

ECOSYSTEM WORKGROUP REPORT ON THE ECOSYSTEM AND CLIMATE INFORMATION INITIATIVE - PROGRESS REVIEW

The Ecosystem Workgroup (EWG) met on August 15th via webinar to discuss progress on Fishery Ecosystem Plan (FEP) Initiative 4, including the California Current Integrated Ecosystem Assessment (CCIEA) report on the groundfish risk tables and the Scientific and Statistical Committee Ecosystem Subcommittee's (SSC-ES) August 5th meeting. The EWG thanks the CCIEA Team for their excellent work on this report and the SSC-ES for their detailed review.

The EWG [will meet again September 9-11](#) and may produce additional reports on this topic based on our discussions there. This report for the advance Briefing Book is to highlight potential next steps and questions that may help prompt discussion by other advisory bodies in time for them to advise the Pacific Fishery Management Council (Council) in supplemental reports at the meeting.

Recognizing that the Council has yet to hear from the full SSC, the EWG foresees the following steps for the Council to take at this **September 2024 meeting**:

- 1. Review and comment on the next steps for the groundfish risk tables, as detailed below and in the CCIEA report and discussed in the August 5th SSC-ES meeting and as advised by the full SSC at the meeting.**
- 2. Provide guidance on whether the risk table approach should be incorporated into the groundfish management cycle and on next steps for identifying which of the species could be included for the assessments conducted in 2025.**
- 3. Review the pathways that have been identified for each fishery management plan (FMP) and provide guidance on how to move forward and the associated timelines for progress reports for Council review.**

As the goal of this Initiative would be to make the process a regular part of the Groundfish FMP cycle, the EWG would recommend that the Groundfish Management Team (GMT) and Groundfish Advisory Subpanel (GAP) and Council staff supporting the Groundfish FMP:

- 1. Review the proposed implementation timeline in the groundfish harvest specifications process and provide feedback on the timing and role of the GAP and GMT in the implementation process.**
- 2. Provide guidance and recommendations on the GMT's/GAP's role as advising on species prioritization for risk table development.**
- 3. Consider the stocks prioritized for the next assessment cycle and identify which could best make use of a risk table.**
- 4. Provide thoughts on additional pathways that the GMT/GAP would see merit in additional review or exploration (P*, staleness etc.).**
- 5. Provide a plan on incorporating this process into the groundfish FMP.**

The EWG expects to discuss ideas for potential roles under the case where Initiative 4 is fully integrated into the Groundfish FMP and anticipates a supporting role could be needed or helpful. However, the key to making the process successful would be to have the interactions between the

IEA/ecosystem experts (some of whom are members of the EWG), and the stock assessment teams and FMP experts and advisors become a regular feature of the process.

Background and Overall Progress

FEP Initiative 4 builds off of the previous initiative (the Climate and Communities Initiative) to bring ecosystem and climate information into FMP based harvest and season-setting decision processes. To date we have achieved the goals put forth in the timeline that was adopted by the Council in March 2023, although the species selection process was deferred by the Council (see Appendix 1 for a detailed summary of progress to date). The EWG supports the changes to the groundfish risk tables in the CCIEA report, and recommends that this methodology be used moving forward, following the revisions recommended during the August 15th SSC-ES meeting as endorsed by the full SSC during their September meeting. Remaining work on the initiative includes adopting a final process for selecting future species or species groups to develop risk tables for, and making any adjustments to advisory body schedules for considering ecosystem and climate information. Additionally, in March, the Council requested that the EWG work with the salmon advisory bodies to develop a risk table approach for use in salmon forecasting, as described in Agenda Item H.2.a, Supplemental HC Report 1. To date we have not been able to meet with the Salmon Technical Team and Salmon Advisory Subpanel and develop this approach, although the EWG chair did present a summary of the initiative to the Sacramento River Fall Chinook Working Group (SRWG). The EWG has met with the coastal pelagic management teams as well. If the Council wishes to extend the risk table approach to these FMPs, we provide suggestions on how this could be accomplished. Lastly, the EWG felt it was important to note that even if risk tables are not formally used in the harvest setting process, there is still a benefit in having more information for managers to consider, and the tables represent a structured process to promote communication between stock assessment and ecosystem scientists, which could lead to direct inclusion of climate and ecosystem science in stock assessments in future assessment cycles.

The EWG felt it was important to have a report on progress to date on the initiative for discussion by the other advisory bodies, and anticipates further discussion at our September meeting including recommendations in a supplemental report. The EWG felt that our recommendation for the initiative be completed or continued is a rhetorical question, as there are still several outstanding tasks that could be done as part of the initiative or by the FMP advisory bodies (with support from the EWG and Science Centers) if the Council opts to integrate risk tables into our management practices.

