February 24, 2025

To: Dr. Jason Schaffler, chair, PFMC Scientific and Statistical Committee (SSC)
Dr. Tommy Moore, chair, SSC Ecosystem-Based Management Subcommittee (SSC-ES)
Marlene A. Bellman, SSC staff officer, Pacific Fishery Management Council (PFMC)

From: Dr. Andrew Leising, NOAA Fisheries / Southwest Fisheries Science Center
Dr. Mary Hunsicker, NOAA Fisheries / Northwest Fisheries Science Center
California Current Integrated Ecosystem Assessment team (CCIEA); co-lead editors, California Current Ecosystem Status Report (ESR)

Re: Potential topics for SSC-ES / CCIEA in September 2025 (Spokane, WA)

Dear Jason, Tommy, and Marlene:

For the past several years, members of the CCIEA team have met with the SSC-ES at September Council meetings to facilitate SSC-ES review of topics intended to improve the indicators and analyses that go into the annual ESR. As per Council-established processes for planning these meetings, the CCIEA leads have compiled a list of potential review topics, with the understanding that the list could change during the March meeting of the CCIEA leads and the full SSC. Here we propose two potential topics for the September 2025 SSC-ES / CCIEA meeting: 1) Incorporation of new data types (and indices) from glider surveys along the U.S. west coast, and 2) Recent efforts to modernize and streamline the ESR by moving certain methodological components to an appendix and online "living" document.

All topics are pending the availability of the investigators to present on the day of the meeting. We presume that for each of these topics, an IEA team member would give a brief presentation followed by short discussions (2 hours total). We are open to discussing some or all these topics and also welcome other ideas that may arise during SSC / CCIEA discussions at the March meeting.

The first topic concerns new methods that are likely to yield new indices in the future that could be folded into either the main body or appendices of the ESR, whereas the second topic we have already begun to implement for this year's report, but are looking for feedback on the most helpful way to proceed and the level of detail needed for this effort.

Thank you for your continuing support of the CCIEA team and our products.

Sincerely, Andrew Leising and Mary Hunsicker

cc: Gilly Lyons, PFMC

Topic 1: Review of new data streams from UAVs for use in ESR index development
Presenters: Drs. Andrew Thompson - NOAA Federal

Justification: The SWFSC has received funding to increase ecological observations made from underwater gliders in response to the need to better address ocean energy use. Although much of the data coming from these gliders is similar to data already collected and featured in the ESR, there are additional new data streams coming from these gliders, which may be of interest and use for upcoming index development for future iterations of the ESR.

Specifically, these gliders now regularly incorporate broadband scientific echosounders and are initiating the use of photographic instruments that produce thousands of images per deployment, known as "shadowgraphs". The primary use of this imagery is to provide information on the rough taxonomy, distribution, and relative abundance of zooplankton in the upper water column. Such data presents an enormous opportunity for characterizing secondary production throughout the CCS, at much higher temporal and spatial resolution than heretofore possible. There are many possibilities for the development of useful indices that could be directly incorporated into the main body of the ESR, and or used in conjunction with pre-existing indices to provide additional context for our overall assessment of oceanic conditions.

The CCIEA team requests that the SSC-ES consider a review of the new videographic data streams and potential indices stemming from such data for possible future inclusion in subsequent ESR iterations.

Topic 2: Streamline and modernize the ESR by creating a methodological appendix and online living document
Presenters: Greg Williams - NOAA Affiliate

Justification: Many parts of the ESR currently have methodological descriptions that do not vary from year to year, and thus are repetitive. Concurrently, we are continually looking for ways to include new information into the ESR, while at the same time coming up against hard limits in terms of report length. Following the example of the State of the Ecosystem Reports produced annually by the Northeast Fisheries Science Center for the New England Fisheries Management Council and the Mid-Atlantic Fisheries Management Council, we have decided to split out some of the repetitive methodological materials into both an online "living" document, and a separate appendix. The goal of this document will be to collate the methods used to access, collect, process, and analyze derived data ("indicators") used to describe the status and trend of social, economical, ecological, and biological conditions in the California Current large marine ecosystem. The "living" document will always be accessible online and will actually contain more detailed and specific methodological information than we currently have space for, including links to the data sources themselves, additional references, and details of pertinent calculations. Thus by moving some of this material out of the main report, we save space in the report, while also providing more detailed methods surrounding data collection and analysis. The document also allows a reader to rapidly view all the methods in one place if desired. Besides the online document, we plan to "capture" the state of all methodologies used each year as a stand alone document included as an appendix to the main report, as we have done this year.

At the joint SSC-ES and CCIEA team meeting in September 2025, we plan to present a more detailed overview of the information in this new methodological section, and would like to have discussions about the level of detail desired in such documents, along with how much detail to leave in the main report.