



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

Date: April 1, 2021

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 March 30, 2021 and finalized at the conclusion of the Working Group meeting on April 1, 2021 based on discussions with the group.

A. 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

Confirmed Entanglements in Unknown Fishing Gear reported from California:

- During the current Fishing Season: 0
- During the current calendar year: 0

Marine Life Concentrations Surveys and/or Satellite Telemetry Observations:

- **Fishing Zone 5 and 6:** No current CDFW approved survey data are available for these Zones, which triggers management response under RAMP (c)(2)(B)(1).

B. 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

- Given the low relative running average sightings of Humpback whales and the low numbers observed during CDFW aerial surveys, a Fleet Advisory remains an

effective Management Action due to anticipated declining fishing effort in all Fishing Zones.

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

- A Fleet Advisory is not anticipated to have significant economic impact on the fleet or fishing communities as it allows for continued fishing opportunity.

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

- CDFW aerial survey data are available for Zones 1, 2, 3 and 4 and additional Monterey Bay Whale Watch (MBWW) data are available for Fishing Zone 4. CCCA vessel observation surveys are available for Zones 1 and 5. Point Blue observation data are available for Zones 3, 4 and 6. The Habitat Compression Index and Whale Watch 2.0 habitat predictions are available for all Zones. Cascadia Research vessel survey data are available for Zones 3 and 4.

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

- Low presence of Humpback whales across all Fishing Zones is consistent with average historical early spring patterns that show few Humpback whale sightings when whales are still migrating from breeding areas off Mexico and Central America. Recent surveys at these breeding areas resulted in lower numbers of Humpback whales than previously observed during mid-winter surveys, indicating some departures. Three recent sightings of Humpback whales are of known animals from Mexico, indicating a few migration arrivals.
- Relative absence of Blue whales, except for one animal is consistent with their overwintering at the breeding grounds.

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

- Season price negotiations delayed actual start of fishing following the December 23, 2020 statewide opener. Most vessels began setting gear on Monday January 11, 2021.
- Based on CDFW landings data, 356 vessels have participated in the fishery as of March 29, 2021. Week 5 had the highest number of potential traps deployed across all Fishing Zones, with an estimated total of 134,350 traps. Fishing Zone 3 had the highest total, followed by Zone 1. Based on the most recent landings data from week 13, vessel participation and landings volume has decreased significantly. The estimated maximum number of traps is currently 43,725 which is a slight decrease from the last risk assessment when 45,625 traps were estimated.
- CDFW required bi-weekly trap reporting estimated 39,907 traps fishing in average minimum depths of 10 – 27 fathoms and an average max depth of 24 – 49 fathoms across all Fishing Zones. *Note: CDFW has not achieved 100% reporting by all active permits.*

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

- Krill abundance (higher offshore in the outer slope) is also anticipated to be closer to average yearly values while anchovy is still considered to be above average, given the historical record.
- The few Humpback whales observed were foraging on large krill patches at the 200-meter contour during vessel surveys.

Section 132.8(d)(9): Ocean conditions

- La Niña conditions persisted in January with a 60% chance of a transition from this condition to ENSO-neutral in the northern hemisphere by the spring months of April, May and June.
- The latest outlook of late winter/spring ocean ecosystem conditions shows that ocean conditions have cooled significantly over this past winter and conditions in spring are trending toward cool and productive conditions. It is anticipated that cool conditions will continue, with expanded upwelling habitat and no signs of habitat compression that would otherwise result in increased concentrations and aggregations of whales and forage nearshore.
- See [Available Data](#) from March 16, 2021.

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

- Impact score calculation under RAMP began on January 1, 2021. Current impact score 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 CDFW aerial survey data, Monterey Bay Whale Watch data, Point Blue Conservation Science observation data and multiple vessel surveys, significant migration into the Fishing Grounds has yet to occur.