Groundfish

The new [CCIEA report](#) on FEP Initiative 4 greatly clarifies and simplifies the risk table process, and the EWG's discussion focused on the completeness of the initiative and next steps.

Overall, the EWG anticipates that the SSC will recommend that the risk table process will be ready to be used in the next round of stock assessments. The EWG agrees that the structure and staffing would be in place and of value. If the Council chooses to adopt the risk table approach for groundfish then the **EWG recommends the following next steps:**

- **Amend the Groundfish Stock Assessment Terms of Reference (TOR) to allow the SSC to adopt a range of sigmas in the 2025 assessment cycle based on risk tables, as recommended by the SSC-ES during their August 5th meeting.**

- **Identify additional stocks to develop risk tables for. The EWG supports the SSC-ES recommendation to update the risk table for sablefish, plus develop one to two new risk tables for benchmark or update stock assessments being conducted in 2025.**
- **Adopt the implementation timeline from the CCIEA report (Table 5.1), and provide guidance on who should review the risk tables (the Stock Assessment and Review (STAR) panel and/or the SSC groundfish subcommittee (SSC-GFSC)).**

Moving forward, future advances to the risk table methodology could be reviewed and updated as part of the mop up, methodology review, and adoption of TORs.

If the Council opts not to adopt the risk table approach for the next stock assessment cycle, but still wants to continue to develop the risk table approach, then the EWG would recommend that risk tables be developed in parallel to the stock assessments, and that they be reviewed by the STAR panels and SSC-GFSC, as would have been done if the TOR had been formally amended.

Salmon

In its March meeting the Council directed the EWG to start adapting the risk table approach for Klamath and Sacramento fall Chinook salmon. Unfortunately, the EWG has not been able to meet with the salmon advisory bodies to discuss how this should be done. The EWG recommends:

1. The EWG, CCIEA team, salmon advisory bodies and working groups meet virtually prior to the end of the year to discuss how salmon forecasts for the Klamath and Sacramento fall Chinook are conducted and where ecosystem information could be considered.
2. Following this, the Council request that the EWG, CCIEA team, and Science Center salmon experts review these considerations and report back to the Council, which we recommend occur in March 2025, on how best to proceed, including proposed recommendations on how ecosystem information could be included in salmon forecasts.
3. In March the Council could review the recommendations and provide guidance on whether they should be considered for the 2025 salmon methodology review.

Coastal Pelagic Species

Based on our meetings with the Coastal Pelagic Species Management Team (CPSMT)/Coastal Pelagic Species Advisory Subpanel (CPSAS) and their reports to the Council in March 2024 (Agenda Item H.2.a, [CPSMT Report 1](#) and [CPSAS Report 1](#)), the EWG learned that there are several potential pathways to include climate and ecosystem information in the harvest setting process for CPS. If the Council wishes to scope these pathways for potential to develop a pilot example for the CPS FMP, the EWG recommends the Council schedule a check-in agenda item for the March 2025 meeting.

Highly Migratory Species

Highly migratory species (HMS) are internationally managed, and climate and ecosystem information is currently being incorporated into that process. There has been discussion by the EWG on the utility of developing ecosystem and climate summaries for HMS species to be used to better inform the Council on what information is being considered and how ecosystem and climate conditions are impacting HMS stocks. If the Council would like this concept to be developed further a pilot table could be developed for a future Council meeting. In the meantime,

it is the EWG's understanding that the proposed Inflation Reduction Act Project 3: Developing Climate Ready Fishing Methods that Mitigate Bycatch of Non-Target, Associated Species in a Changing Ecosystem, will address potential ways in which climate and ecosystem information can be incorporated into the Council's HMS fishery management process. The EWG supports this effort as it is consistent with the HMSMT report from March 2024 (H.2.a, [HMSMT Report 1](#)), recommending that the Council consider climate and ecosystem information when developing the HMS Roadmap Goals and Action Items.

PFMC
08/22/24

Appendix 1: Timeline for Initiative 4 with EWG reports and Council Guidance for Reference

September 2022

The Council:

- Adopted the revised Fishery Ecosystem Plan Initiative Appendix with revisions proposed by the Habitat Committee.
- Adopted Initiative 2.1 as the Council's next ecosystem initiative as described in the revised Initiatives Appendix, with work proceeding according to the recommended near-term schedule presented by the EWG, including Council consideration of actions described in Initiative 2.6** and 2.8** in September 2023.

