

Recreational Red Abalone Fishery Management Plan (FMP) Project Team

Working Meeting #5: Review Management Strategy Evaluation Results & Develop Recommendations for Draft De Minimis Fishery

Thursday, November 21, 2019

Summary of Key Highlights - Meeting Outputs and Next Steps

The Recreational Red Abalone Fisheries Management Plan (FMP) Project Team held its fifth meeting¹ on November 21, 2019 (agenda [here](#)). In accordance with the [charter](#), the Project Team is charged with discussing and providing feedback on all scientific analyses generated in the management strategy integration process, as well as on the design of the *de minimis* fishery, in alignment with the recommendation from the California Fish and Game Commission (Commission).

The goals of the meeting were to share updates on work completed since the last Project Team meeting ([September 19, 2019 Key Themes Summary](#)), review initial management strategy evaluation (MSE) results, further refine a framework for a *de minimis* fishery, discuss the exceptional circumstances provision (Part A of the draft management strategy), and confirm high-level objectives for the final Project Team meeting in December 2019.

Approximately 15 members attended the meeting in-person in Santa Rosa, CA, and approximately 20 members joined via webinar. Due to the high number of Project Team members remotely participating in the meeting, the call lines were opened so webinar participants could contribute to the Project Team discussions at the discretion of the Administrative and facilitation team in an effort to promote a more inclusive discussion.

This document is intended to provide a high-level overview of the key meeting discussion highlights and outputs including specific feedback on MSE and *de minimis* options that will inform the Administrative Team's final report to the Commission.

Next steps together with key references and materials, including PowerPoint presentations shared during the meeting on November 21, are available on page 4 of this document.

Key Highlights & Outputs

Management Strategy Evaluation

Dr. William Harford, lead modeler, gave [a presentation](#) to help participants understand how to read and interpret MSE results and [associated decision-tree](#), followed by [another presentation](#) sharing the results of a 2-zone MSE. Dr. Harford shared that abalone biology and environment are uncertain, but each will affect red abalone recovery rates. Therefore, the MSE includes multiple biological and environmental scenarios to provide a more comprehensive analysis of red abalone recovery rates. The presentations highlighted the trade-offs between fishing sooner (e.g., in 10 years versus 25 years) and providing more biological protections to the resource. Details about the MSE results are available in the draft Management Strategic Integration [technical report](#).

¹ Project Team meetings are hosted by the California Department of Fish & Wildlife, and The Nature Conservancy, in partnership with the Ocean Protection Council, California Fish and Game Commission, Tribes and Tribal community representatives, and members of the recreational fishing community.

Participants expressed appreciation for the modeling work and highlighted the the model seems to align well with historical and current data. Model outputs will need to be compared with actual data to further fine-tune the model moving forward. The Project Team requested results from the following analyses tasked to the modelers be discussed during the final Project Team meeting (December 19, 2019):

- To better understand how the model would operate using less conservative thresholds, the Project Team requested an evaluation of two variations for Management Strategy A, under the two-zone MSE, that investigates:
 - Using mean density reference points (0.2 m², 0.25 m², 0.3 m²), while maintaining the 50% confidence interval (CI); and
 - Relaxing the decision-tree thresholds so that if < 90% of density CIs are greater than 0.2 m², then RED is triggered on the decision tree.
- To better understand the impact of increasing the size limit above 7", the modelers will conduct a sensitivity analysis by increasing size limit (e.g. 8", 9") on the red abalone rebuilding timeline, noting the length of time to *de minimis* and open fishery status, as well as the depletion at each length.
- The Project Team has discussed considering a three-zone Management Strategy due to the inherent ecological differences in Humboldt and Del Norte counties and biological differences among the red abalone populations therein (see *De Minimis* Fishery section below). Recognizing there is very limited data available to inform management of a zone in Humboldt/Del Norte, the modelers will conduct a hypothetical modeling exercise to explore sampling intensity required to explore managing Humboldt/Del Norte counties as a third zone under a separate spawning potential ratio (SPR) only management strategy.

