ECOSYSTEM ADVISORY SUBPANEL REPORT ON THE 2018 CALIFORNIA CURRENT ECOSYSTEM AND INTEGRATED ECOSYSTEM ASSESSMENT REPORT AND SCIENCE REVIEW TOPICS

The Ecosystem Advisory Subpanel (EAS) greatly appreciates the work of the National Oceanic and Atmospheric Administration (NOAA) Integrated Ecosystem Assessment (IEA) team to develop and produce the 2018 California Current Ecosystem and Integrated Assessment Report (Ecosystem Report). The Ecosystem Report continues to be not only informational but useful, providing important ecosystem information to the Council and stimulating consideration and future investigation into important topics. We hope that in the future, the information contained in the report will be made even more useful for managers through the use of additional reporting mechanisms or development of pathways for inclusion in Council decision-making points.

Report Highlights

- The report provides reasonable evidence for the amelioration of anomalous ecosystem conditions and a transition back to "average" conditions.

- The poor conditions for salmon were apparent and the report suggests below-average returns are likely in 2018. The EAS recognizes the potential impacts to the larger ecosystem including recreational and commercial fisheries, direct impacts to Endangered Species Act-listed stocks, and higher order predators such as Southern Resident Killer Whales.

- The early warning index developed to act as a signal of major pending changes in the state of the California Current Ecosystem is exploratory, but important. We recommend continuing to develop such an index for inclusion in future reports as it could prove highly valuable because it has the potential to identify changes in variability and in the state of the system.

Recommendations for how to improve the report in 2019+

The EAS continues to be interested in socio-economic indicators and how they could be improved.

1) The social vulnerability index (SVI) is an important tool that can be refined to be more informative. Changes in the SVI when tracked over time could indicate changes in community vulnerability.
2) The EAS perceives a need for content beyond the output of the SVI in order to address the sustained participation of communities in fisheries. Information regarding the degree to which individual fishing communities maintain levels of fishing activity and infrastructure that support continued participation would be responsive to National Standard 8.
3) The EAS recognizes that these areas of research and reporting are challenging, but appreciates the work of the IEA and NOAA's social and economic scientists to understand these dynamics. The EAS also recognizes the costs associated with this research and the need for resources to support those costs.

Members of the EAS expressed a desire for temperature, depth, and other climate and ocean drivers to be reported, where possible, at finer spatial scales. For example, we support the long-term development and reporting of the Trinidad Head line along with the Newport and California Cooperative Oceanic Fisheries Investigations lines in future reports. The EAS believes these datasets are critically important and that finer resolution would provide helpful information to the Council and other users of the report.

2019 topic recommendations

The EAS appreciates the opportunity to review the ecosystem science topics proposed for Scientific and Statistical Committee (SSC) review in 2018. We recommend that this process be repeated next year. We are not commenting here on the scientific merit of the different topics, but on their perceived utility to the Council and fishery stakeholders. We think all topics have the potential to be useful; however, those with applications to the ecosystem should be prioritized. We support the SSC's proposed future meeting to further discuss these topics. We also note that there are no topics regarding social and economic science.

The EAS discussed all five topics and saw particular value in:

- Revising estimates of upwelling (Jacox)
- New indices of forage fish (Thompson)
- Indicators of groundfish distributions (Thorson)

PFMC
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