



California Department of Fish and Wildlife Final Assessment of Marine Life Entanglement Risk and Final Management Recommendation

Date: January 14, 2022

An initial assessment and preliminary recommendation was developed by California Department of Fish and Wildlife (CDFW) Marine Region staff for consideration by the California Dungeness Crab Fishing Gear Working Group (Working Group) for the Risk Assessment Mitigation Program (RAMP; Section 132.8, Title 14, California Code of Regulations) regarding Management Actions to address marine life entanglement risk in the commercial Dungeness crab fishery. The initial assessment was shared with the Working Group on January 12, 2022, and finalized at the conclusion of the Working Group meeting on January 14, 2022 based on discussions with the group.

A. Recommended Management Action(s)

Lift the Commercial and Recreational Fisheries Fleet Advisories

Fishing Zones 1-6: CDFW Marine Region staff's final recommendation is for the Director to lift the Fleet Advisory in all Fishing Zones for both the commercial and recreational fleets. Based on CDFW aerial survey data and as indicated by Monterey Bay Whale Watch data, a majority of the Actionable Species appear to have migrated out of the Fishing Grounds. As a result, co-occurrence of commercial and recreational Dungeness crab trap gear and humpback whales, blue whales and leatherback sea turtles is expected to be very low, which results in lowered entanglement risk. CDFW continues to encourage both fleets to implement fishing best practices (e.g. by minimizing knots and line scope) and to review the [Best Practices Guide](#) during the season and when moving gear to new Fishing Grounds. CDFW staff shared the initial recommendation with the Working Group and there was broad support for the recommendation to lift the Fleet Advisory and no opposition. CDFW will continue to monitor all available data to inform the next risk assessment (expected to occur on or around February 15, 2022).

Rationale: Aerial survey data for Zones 1, 2, 3 and 4 were available for this risk assessment. Based on available data and supported by the totality of Management Considerations, no RAMP triggers have been reached that would require Management Action. Aerial surveys indicate few humpback whales remain across the surveyed area. In addition, Monterey Bay Whale Watch weekly average observations have also declined from 4.9 humpback whales in mid-December to 0.29 humpback whales as of this risk assessment. As a result, a Fleet Advisory is no longer needed during this time. It is advised however that both fleets use caution when setting trap gear in all Zones because humpback whales may still be present. Both the commercial and recreational fishing fleet should remain vigilant and move or avoid setting gear in areas where whales are transiting or foraging to further minimize risk of entanglement.

Summary of RAMP triggers and Management Considerations analyzed during preparation of this Final Assessment and Final Recommendation.

B. Marine life entanglement risk, based on triggers in subsection (c)

Confirmed Entanglements in California Commercial Dungeness Crab Gear:

- During the current Fishing Season: 0
- During the current calendar year: 0
- During the 2021 calendar year: 1 humpback whale

Confirmed Entanglements in Unknown Fishing Gear reported from California:

- During the current Fishing Season: 0
- During the current calendar year: 0
- During the 2021 calendar year: 1 humpback whale
 - Note: Two additional confirmed humpback whale entanglements in unidentified fishing gear are under review.

Marine Life Concentration Surveys and/or Satellite Telemetry Observations:

- **Fishing Zone 1-6:** No Management Action triggers reached

C. Scope of risk based on Management Considerations in subsection (d)

Section 132.8(d)(2): Information from NOAA

- No additional information was made available for this risk assessment

Section 132.8(d)(3): Effectiveness of management measures to reduce entanglement risk

- No Management Action(s) recommended under this Initial Assessment

Section 132.8(d)(4): Total economic impact to the fleet and fishing communities

- No Management Action recommended, therefore no economic impact consideration

Section 132.8(d)(5): Data availability within and across Fishing Zones

- CDFW aerial survey data are available for Fishing Zones 1, 2, 3 and 4. MBWW data are available for Fishing Zone 4.

Section 132.8(d)(6): Known historic marine life migration patterns

- Aerial surveys and MBWW indicate few humpbacks whales, which aligns with known historic migration patterns.

