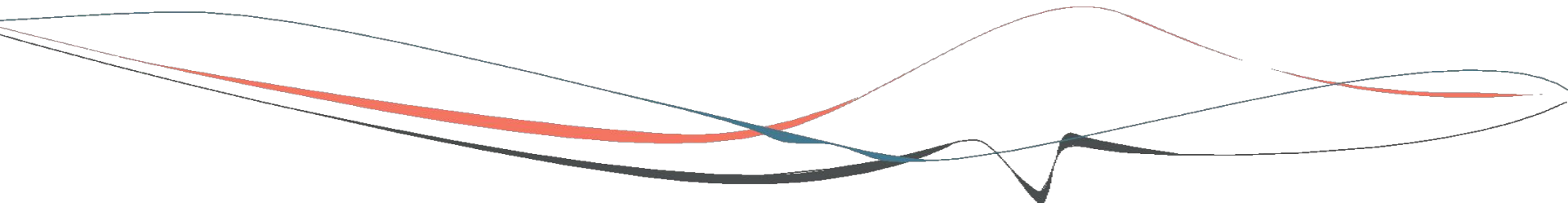
Red Abalone Peer Review Community Engagement Webinar

August 20, 2018

- The webinar will start at 1:00pm PST
- Participants are in listen-only mode until discussion
- Questions? Technical difficulties? Use the chat or email abalone@calost.org



Access webinar materials, including the agenda and presentation:

http://bitly.com/redabalone

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Red Abalone Peer Review Community Engagement Webinar

August 20, 2018

Learn About the Peer Review Process & Discuss the Red Abalone Community's Science-based Questions

Webinar Goal

To provide an opportunity for members of the red abalone community to engage in the recreational red abalone peer review process, share your scientific questions with the peer review panel, and learn information about the peer review approach.

Agenda

- Welcome and Introductions
- Recreational Red Abalone Fishery Management
  - Brief background on FMP process and the two proposed management strategies
  - Overview of peer review process and the role of OST
- Review and Discuss Key Themes
  - Review science-based questions submitted by community
- Looking Ahead: Completing the Final Peer Review Report & FMP Process
- Next Steps & Adjourn

Proposed Agreements

- Participate in a respectful and constructive manner.
- Listen for understanding and openly discuss issues with others who hold diverse views.
- Acknowledge and seek clarification; and verify assumptions.
- Provide clear, concise comments. Additional comments can be shared in written form.
- Personal attacks will not be tolerated.
- Put yourself on mute when not speaking.

Introductions

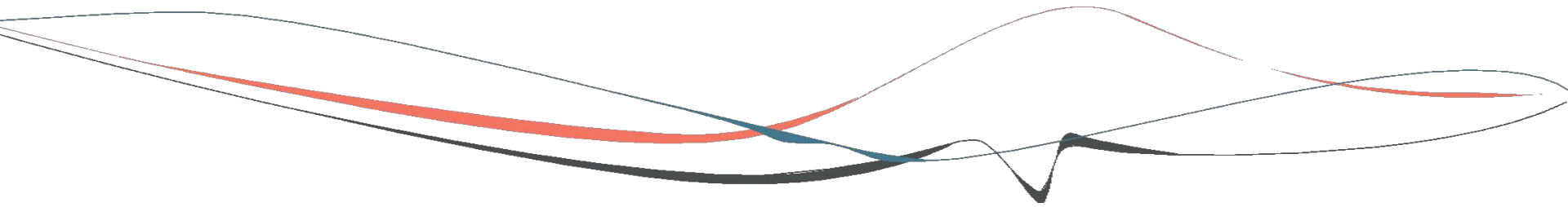
OPC-SAT Peer Review Panel

- Dr. Jason Cope, NOAA Fisheries, co-chair
- Dr. Pete Raimondi, University of Santa Cruz, co-chair
- Dr. Karina Nielsen, San Francisco State University
- Dr. Brian Tissot, Humboldt State University
- Dr. Yan Jiao, Virginia Polytechnic Institute and State University
- Dr. Will White, Oregon State University
- *Dr. Gavin Fay, University of Massachusetts, Dartmouth*