During the meeting there were multiple perspectives expressed regarding the outputs of the MSE - that management strategies would not allow for enough fishing opportunity and that increased fishing opportunities could put the red abalone resource at risk. A Project Team participant expressed strong concerns about using less conservative reference points. Additional concerns were expressed that natural mortality is greatly outweighing fishing mortality and the model results indicate that it may be a long time before fishing can resume, including under *de minimis* conditions. Some Project Team participants suggested alternative approaches be explored where a total allowable catch (TAC) of less than 5,000 animals would be considered. Since the model is not sensitive enough to consider a TAC below 5,000 animals, and a TAC that low would be unlikely to hinder recovery, those participants suggested the Commission consider a bio-fishery with a TAC of 500, 1,000, and/or 4,000 animals in each management zone until a *de minimis* fishery can be opened.

***De Minimis* Fishery**

Based on the Commission's recommendation, the Recreational Red Abalone FMP will contain the framework and tools for the *de minimis* fishery. Accompanying regulations advanced by CDFW will be used to implement specific components for that fishery. Based on the stakeholder proposals shared with the Project Team and Administrative Team to-date, as well as the conversations from the previous Project Team meetings and webinars, the Administrative Team developed a [draft *De Minimis* Recreational Abalone Fishery - Strawman Proposal](#) for the Project Team's consideration and discussion. A reminder that all management measures would apply to each management zone independently.

The Project Team discussed the strawman and identified additional tools and considerations related to season length, daily bag/possession/annual limits, size limits, management zones, and permit allocations, as outlined below:

Season length

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- Could identify days/months where fishing is open to only rock pickers or divers to promote a more even allocation of fishing opportunities.
- There may be enforcement challenges associated with a year-round season since it would be less clear when fishermen are legally fishing versus poaching
- A season during the spring months where low tides are more prevalent during daylight hours would help address safety concerns
- Season timing could consider times that would help boost the local economies

Daily Bag/Possession/Annual Limit

- At minimum, allow 1-2 abalone per person per season. Consider how a limit of 1 abalone applies to dive buddies and groups (see party tags below)
- A possession limit will need to be identified from an enforcement perspective

Size Limits

- At larger size limits, dead loss may increase because the smaller, non-legal abalone may be taken off rocks and discarded because they are not legally allowed to be caught.
- Consider a size that would make fishing a rewarding experience
- Ensure there is a precautionary buffer in the size limit where the minimum size limit is much greater than the size at maturity so abalone that are not yet mature are not accidentally harvested

Management Zones

- Two zones: 1) Mendocino, Humboldt, Del Norte Counties; 2) Marin, Sonoma Counties
 - This option is the preference for enforcement because it is the least complicated
 - There would be concerns with effort shift in the Mendocino/Humboldt/Del Norte counties zone where more abalone will be caught in Mendocino than the other counties
- Three zones: 1) Humboldt, Del Norte Counties; 2) Mendocino County; 3) Marin, Sonoma Counties
 - Because of the limited data in Humboldt/Del Norte counties, an interim fishing zone (i.e., a bio-fishery) could be established where density and SPR are not used in the same way as the other zones
 - This option could either help distribute fishing impacts across the northern extent of the fishery in a distinct way than the other two zone options or may increase fishing impacts since fishermen may choose to fish areas they have not traditionally fished to take advantage of increased opportunities
- Four Zones: 1) Northern Mendocino, Del Norte, Humboldt County; 2) Southern Mendocino County; 3) Northern Sonoma County; 4) Marin and Southern Sonoma County
 - There was less interest was expressed in the four zone option than the other two options

Permit Allocations

- Explore a model similar to Oregon could be used where a certain number of abalone are tagged annually and fishermen only allowed to catch tagged abalone
- Punitive measures should be impactful if data is not provided to CDFW or if other laws are violated (e.g. issue a fine, lose preference points, and/or unable to fish the following year)
- Consider how take from scientific collecting is incorporated into the TAC
- Tribal subsistence fishing allocation within the TAC will be decided by the Commission and not through the Project Team.

The Administrative Team will work to incorporate feedback in the strawman proposal for the December Project Team meeting.

Exceptional Circumstances

During the [August 27, 2019 Project Team meeting](#), the Project Team discussed the need to have safety checks in place when exceptional circumstances are occurring (e.g., kelp loss, decreased oxygen, sea star wasting, etc.) to address broader-scale ecosystem events and impacts. These exceptional circumstances (Part A of the management strategy) are intended to be evaluated prior to going through the decision tree addressed by the MSE. The Administrative Team has further continued to develop the exceptional circumstances and provided [a presentation](#) on a draft proposal for the Project Team's review and possible inclusion in the Administrative Team's report to the Commission.

