off process, to ensure stock assessments aren’t “off ramped” in response to unpalatable results. The details of the on/off ramp process can be addressed in a future meeting under TOR revisions.

Inter-body Communication

The GMT agrees with the Lynker report that more effective cross-body communication is needed. Some bodies, especially the SSC, are rather siloed. This is likely by design, to respect the division between science and policy and allow the SSC to fulfill its role as an independent scientific review body. However, risk evaluation is a complex process that doesn’t cleanly fall into the ‘science’ or ‘management’ category. As the recent example with widow rockfish has shown, a broader understanding of risk management is needed, one that considers the trade-offs between risk to the stock and risks to fishing communities and fishing industries. To that end, the GMT agrees that better dialogue and shared understanding between the various groups involved in the PFMC process is needed. A possible low-hanging fruit is to create a 2-hour cross-body ‘fireside chat’ space to be held at regular intervals during Council meetings, potentially the evening before the chair’s reception since the SSC and advisory bodies will already be meeting that day. It would be an informal, optional attendance event, although participation by scientists (SSC members and NOAA science centers) as well as managers (Council and NOAA regional office) should be encouraged. The format of this would be just open discussion and Q&A with the goal of fostering mutual understanding, shared learning, and better management. Creating such a forum would require little to no additional costs, besides people’s time for 2 hours, since potential participants would already be gathered.

Assessment Process Cadence

The GMT does not endorse the recommendation to turn the STAR process into a three-stage process (Lynker recommendation 4b-i), but the GMT agrees that there are shortcomings in the way the current stock assessment process is structured that need to be addressed. The one-week long STAR panel is the first time non-STAT members can review model results, which is a lot of information to take in, process, and respond to in a short period of time. The GMT thinks there is merit in the Lynker report’s proposal to space out the STAR panel stages and build in time for reflection. Instead of a three-stage process, this reflection time could be fulfilled by a pre-STAR webinar at the time the assessment report is made publicly available (around two weeks prior to the STAR panel). This would give fishing industry members the opportunity to ask questions and synthesize their assessment feedback for consideration during the STAR panel, which should be channeled through the GAP representative at the STAR panel. Responses to this feedback should then be included in the STAR report.

Feedback

The GMT agrees that engagement feedback is valuable to the stock assessment process, but we do not think it is practical or beneficial to track every single comment received throughout the process. Rather, the overarching themes ought to be distilled, and the responses to those themes made available. The GMT recommends that the Council and its partners publish stock assessment feedback guidelines that coach stakeholders about when and how to provide feedback in a way that can be used in the assessment. These guidelines should also help set expectations for feedback incorporation (i.e., not all information can be translated into stock assessment model inputs, and

more data does not always equal a better, more accurate assessment). There are likely existing resources that Council staff can lean on in lieu of creating entirely new guidelines.

Conclusion

The Lynker report offers an excellent opportunity for the Council and its advisory bodies and partners to evaluate what is and isn't working in the current stock assessment process. While implementing some of the Lynker recommendations would temporarily increase existing workloads, there is also the potential for reducing workloads over the long term – e.g., less time spent debating the results and appropriateness of their use, fewer requests for the SSC to revisit issues, fewer mop-ups, fewer additional reviews, and fewer requests to redo assessments. The GMT encourages the Council to take steps to address the recommendations that have been identified by the GMT, the GAP, the SSC, and Council staff as high priority.

