

Process: Scientific Review of Red Abalone Density Estimates in Northern California

Overview

The California Department of Fish and Wildlife (DFW) has requested the California Ocean Science Trust (OST) convene a Scientific Advisory Committee (SAC) to conduct a scientific and technical review of the survey design and methods currently used to estimate densities of red abalone (*Haliotis rufescens*) in northern California. This review will address:

- 1) survey design, including strengths and weaknesses of current methods for estimating red abalone density in northern California;
- 2) the application of existing methods, including analysis of existing data, and interpretation of results; and
- 3) uncertainty associated with existing methods for estimating red abalone density, and its adequacy for informing catch limits and other management controls of the recreational red abalone fishery in northern California, as outlined by the [Abalone Recovery and Management Plan](#) (ARMP).

OST will work with the SAC to produce a summary of review outcomes, including 1) assessment of the current practice used to estimate red abalone density, 2) whether current methods could be improved, and 3) if so, a list of ways the methods could be improved. This summary will be made publicly available on OST's website. OST's dedicated webpage for this review is: <http://calost.org/science-advising/?page=ongoing-reviews#red-abalone-density-estimates>

OST will compile appropriate background materials, draft instructions to guide the SAC throughout the process, and develop and disseminate review outcomes. Throughout the process, DFW Marine Region Program Manager, Tom Barnes, will serve as the primary management contact during the review process. OST will also work with DFW scientists to ensure the SAC understands how density estimate surveys for red abalone are being conducted and interpreted, and facilitate constructive interactions between DFW scientists and the SAC as needed. OST will host two remote meetings via Webex, as well as a one-day in-person

technical workshop to meet the goals of the review. Additional details are provided below, but all associated meeting materials, such as meeting agendas and summaries will be made publically available on OST's website.

OST Peer Review Policies

OST has developed the following set of policies that balance objectivity, scientific rigor, candor and transparency to guide the process of this scientific review.

Transparency

- 1) SAC members must be willing to serve openly, and allow their names to be associated with this process and review outcomes.
- 2) OST will make available on the OST website:
 - a. The names and abbreviated CV's of each of the SAC members;
 - b. all meeting materials (e.g. agendas and meeting summaries) and reports associated with the review process; and
 - c. the final summary of review outcomes.

Conflicts of Interest

SAC members will be screened for potential conflicts of interest to determine if they or any of the parties below stand to financially gain from the outcome of the process (i.e. employment and funding). Potential conflicts will be considered and may exclude a potential reviewer's participation.

- 1) The reviewer, the reviewer's spouse, minor child, or business partner;
- 2) The organization where the reviewer is employed, has an arrangement for future employment or is negotiating for employment or grants; or
- 3) The organization where the reviewer is an officer, director, trustee, or partner.

Selection of the Science Advisory Committee (SAC)

The SAC will be composed of 3 to 6 external scientific and technical experts from appropriate disciplines. Experts must meet a set of minimum qualifications for scientific expertise, including:

- Demonstrated expertise in scientifically recognized and accepted methods of survey design and sampling methodology, including use of these methods to generate estimates of density.

- An understanding of random stratified sampling in subtidal marine environments.
- A Ph.D. from an accredited university in the life sciences, oceanography, or a related field.
- Senior-authored publications on marine natural resource surveys or assessments in peer-reviewed, scientifically recognized literature.
- Experience conducting field work to survey marine benthic invertebrates is preferred.
- Demonstrated success working collaboratively.

To select members of the SAC, OST will accept recommendations from DFW, the Ocean Protection Council Science Advisory Team (OPC-SAT), and key constituent groups. One member of the SAC will serve as chair to 1) provide leadership among the SAC, 2) help ensure that all members act in accordance with review policies, and 3) promote a set of review outcomes that adequately fulfill the review scope and accurately reflect the views of all SAC members. OST will collect background information in the form of two-page CVs from all nominees willing to serve on the SAC, and work with the OPC-SAT to further vet the nominees. Final selections for the SAC will be made by the OPC Science Advisor (OST Executive Director) in consultation with the OPC-SAT executive committee. All members of the SAC, including links to background information, will be made publically available on OST's website.

Review Process Framework

The review will take place from July through mid-December 2013, with delivery of the report (signed by the SAC) to DFW expected by mid-December 2013.

Approximate Review Timeline:

| Milestone | May | June | July | August | Sept | Oct | Nov | Dec |
|--|------------|-------------|-------------|---------------|-------------|------------|------------|------------|
| SAC Selection Process | | | X | | | | | |
| Compile background info/instructions for SAC | | | X | X | | | | |
| Webex Kickoff Meeting: Initiation of Review (Public Invited) | | | | | X | | | |
| One-Day Technical Workshop | | | | | | X | | |
| Draft Final Summary Outcomes | | | | | | X | X | |

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| Webex Briefing: Sharing Results (Public Invited) | X | |
| Finalize Summary Outcomes | X | X |
| Make Final Summary Outcomes Publically Available/Deliver to DFW | | X |

Webex Kickoff Meeting: Initiation of Review

Once SAC members are confirmed, and all background materials and instructions have been distributed, OST will host a meeting via Webex that includes the SAC, DFW scientists, and any members of the public that wish to join. In this meeting, OST will provide an overview of the scope and process of the review, and DFW scientists will present on the current survey design, methods, and analysis used to estimate red abalone density in northern California. The SAC will then be provided the opportunity to ask questions of the DFW scientists. Members of the public will also be able to submit additional questions. Following this meeting, OST will work with DFW and the SAC to technically evaluate current survey design, methods, and analysis. This meeting will likely occur in mid-September. Once the date is finalized, the meeting will be announced, and all associated meeting materials (e.g. agenda and meeting summary) will be made available.

One-Day Technical Workshop

OST will convene a one-day technical workshop involving the SAC and DFW scientists to: 1) address any review questions or concerns, 2) explore the sensitivity of the survey results to assumptions and uncertainty, and potentially 3) conduct a comparative data analysis between DFW’s data set from density surveys to alternative density survey approaches and/or data sets from other sources. Comparing the data sets may allow the SAC to more thoroughly evaluate DFW’s survey design and methodology by comparing it against other standards. This meeting will likely occur in mid- to late-October. While this meeting will not be open to the public, once the date is finalized, the meeting will be announced, and all associated meeting materials (e.g. agenda and meeting summary) will be made available.

Draft Final Summary Outcomes

OST will engage the SAC in drafting a final summary outcomes document that includes a description of the scientific and technical review process and associated conclusions, and if

necessary, recommendations to evaluate methods presently employed to estimate red abalone density in northern California.

- *Webex Briefing: Sharing Results* – OST will host a Webex briefing where the SAC, led by the chair, will share the draft findings of the review process. The briefing will be open to the public, and include a Q&A so the SAC (and DFW scientists) can answer questions, and receive feedback. This meeting will likely occur in mid- to late-November.
- *Finalize Summary Outcomes* – Following the Webex briefing, OST will work with the SAC to finalize the summary outcomes. The final summary outcomes will be delivered to DFW by mid-December 2013, and made publicly available on OST's website.