Project Team participants were generally supportive of the broad list of indicators in the proposal. Participants highlighted the lack of mechanistic or quantitative links between some of the exceptional circumstances and the challenges with developing a comprehensive list since it is difficult to foresee future impacts. The Project Team suggested that the process for evaluation and decision-making on the exceptional circumstances be further developed to:

- Outline a clear process for how to respond to events. The Project Team suggested the following stepwise approach as a starting point -
 - CDFW monitor and evaluate the situation and solicit more data to determine if moving into Part B (the decision tree) is appropriate.
 - Develop a collaborative process for sharing and using information. A consultation process with public/stakeholder body (e.g., RAAC) should be used to communicate the status of management and discuss any ideas and/or conclusions.
 - Solicit the Fish and Game Commission for direction on management action(s).
 - Identify whether the management action will be applied in one or multiple fishing zones
- Clearly define "normal" conditions across all circumstances.
- Develop triggers or metrics in line with peer review guidance.
- Add precautionary language, identifying the need to consider unusual/new impacts to abalone.

Next Steps

- Administrative Team to update next steps for modelers document, *de minimis* strawman proposal, and exceptional circumstances strawman proposal to reflect Project Team discussions and feedback.
- Project Team to continue to submit public comments and/or proposals to the Administrative Team, and Administrative Team to provide response to comments between the November and December Project Team meetings. Please note that any public comments and/or proposals developed after the December 19, 2019 Project Team meeting should be referred to the Marine Resources Committee and/or Commission as appropriate.
- The Modelers will complete the tasks outlined in the updated next steps for modelers document including evaluating additional management strategies for a two-zone MSE, impacts of increasing the size limit on abalone recovery and fishing opportunities, a sensitivity analysis on red abalone size limit, and hypothetical modeling of a sampling regime under a scenario with three fishing zones..
- Strategic Earth to draft a summary of meeting outputs and next steps for the core Project Team's review prior to posting on the OPC's webpage ([here](#)). Strategic Earth will circulate meeting support materials, address Project Team requests, and support Project Team coordination between meetings. Strategic Earth will also work with the Administrative Team to keep the Project Team informed of project updates and meeting details.

Key References and Materials

Materials referenced during the meeting are available online at

<http://www.opc.ca.gov/2019/05/red-abalone-management-strategies-integration/> including:

- [Agenda](#)
- [Exceptional Circumstances Strawman Proposal](#)
- [High-level Summary of Results from the Two-zone Management Strategy Evaluation](#)
- [Management strategy evaluation: Recreational Red Abalone Management Strategy Integration, Draft November 22, 2019](#)
- [Revised Strawman De Minimis Fishery Proposal](#)
- [Next steps for modelers from August 27/September 19, 2019 Project Team meeting](#)
- De minimis fishery ideas and concepts received from the public (*listed under “Project Team Proposals” on the OPC website*)
- [Updated Project Team work plan](#)
- [Glossary of key terms](#)

PowerPoint Presentations:

- [Project Team Updates since September 19](#)
- [Interpreting Management Strategy Evaluation Results](#)
- [Review and Discuss Management Strategy Evaluation Results](#)
- [De Minimis Fishery Draft Strawman Proposal](#)
- [Exceptional Circumstances Draft Proposal](#)

Additional reference materials that provide background information on the management strategy integration process and foundational information are also available, including:

- [Project Team charter](#)
- [Administrative Team charter](#)
- [California Ocean Science Trust Recreational Red Abalone Fishery Peer Review webpage](#)
- [Final Report of the Scientific and Technical Review Panel Scientific Peer Review of Proposed Recreational Red Abalone Management Strategies](#)
- [Recommendations from December 2018 Fish and Game Commission meeting](#)
- [Abalone Recovery and Management Plan](#)

For more information about the recreational red abalone Project Team, please visit <http://www.opc.ca.gov/2019/05/red-abalone-management-strategies-integration> or contact hello@strategiearth.com. For more information on the red abalone FMP, please visit <https://www.wildlife.ca.gov/Conservation/Marine/Red-Abalone-FMP>.