Key Themes

- How are the peer reviewers approaching their review of these two plans?
- Indicators & Changing Ocean Conditions
  - Productivity
    - Density
    - Reproductive (Gonad & Body Condition)
  - Length-based Spawning Potential Ratio (lb-SPR) & Catch maximum sustainable yield (MSY)
  - Environmental
  - Indicators under different scenarios
- Management Measure Effectiveness

Background: Recreational Red Abalone Fishery Management



FMP Process & Proposed Management Strategies

- Marine Life Management Act (MLMA) directs to ensure fishing is sustainable, collaborative, responsive to changing conditions, among others
- Fishery is currently closed and operating under Abalone Recovery Management Plan (ARMP)
- MLMA requires proposed management strategies for Fisheries Management Plans (FMPs) to undergo external, independent peer review
- Two management strategies currently under review
  - CDFW draft management strategy
  - TNC–led stakeholder submitted management strategy

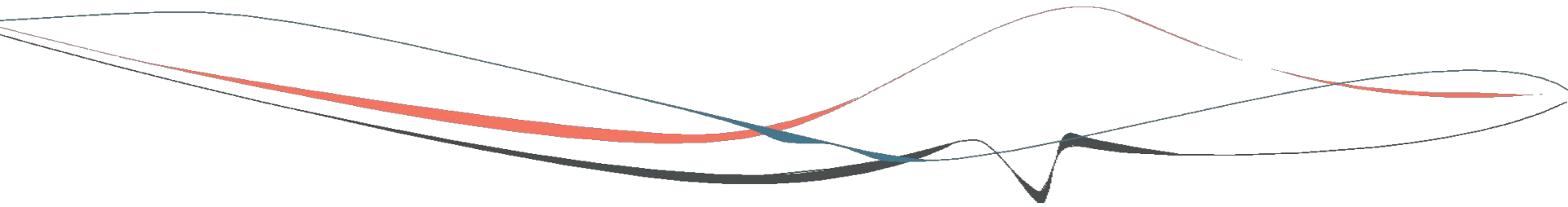
Peer Review Process

- Selected by Ocean Protection Council Science Advisory Team Executive Committee
- Diverse expertise
- Responsibility to make sure the management strategies use the best available science to inform management approaches

Peer Review Timeline

- Spring/Summer 2018
  - OPC-SAT peer review panelists are selected, terms of reference document is developed and two management strategies are received.
  - Regular coordination and communications with peer review panel, CDFW, and TNC.
  - OST to hold a community engagement webinar in August to share information about the peer review process.
- Fall 2018
  - Finalize peer review report late September and hold second community engagement webinar in October.
  - FCG to discuss final peer review report at October 17-18 meeting.

Review & Discuss Key Themes



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Peer Review Approach: Two Management Strategies

- How are the peer reviewers thinking about their review of the two management strategies?
- Are the peer reviewers thinking about ways to integrate the plans?

Indicators and Changing Ocean Conditions

Productivity – Density

- Density survey design and methodology
  - How do the surveys consider the cryptic nature of abalone?
  - What are the differences between the “rapid” assessments and the standard density assessment?
  - Has CDFW changed their density protocol per the density survey methods peer review from 2014?
  - Does changing the survey protocol during the baseline years (2002-2007) or after that period change the ability to make comparisons between years?

Indicators and Changing Ocean Conditions

Productivity – Density

- Using density as an indicator for setting target catch - CDFW
  - Are the density survey methods, data collection, estimates, and analysis robust enough to manage the fishery in a timely manner
  - Is the way CDFW uses density in their proposed management strategy a scientifically and statistically robust indicator?
- Using baseline density to set target catch - CDFW
  - Is the baseline that has been established using data from 2002-2007 scientifically accurate and robust?

Indicators and Changing Ocean Conditions

Productivity – Density

- Density and the TNC-led stakeholder proposal
  - Does the TNC-led stakeholder proposed harvest control rule (HCR) incorporate the density-dependence of abalone into any of their analysis or operating models?
  - Is the decision to eliminate density- dependent data scientifically supported given the biological need for abalone to be close to neighbors for successful reproduction?
- Density as an indicator under changing ocean conditions
  - How does the movement of abalone out of deep into the nearshore environments affect the density estimates?
  - How are the different size classes handling the loss of food?