Appendix A

GMT feedback on a select set of Lynker recommendations

Theme	Description of Recommended Actions	Category	GMT Comments
Transparency			
1a. Clarity in Process Navigation	1a-iv. Publish "How to Engage" guide, specifying when and how stakeholders and the public will be engaged.	website	The GMT recommends the Council publish a 'getting involved with stock assessments' guide, analogous to the existing getting engaged with the Council process guide.
1b. Information Accessibility	1b-i. Centralize records on a single online portal.	website	The GMT agrees with the Lynker recommendation. While the intent of the PAM site is to create a single web location for assessment information, the GMT sees room for improvement and recommends prioritizing this so that the information is organized logically, is user-friendly, and encompasses as much relevant information as possible in a single location. A good example of what a centralized portal could look like is the Southeast's https://sedarweb.org . The PAM site should contain links to all key documents, to the extent possible, and be organized by stock/species rather than assessment cycle. This item is high priority because it also lays the groundwork to improve the efficacy of other process improvements under the "website" category.
	1b-iv. Provide documents embedded within the Council's summary of agenda items	website	See 1b-i response
1c. Meeting Accessibility	1c-ii. Develop virtual facilitation protocols and rules.	website	The existing Code of Conduct documents are separate and unrelated to the facilitation protocols Lynker recommends implementing; the GMT agrees that they would be useful, particularly for non-STAR webinars such as pre-assessment data workshops.
	1c-iii. Train chairs and moderators in online deliberation/ facilitation techniques.	misc	The GMT agrees with the Lynker report that this kind of training would be valuable. Many such trainings already exist. For example: https://coast.noaa.gov/digitalcoast/training/virtual-meetings.html or https://coast.noaa.gov/digitalcoast/training/met.html , and there are existing trainings, for example: https://coast.noaa.gov/digitalcoast/training/facilitation-basics.html . Council staff could compile a list of existing materials and identify an existing course that is recommended for chairs and moderators to take
Communication			
2a. Scientific Communication (e.g., Uncertainty, Risk, P*)	2a-i. Standardize the expression of uncertainty, brief risk summaries, and intuitive definitions of misunderstood terms, etc.	website/ misc	This information already exists in various places on the internet. For example: - https://www.fisheries.noaa.gov/topic/population-assessments/fish-stocks , - https://s3.amazonaws.com/media.fisheries.noaa.gov/2020-10/2020_CouncilTraining_StockAsmts_508_Final.pdf , - https://www.saltwaterguidesassociation.com/how-do-we-count-fish-understanding-fisheries-stock-assessments/ , - https://masglp.olemiss.edu/fisherymanagement/part4/ .
	2a-ii. Include brief, intuitive definitions of technical terms in public reports.	misc	There is also the potential for AI to help convert a technical document to layman's terms. The GMT recommends Council staff, the SSC and NOAA review and compile the existing learning resources (websites, PDFs, videos, the monthly open stock assessment call etc) and make a list/ compilation of the best materials available under the 'Resources' section of the Council website. The GMT notes that scientific jargon is needed at STAR panels to maintain scientific rigor in line with the goal of the meeting which is technical review of the stock assessment. See GMT report for further discussion.
	2a-iii. Adopt plain-language pre-briefings deliberations relevant to assessment outputs	COPs	The GMT recommends the Council make sure these existing resources are easily discoverable - see recommendation 1b-i (if a central portal existed, they could be linked there)
	2a-iv. Provide optional communication training modules for new participants.	misc	See GMT recommendation for 2a-i and 2a-ii. The existing resources should be catalogued in an easy-to-find location
2b. Intra-Council Communication and BSIA Determinations	2b-ii. Establish a technical referral protocol that allows the Council to request the SSC to reevaluate determinations when new information arises.	TOR	The GMT support this Lynker recommendation and recommends that the SSC and NOAA take lead on drafting the referral protocol for Council review. See GMT report for more in-depth discussion of this topic.
	2b-iii. Host cross-body workshops to align expectations and understanding.	misc	The GMT supports this idea and proposes adding a 2-hr standing time block (i.e., an informal 'coffee chat' or 'fireside chat') at regular intervals at Council meetings, potentially the night before the Chair's reception; see GMT report for further discussion.

