



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

Date: May 31, 2023

An initial assessment and a preliminary recommendation were 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 as well as Section 29.80, Title 14, California Code of Regulations (Gear Restrictions for Recreational Take of Saltwater Crustaceans). The initial assessment was shared with the Working Group on May 19, 2023, and finalized at the conclusion of the Working Group meeting which was held on May 23, 2023.

A. Confirmed Entanglements and Marine Life Concentration Triggers for Management Action, RAMP subsection (c)

Entanglements:

As of May 19, 2023, two entanglements have been reported to CDFW by NOAA for the 2022-23 season that involved unidentified gear that is consistent with the type that is used in the commercial Dungeness crab fishery resulting in an in-season Confirmed Entanglement Impact Score of 0.76. A third entanglement with unidentified gear was reported on May 12, 2023, involving a humpback whale near Moss Landing. However, following a review of the entangling line, it is not consistent with the line used in the commercial Dungeness crab fishery. The line was identified as multistrand nylon, which is commonly used for moorings or groundlines, not as a vertical line for the commercial Dungeness crab trap fishery.

The Impact Score for calendar year 2021 is 1.89 for humpback whales. The total Impact Score for the calendar year 2022 is 5.28 for humpback whales. Therefore, the current running 3-year average Impact Score is 2.64 for humpback whales for the years 2021-2023, which exceeds the triggers in Section 132.8(c)(1)(C)(1). Note: Entanglement data are subject to revision based on review and verification by NOAA.

Marine Life Concentrations:

A CDFW aerial survey of Fishing Zones 1, 2 and a portion of 3 did not observe humpback whales, blue whales, or leatherback sea turtles. Small vessel surveys conducted by Cascadia Research observed 13 and 5 humpbacks during two surveys in Zone 1. Surveys conducted by the commercial fishing fleet in Fishing Zone 1 observed 10 humpback whales in depths ranging from 35 to 60 fathoms. This survey is informative as an indicator of humpback distribution in Fishing Zone 1. Monterey Bay Whale Watch data documented 21 humpback whales during a single trip and an average of 7 humpback whales per trip during the most recent seven-day period in Fishing Zone 4. Based on historical migration patterns, blue and humpback whale migration arrivals will increase over the coming weeks and remain across California waters through at least November.

For additional details, see the Available Data document prepared for this Risk Assessment.

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

Recreational Fishery:

- **Continue Statewide Fleet Advisory for all gear types.**

Commercial Fishery:

- **Continue Fleet Advisory for Fishing Zones 1 and 2**
- **Continue Depth Constraint of 30 fathoms for Fishing Zones 1 and 2**

Management Recommendation Summary Rationale:

Two recent entanglements involving humpback whales with unknown fishing gear bring the total three-year average Impact Score to 2.64, which exceeds the Calendar Year Impact Score trigger as defined in RAMP for the commercial Dungeness crab fishery. In addition, based on recent Marine Life Concentration surveys for Fishing Zone 1 and 4, humpback whale sightings continue to increase, and humpback whales are expected to continue to migrate into all Fishing Zones over the coming weeks. However, at this time, CDFW Marine staff do not recommend additional management actions for Fishing Zones 1 and 2 for the commercial or recreational fisheries. Importantly, the reported entanglements were all documented in Zone 4 and because the whales are migrating from south to north from their winter breeding grounds, there is no indication that closing Zones 1 and 2 would have prevented those entanglements or would reduce risk given the low abundance of humpback whales in those Zones.

The 30-fathom Depth Constraint currently in place for the commercial fishery will minimize overlap with foraging humpback whales and limited recreational trap fishing in Fishing Zones 1 and 2 does not present an elevated risk at this time. Observation data indicate most humpback whales are foraging in deep water, greater than 30-fathoms, likely taking advantage of krill at or near the shelf and canyon edges. This is supported by oceanographic data and krill indices as reported in the Available Data documents this spring. The recommendation is to also continue the Fleet Advisory for both the recreational and commercial fishery in all Fishing Zones until season closures are in effect statewide.

The above recommendations are informed by historical migration patterns, recent entanglements, and exceedance of the running three-year average entanglement Impact Score for humpback whales which requires CDFW to implement precautionary management actions to avoid additional entanglements. The actions currently in place will provide sufficient risk reduction while allowing continued fishing opportunities for both fleets. CDFW reminds all fisherman to use best fishing practices to minimize risk of entanglement as whales begin to arrive in Fishing Zones that remain open to fishing, regardless of fishery or gear type. Both commercial and recreational fleets should however be prepared to modify fishing operations to minimize risk of entanglement. Staff will continue to monitor whale presence and entanglement risk, and it should be noted that the Director may implement a trap prohibition for the recreational fishery at a future date to further reduce the risk of entanglement.

The commercial fishery was closed in Fishing Zones 3-6 (effective April 15, 2023) and recreational traps were prohibited (effective May 15, 2023) in those same Zones until the season closure on June 30, 2023.

Alternatives Considered but Rejected

- Gear Reduction – based on available data this is not currently the recommended Management Action based on declining fishery participation.
- Fishery Closure – based on available data this is not currently the recommended Management Action but based on historical migration patterns CDFW anticipates this action will likely be required in the coming weeks.
- Alternative Gear - can be authorized after April 1st, but no gear currently is authorized for the commercial Dungeness crab fishery.