Indicators and Changing Ocean Conditions

Productivity – Reproductive (Gonad & Body Condition)

- For the reproductive indicators utilized by CDFW (e.g., gonad size & body condition), is there a scientifically proven link or relationship between the estimate of body mass index and the abalones ability to reproduce?
- Is there a scientific basis to that changing the size limit to greater than 7’’ will improve the reproductive capabilities of abalone?

Indicators and Changing Ocean Conditions

Length-based Spawning Potential Ratio (lb-SPR) & Catch maximum sustainable yield (MSY)

- Does the movement of abalone affect the way the TNC HCR works?
- Does the TNC HCR represent a scientifically sound approach to managing a fishery?
  - Would it potentially allow harvest on depleted populations or under unfavorable recruitment or abundance conditions?

Indicators and Changing Ocean Conditions

Environmental

- Are the environmental indicators and triggers set in the CDFW proposed management strategy accurate and scientifically rigorous (e.g.. kelp canopy, water temperature, and urchin densities)?
- How do the MPAs and populations inside the MPAs factor into the population estimates and the impacts of fishing and environmental conditions?

Indicators and Changing Ocean Conditions

Indicators Under Different Scenarios — Abalone Recovery

- How long will it take for the population to recover?
- Considering the likely, long-term impacts of global warming, is it defensible to use historic density levels to establish criteria for fishery reopening?
- Should new, reduced criteria be used to establish a sustainable fishery at a smaller abalone density and catch level?

Indicators and Changing Ocean Conditions

Indicators Under Different Scenarios — Abalone Reopening

- Are the different elements of reopening under the CDFW plan scientifically sound and robust?
- Are the thresholds scientifically robust and relevant for tracking changes in the population and making management decisions about reopening?

Kelp

- Should the fishery be completely closed until kelp beds return?

Indicators and Changing Ocean Conditions

Indicators Under Different Scenarios — General

- Are research and monitoring needs comprehensive to allow CDFW to collect and maintain essential fishery information necessary to achieve management targets for the stock?
- Are there any priority gaps in research and monitoring that should be addressed or included?
- How are both plans taking into account the different habitats in the areas fished?

Management Measure Effectiveness

- Are the different management measures proposed effective at regulating catch?
- *Poaching:* Are the measures and enforcement that CDFW has viable for dealing with poaching of red abalone?
- *Urchins:* Will urchin culling in select areas restore the diversity of marine life and act as sanctuaries from urchins to repopulate the coast when conditions improve?
- CDFW contact: sonke.mastrup@wildlife.ca.gov

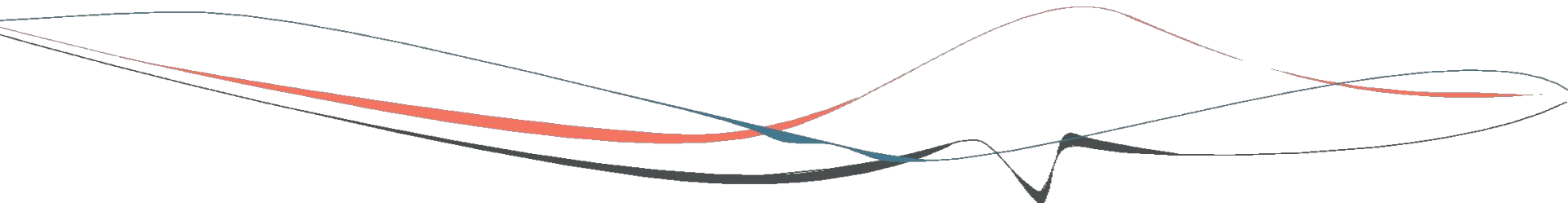
Key Themes: Additional Questions?

- Science-based or research questions
- Peer review process questions

Question for participants

- How best to share questions received by the red abalone community?
  - Share with author teams?
  - Include in final report as appendix?

Looking Ahead: Completing the Final Peer Review Report & FMP Process



Looking Ahead

- Wrap up of peer review and public release of final report
  - Second community engagement webinar, October 2018
- Fish and Game Commission Meeting
  - October 17-18, 2018 in Fresno, CA
- Please continue to email us questions and information needs about the peer review process: abalone@calost.org

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Thank You!

On behalf of Ocean Science Trust and the OPC-SAT Red Abalone Peer Review Panel

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