

Exceptional Circumstances - Updated Strawman Proposal Draft

Framework Background

The North Coast recreational red abalone fishery management plan (FMP) will provide a framework to help ensure long-term management of the resource, where management is objective, transparent, and more responsive and adaptive, particularly under changing environmental conditions. The FMP is intended to serve as an overarching management document that identifies and discusses key issues that should be considered when drafting and adopting regulations to manage the fishery. Once developed, the Project Team may propose that a discussion on exceptional circumstances such as those identified in this draft proposal be included in the recreational red abalone FMP.

The State will need the ability to respond to anomalous and/or extreme environmental conditions, some of which have not been seen or cannot be predicted. In the face of unforeseen or extreme environmental conditions that could drastically impact the red abalone resource, more precautionary measures may be needed. Better monitoring for signs of these conditions will be critical to inform precautionary decision-making in red abalone management. At its August 27th meeting, the Project Team recommended conducting a “catastrophic environmental safety check” for major events like oil spills, harmful algal blooms, and warm water anomalies. They also recommended reviewing other “investigative triggers” (e.g. biological and environmental indicators such as urchin density, kelp abundance, oxygen levels) to determine if conditions are poor and a more immediate response is needed to proactively protect red abalone. These would be considered ‘exceptional circumstances’. Given the challenge of verifying the mechanistic links between some of these ecological and environmental indicators and the status of the red abalone resource, the harvest control rule was streamlined to include only density and length-based spawning potential ratio (SPR). Without clear mechanistic links it would have been difficult to include and evaluate other suggested ecological and environmental indicators in the management strategy evaluation (MSE). Recognizing the importance of monitoring other biological and environmental indicators, the Project Team decided to include these indicators as a precautionary check before consulting an indicator-based decision tree informed by density and length data.

The draft management strategy is currently structured in two parts - Part A and Part B. Part A, incorporates the precautionary thinking that came from the discussions at the August 27 Project Team meeting to account for the presence of unusual and/or extreme environmental conditions that may impact the red abalone resource. If an exceptional circumstance has occurred, then further action or decision making is required before determining the status of the fishery (i.e., closed, *de minimis*, open). If no exceptional circumstances have occurred, Part B follows an indicator-based decision tree.

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Part A of the decision tree would evaluate presence of broader scale ecosystem events or impacts, and/or rapidly assess indicators to evaluate any risks that may result in a catastrophic decline of the red abalone resource.

Broader-scale ecosystem events and impacts could include:

- Persistence of large marine heat waves
- Presence of disease (e.g., withering syndrome)
- Presence of toxic harmful algal blooms
- Oil spills

Rapid assessment could include an evaluation of all or a subset of the indicators listed below. Baseline data would also be required to demonstrate a true deviation from 'normal' conditions, and peer review guidance on some of these indicators should be taken into consideration.

- Ocean Warming
 - Dissolved oxygen level
 - Ocean temperature
- Environmental Shifts
 - Kelp abundance
 - Sea urchin density
 - Sea star density
- Ocean pH/acidification
- Red Abalone Reproductive State
 - Body condition
 - Gonad condition (secondary check)
 - Presence of empty abalone shells

If/when an exceptional circumstance is triggered, four potential actions could occur —

- Collect more data and evaluate whether to continue on to Part B
- Management action occurs in one or more fishing zone
- A stakeholder consultation process is triggered - an advisory group evaluates data before management action is taken
- Consult Fish and Game Commission for direction on management action

Questions for CDFW Consideration During FMP Development

As CDFW further refines Part A of the management strategy during the FMP development process, they should consider the following questions and work with peer review panelists, stakeholders, and Tribes and Tribal Communities to best address them.

- Given capacity and cost constraints and current data availability, which indicators could be prioritized for monitoring in Part A?
- Are the indicators under consideration directly or indirectly related to impacts on red abalone health and productivity? Is the mechanism clearly understood or does a clear threshold exist?
- Which exceptional circumstances would trigger closure of all fishing zones and which would trigger closures at the individual fishing zone? Could closures occur at the site level?
- What could data collection/sampling protocols look like during rapid assessments? Would data sources and sampling entities be pre-defined?
- How do we account for persistence of events like marine heat waves?