

ECOSYSTEM ADVISORY SUBPANEL REPORT ON THE CLIMATE AND COMMUNITIES INITIATIVE

The Ecosystem Advisory Subpanel (EAS) met to discuss the report provided by the Climate and Communities Core Team (CCCT) on the Climate and Communities Initiative ([CCI]; Agenda Item H.2.a, CCCT Report 1). We continue to commend the initiative. Overall, we found that the report provided a series of positive and important next steps to move the CCI towards its goal of implementing changes to fisheries management practices to be more responsive to climate change within the California Current Ecosystem. The scenario planning exercise provided a foundation for identifying and “improving [..] responsiveness of our management actions [...] and strategies for increasing the resiliency of our managed stocks and fisheries.”

Overarching comments

The EAS sees this as a significant and important undertaking and viewed the scenario planning project as a good first step forward. We feel strongly that the underlying goal of this initiative has not yet been met. Finishing the CCI’s objectives, as initially set out by the Council, will better inform management in the face of an uncertain future of climate variability.

We identified two options to build on the work already conducted and “...develop and implement strategies...”:

- a) Continue the existing CCI under modified leadership.

OR

- b) Conclude the CCI and develop a new initiative that builds upon what has been done thus far, potentially titled the “Climate Ready Fishery-Ecosystem Initiative”.

There were compelling opinions expressed for each option and the EAS could not come to agreement on a recommendation.

Regardless of the path forward, the EAS all agreed that the original goal was still valid and appropriate and the Pacific Fishery Management Council (Council) should take the next step in achieving that goal. The CCCT should be dissolved, as they have successfully concluded their role to develop and oversee the scenario planning process, and another group should shepherd the next chapter of the work. The EAS discussed whether the Ecosystem Workgroup (EWG) might be the appropriate body or a new ad hoc workgroup composed of representatives from the EWG and EAS, scientists, managers, and stakeholders would be appropriate but does not have a recommendation.

Project-level recommendations

After an in-depth discussion of the merits of each of the proposed “Potential Council Actions,” we offer several observations:

- Traditional Ecological Knowledge (TEK) and Local Ecological Knowledge (LEK) should be separate from the “Civic” science as they are distinct. Including TEK and LEK in future CCI products has the potential to deepen and improve our understanding of climate impacts on fish stocks and fishing communities.
- Greater integration of social science into the CCI, following best social science practices (Charnley et al. 2017), will be valuable for understanding the impacts of potential management strategies on the wellbeing of fishing communities.
- The EAS recognizes that climate impacts on fisheries are not fully separable from other factors that influence fisheries (e.g. harmful algal blooms, hypoxia, shifting stock distributions), and we recommend that a broad framing of climate-associated changes will best serve the goals of the initiative.
- Among the aspects that will pose a challenge are the differing timescales of Fishery Management Plans (FMPs), exempted fishing permits, and Council and National Marine Fisheries Service actions. Acknowledging these timescales and routes of integration will help provide an informed path forward.
- Novel approaches to assessing risk in setting annual catch limits, as included in the Agenda Item H.1.a, EWG Report 1, Pacific Coast Fishery Ecosystem Plan Chapter 5 (see Dorn and Zador 2020), could be a useful tool.
- In section 1.a.iv of the CCCT report, it is proposed that the Integrated Ecosystem Assessment Team include an appendix in the annual State of the California Current Ecosystem Report (CCE Report) that would provide climate change information and take into account the scenarios developed through scenario planning. Greater inclusion of near-future climate trajectories, including early warning indicators, could increase the impact of the CCE Report to guide future management in light of climate variability and change driven by greenhouse gas emissions.
- Where appropriate, we would like to see future activities of the CCI directly linked to operational objectives derived from such documents as Chapter 1 of the Pacific Coast Fishery Ecosystem Plan (FEP), stated objectives in FMPs and objectives extracted from the Magnuson-Stevens Act National Standard Guidelines (National Standards). For example, Management Strategy Evaluations could address the question “how might climate change impact our ability to achieve objectives specified in the FEP, FMPs or National Standards. Stock assessment or ecosystem models could be used to explore the effects of specific management strategies/approaches (e.g., increased flexibility) on achieving a range of ecological, social, and cultural objectives.
- Within the *Civic Science* section (and in addition to separating TEK and LEK from Civic Science), we emphasize that the utility of community-collected data is subject to the strength of the design, collection, curation, analysis, and accessibility of those data. The EAS notes that the term “community science” would be a more inclusive term.
- While we see the importance of understanding how the work we do to integrate climate change into fishery management fits into the bigger picture of international collaboration

regarding fish stocks that are managed across boundaries, there was some question whether this should be a near-term priority.

Summary

To reiterate, the EAS is excited to continue participating in efforts to address climate and ecosystem challenges and further develop this body of work. The accomplishments to date provide the first step along this path and we look forward to engaging in the strategy development, evaluation, and implementation stages of this project, in collaboration with the other advisory bodies and stakeholders. Regardless of whether this process continues as part of the CCI or the CCI is the inception of another that embraces the path the CCCT has laid out, preparing and integrating social, ecosystem, stakeholder, and management information in light of climate variability is a significant task. This is a goal that will prepare our coasts and communities for the decades ahead.

References:

Dorn, M. W., and S. G. Zador. 2020. A risk table to address concerns external to stock assessments when developing fisheries harvest recommendations. *Ecosystem Health and Sustainability* **6**: 1813634.

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