2c. Advisory Body Orientation and Onboarding	2c-i. Develop recurring “Advisory Body Bootcamp” programs (see Appendix C).	misc	The GMT supports improvements to onboarding ABs but is unsure if this specific example is the best avenue. The GMT recommends Council staff work with ABs to determine the best avenue to onboard new members. (https://www.pcouncil.org/navigating-the-council/getting-involved/)
	2c-ii. Rotate advisory body alumni as informal mentors for new members	misc	The GMT views this as more useful to industry ABs than management teams, as management team members are often supervised by Council members who have been in the process for some time. To some extent, this is already occurring across all ABs but could be better formalized.
	2c-iv. Develop a concise Advisory Body Handbook.	misc	The GMT has been developing a Continuity Book that helps onboard new members and serves as a single location for all GMT-relevant guidance and resources.
Stakeholder Engagement			
3a. Early Integration of Local and Cooperative Data and Perspectives	3a-i. Prioritize two-tiered, early data workshops preceding assessment cycles.	TOR	The GMT does not support adding additional data workshops. Rather, we should re-evaluate the existing data workshops to ensure they meet the accessibility and stakeholder engagement opportunities described in the Lynker report under Recommendation 3a-i, which the GMT supports, and may require restructuring the workshops and re-evaluating their timing.
	3a-ii. Develop “data-use memos” showing how inputs were applied (see Appendix D).	TOR	The GMT supports the idea underpinning this Lynker report recommendation. The GMT understands data uses are discussed in the data workshops, its report, and are described in the stock assessment report materials. Ongoing communication on data uses would be valuable throughout the process, but repeating materials provided elsewhere may impose additional workloads. How best to communicate these effectively is worthwhile to consider.
3b. Pre-Assessment Engagement	3b-i. Continue (and increase) investment in pre-assessment workshops.	TOR	The GMT agrees that communication and outreach between the data workshops and the STAR panel should be a priority. This could occur in the form of a briefing between when the report is publicly available and the STAR panel where model structure and preliminary base case results are presented to stakeholders as an opportunity to ask questions and prepare any GMT or GAP comments for the upcoming STAR Panel. The GMT recommends this be incorporated into the 2027 assessment cycle. The GMT notes that workload capacity may be a roadblock to implementation.
	3b-ii. Encourage engagement points for stakeholders with the STAT.	misc	
3c. Assessment Education and Training	3c-ii. Standardize “Data Workshop Packets” summarizing data and decisions.	TOR	See response to 3a-ii.
	3c-iii. Develop educational videos or briefing papers.	website/ misc	See GMT recommendation for 2a-i and 2a-ii. The existing resources should be catalogued in an easy-to-find location.
Assessment Process Cadence			
4a. Resource Constraints	4a-i. Further integrate workload planning processes.	misc	The GMT is concerned that spending substantial time and resources discussing workload could reduce the amount of time and resources available to do the work.
4b. Process Fatigue	4b-i. Rebalance workload through a three-stage STAR process.	TOR	The GMT does not endorse the recommendation to turn the STAR process into a three-stage process, but the GMT agrees that there are shortcomings in the way the current stock assessment process is structured that need to be addressed. See response to 3b-i and 3b-ii.
	4b-ii. Limit redundant review steps.	TOR	The GMT agrees that, in theory, redundant review should be limited. In practice, however, it's going to be difficult to implement. Scientific reviewers have to be able to ask questions, which will invariably lead to re-reviewing items that have already been reviewed.
4d. Assessment Categorization and Evolution of Approaches	4d-iii. Encourage STATs to continue employing these assessment approaches	misc	The GMT sees value in applying potentially less work-intensive data-limited and data moderate approaches to screen for stocks that would benefit from a more thorough evaluation, noting that less complex assessment methods may be easier to conduct on the assessment side but will still require work from partner organizations to submit the needed data.
	4d-iv. Develop outreach materials on these methods.	website	See GMT recommendation for 2a-i and 2a-ii. The existing resources should be catalogued in an easy-to-find location.

Feedback			
5a. Transparency Feedback	5a-i. Conduct earlier, iterative feedback check-ins (e.g., through the pre-assessment workshop and additional touch points).	TOR	The GMT agrees this should be a priority. See GMT recommendation on 3b-i and 3b-ii.
	5a-ii. Proactively solicit feedback following each assessment cycle.	TOR	The GMT agrees with this Lynker report recommendation. Having a process for soliciting feedback at each step in the process and then revisiting such feedback during the process review aligns opportunities for feedback with periods where engagement is likely to be highest.
	5a-iii. Integrate feedback reviews to include evaluations of hybrid meeting formats.	TOR	Examples include a standard survey sent out within a shorter time period following the assessment, or an online feedback portal available 24/7 on the PFMC website. This should be incorporated, if possible, in the 2027 assessment cycle. Based on the potential for high workload associated with this action, the GMT supports exploring avenues to reduce this workload, since this is a potentially beneficial action.
	5a-iv. Public summarize feedback themes and resulting adjustments.	TOR	
5b. Communication Feedback	5b-ii. Establish cross-body workshops to exchange feedback.	COPs	The GMT supports this Lynker report recommendation and notes that this could be achieved through the 'coffee/fireside chat' idea we proposed under 2b-iii.
5c. Engagement Feedback	5c-i. Create a public engagement feedback tracker and the Council or SSC's corresponding response.	misc	The GMT feels it is not practical or useful to track every single comment, but there could be 'feedback and response' section in each STAR report that is high-level and tracks themes. See comments under 5a-ii through 5a-iv.
	5c-ii. Incorporate responses to public input in meeting minutes.	misc	The GMT feels this should be easy to implement, as it seems to be occurring already to some extent (e.g., yellowtail rockfish) and recommends <i>summary responses</i> which the GMT reads to be high-level feedback response to <i>themes</i> that emerged from the feedback, not every individual comment. This should be implemented in the 2027 assessment cycle. See GMT report for further discussion.
	5c-iii. Explicitly encourage participants to provide engagement feedback in a constructive and specific way.	website	To the extent possible, feedback should be distilled into actionable items or requests since feedback can be difficult to address when there is no clear way to provide solutions. To that end, feedback "recommended guidelines" could be developed to help stakeholders provide the feedback at the appropriate time, in the appropriate venues, and in actionable solutions. Feedback recommended guidelines can be provided as a reminder within meeting and/or briefing materials.
5d. Assessment Process Feedback	5d-i. Develop an internal feedback archive or tracking spreadsheet, emphasizing outcomes from post-STAR retrospectives.	misc	The GMT agrees that lessons from previous STAR panels should be consolidated and used to improve future STAR panels. See comments under 5a-ii through 5a-iv.
	5d-ii. Use findings to update TORs and training.	TOR	