*** Note these are the basis for the IRA projects 1 and 2*

March 2023

[EWG Report 1](#) and [Supp EWG Report 2](#)

The Council endorsed the Ecosystem Workgroup's (EWG) workplan for implementing the Ecosystem and Climate Information Initiative (Initiative 4). In the near term, the EWG proposed developing an ecosystem and climate change-informed risk table for petrale sole, which would be presented at the September Council meeting and subsequently could be used in the groundfish harvest specifications process. However, the Council directed the EWG to develop a risk table for at least one additional species for review in September.

September 2023

[EWG Report 1](#) and [Supp EWG Report 2](#)

The Council reviewed Agenda Item F.1.a, EWG Report 1, and Supplemental Report 2, considered recommendations from its other advisory bodies, and provided the following guidance on further work on the ecosystem initiative:

- Deferred consideration of the species selection process and method described in EWG Report 1, section 2, and Appendix A.
- Directed the Ecosystem Workgroup (EWG) to continue work on identifying on-ramps for providing ecosystem information in management processes, as presented in EWG Report 1, Figures 1-3, based on input from advisory bodies.
- Directed the Scientific and Statistical Committee (SSC) Ecosystem Subcommittee to review the risk assessment rubric and application to petrale sole and sablefish (Table C-1 in EWG Report 1 and Tables C-2 and C-3 in Supplemental EWG Report 2) and report to the full SSC at its November meeting.

- Endorsed a joint meeting between the EWG, the Groundfish Management Team (GMT), and the Groundfish Advisory Subpanel (GAP) before the November Council meeting, preferably to occur during the GMT’s October 16-20 online meeting. This will allow further review and consideration of the risk assessment rubric and risk assessments for petrale sole and sablefish by the GMT and GAP.
- Endorsed a joint meeting or meetings between the EWG and the Coastal Pelagic Species Management Team and Advisory Subpanel over the fall and winter to discuss tools and processes for integrating ecosystem information into management processes.

March 2024

[EWG Report 1](#) and [EWG Supp Report 2](#)

The Council directed its Ad Hoc Ecosystem Workgroup (EWG) to work with NMFS Science Center staff to further develop the methodological framework for risk tables and apply it to groundfish (see Agenda Item H.2.a, Supplemental EWG Report 2, request #1.) This work should include a retrospective analysis of how risk tables would have impacted decision-making based on past groundfish stock assessments. Depending on the outcome of this work, the Council could consider using risk tables for sablefish and petrale sole as part of 2027-2028 groundfish harvest specifications decision-making, based on the most recent stock assessments for those stocks. If development of risk tables for additional groundfish stocks is considered, they should not be developed for data-limited species or groups at this time. As part of developing the risk table methodology, their application should be broadened to include selected salmon stocks as described in Agenda Item H.2.a, Supplemental HC Report 1. The results of this work will be reviewed by the SSC Ecosystem Subcommittee over the summer so that results can be reported at the September Council meeting.

EWG Council Endorsed Timeline from March 2023

- April - September 2023:
 - EWG works with Science Centers’ staff to draft petrale sole ecosystem and climate information report, in consultation with the GAP and GMT, to be shared with the Council under the September 2023 initiative update agenda item. **COMPLETED**
 - EWG revises and updates future species selection criteria based on guidance from March 2023, presents revised draft under the September 2023 initiative update. **DEFERRED**
 - EWG drafts schedule for follow-on initiatives to support fishing community resilience (Initiative 2.6 in FEP appendix) and management flexibility (Initiative 2.8 in FEP appendix) based on the FEP and on Council recommendations from the Climate and Communities Initiative. **COMPLETED: IRA Project Proposals**
- November 2023:

- Following September 2023 Council review of the draft petrale sole report in September, determine whether final petrale sole report can be delivered in support of groundfish agenda items in November 2023. The EWG is seeking SSC input on review timing, noting that it could involve one or both of the Ecosystem and Groundfish subcommittees and be conducted for Council consideration in September or November. **COMPLETED**
- March 2024:
 - Council and advisory bodies test future species selection criteria process and make recommendations for species or species groups to be added to those receiving ecosystem and climate information reports, taking into account the FMP schedules appropriate to the selected species. **DEFERRED**
 - See EWG Next Steps recommendations [on pages 4-5](#)
 - And, [supplemental report](#)
- April 2024 - September 2024:
 - EWG revises and updates future species selection criteria process, finalizing for Council review and adoption in September 2024. **DEFERRED**
 - EWG works with Centers' staff to draft additional ecosystem and climate information reports for species or species groups recommended by the Council in March 2024.
- September 2024:
 - *Council adopts final process for selecting future species or species groups to be subject to ecosystem and climate information reports. Council finalizes initiative and makes any needed near-term adjustments to its advisory body schedules for considering ecosystem and climate information.*