Section 132.8(d)(7): Fishing Season dynamics

- Fishing Zones 5 and 6 opened under a Fleet Advisory on November 15, 2021. Fishing

Zones 1 and 2 opened under a Fleet Advisory on December 1, 2021. Fishing Zone 4 opened December 16, 2021, and Fishing Zone 3 opened on December 29, 2021, both under a Fleet Advisory.

- The majority of fishing activity (both active vessels and landing volume) thus far has been in the Northern Management Area. 49% of the landings have come into Crescent City, with 23% coming into Eureka and between 4 and 8% coming into the ports of San Francisco, Trinidad, Half Moon Bay, and Bodega Bay. 78% of the catch thus far has been harvested from Zone 1, with 19% harvested from Zone 3.
- Highest vessel activity has been in Crescent City (82 active vessels) and Eureka (67 active vessels), followed by San Francisco (51 active vessels), Half Moon Bay (42 active vessels), and Bodega Bay (40 active vessels). Vessels have also made landings into Trinidad, Fort Bragg, Monterey, and Morro Bay.

Section 132.8(d)(8): Known distribution and abundance of key forage

- Numerous bait balls (presumed to be schooling fish) were observed in the northern portion of Fishing Zone 3 (between Jenner and Gualala), and scattered bait balls were observed throughout the survey area.

Section 132.8(d)(9): Ocean conditions

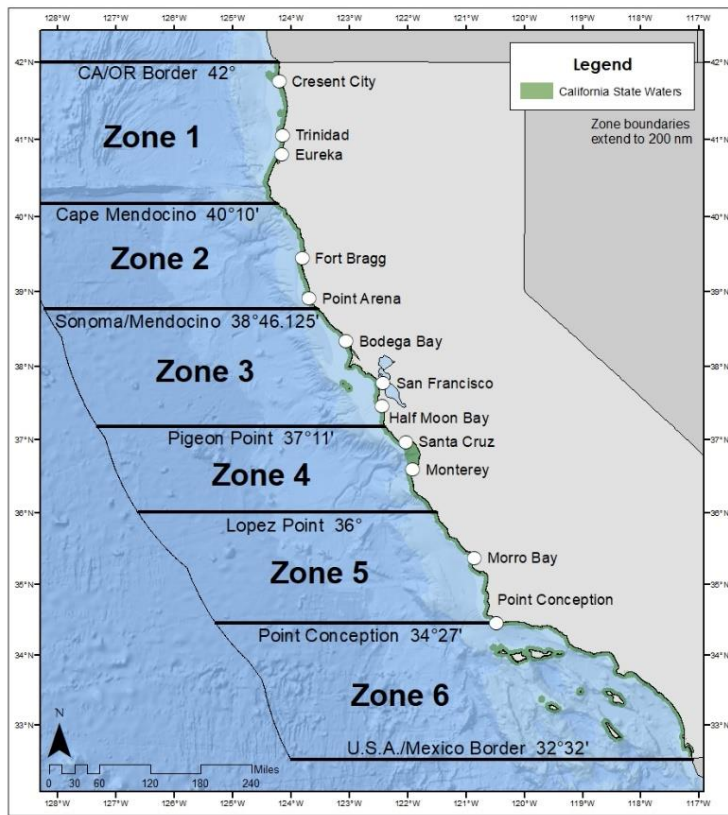
- As of December 9, 2021, there is a 95% chance of La Niña conditions continuing through the Northern Hemisphere winter 2021-22, with a 60% chance of transitioning to ENSO-neutral conditions during spring 2022.
- The most recent Habitat Compression Index values are for November 2021. At that time, there was high compression between 35.5 and 40°N. Compression is often variable in January.

Section 132.8(d)(10): Current Impact Score Calculation

- Impact score calculation under RAMP began on January 1, 2021. The 2021 calendar year impact score is 1.13 for humpback whales and 0 for blue whales and leatherback sea turtles. (Note: Two additional 2021 humpback whale entanglements are currently under review). The current impact score for the 2022 calendar year is 0 for all three Actionable Species.

Section 132.8(d)(11): Actionable Species migration into or out of Fishing Grounds and across Fishing Zones

- Based on aerial survey data and MBWW data, the bulk of the migration appears to have occurred out of the Fishing Grounds.



RAMP Fishing Zone Boundaries