C. Recommended Management Action from options identified in subsection (e)

Fishing Zones 1-6: CDFW Marine Region recommendation is to maintain a state-wide Fleet Advisory based on the lack of recent RAMP approved survey data for Zones 5 and 6. Based on the CDFW aerial survey data for Zones 1, 2, 3 and 4, few Actionable Species were observed, which serves as a proxy for anticipated observations in Fishing Zones 5 and 6. Vessel surveys by the fleet confirm low numbers of actionable species were observed in Zone 5. Although migration is expected to increase into Zone 4 and adjacent Zones based on known historic migration patterns, available data indicate the bulk of the migration has not started to arrive at this time. In addition, based on favorable (low risk) oceanographic and forage condition data, cool conditions exist, resulting in low compression of available forage, decreasing the co-occurrence of trap gear and whales as they begin to arrive to the Fishing Grounds. This is

supported by recent sightings of Humpback whales foraging in deep water on krill patches. Currently, there are no confirmed entanglements this season of Actionable Species, ocean and forage conditions do not warrant concern, and fleet participation is low across most port complexes and decreasing when compared to activity levels from previous years. Given the above, paired with low presence of Humpback whales and Blues whales, risk is low across all management considerations at this time.

The RAMP regulations indicate a Fleet Advisory is warranted if the level of risk is elevated and/or anticipated to increase but more restrictive management actions are not necessary at this time. The Director may issue an advisory notice to the Fleet to employ voluntary efforts and/or measures to reduce the risk of entanglements (i.e., fishing best practices) and to avoid triggering additional management actions. As a result, CDFW encourages the fleet to implement fishing best practices (e.g. minimizing knots, line scope) and to immediately remove all gear when an operator no longer intends to fish. Vessels fishing in Zone 4 should pay particular attention to the location of set gear and foraging whales and minimize entanglement risk by adhering to the [Best Practices Guide](#).

CDFW Marine Region shared the Initial assessment with Working Group representatives and advisors on April 1, 2021. There was no opposition to the recommendation by Marine Region staff and a Fleet Advisory was broadly supported by the Working Group.

CDFW will continue to monitor all available data to inform the next risk assessment (expected to occur on or around April 15, 2021).

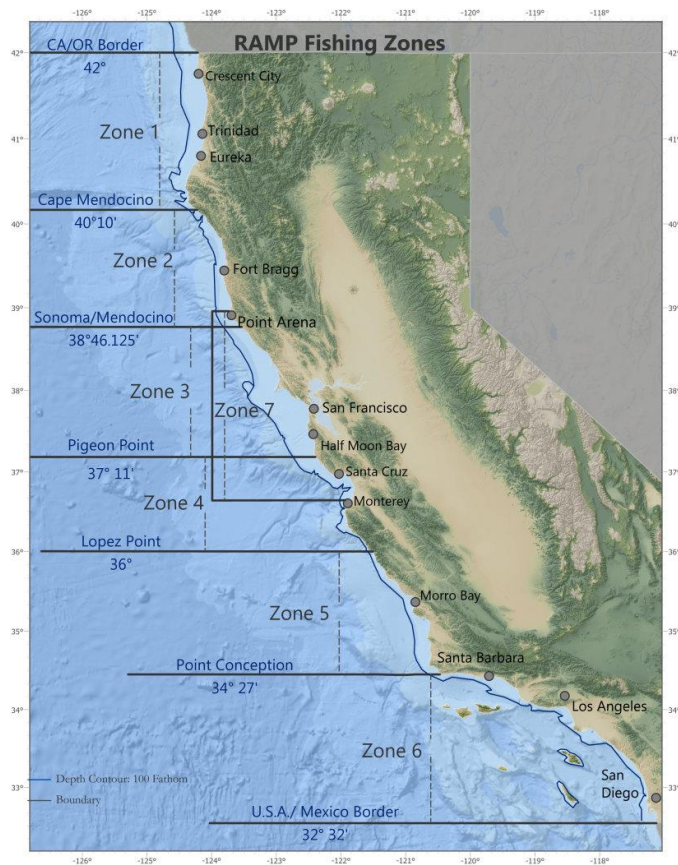


Figure 1. RAMP Fishing Zone boundaries.