



**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (DEPARTMENT)
DECLARATION OF A DEPTH CONSTRAINT AND FLEET ADVISORY FOR
THE COMMERCIAL DUNGENESS CRAB FISHERY
DUE TO RISK OF MARINE LIFE ENTANGLEMENT**

Pursuant to Fish and Game Code Section 8276.1(b) and California Code of Regulations, Title 14, Section 132.8 (“Section 132.8”), I find and declare that:

I

On May 3, 2021, I evaluated entanglement risk for the commercial Dungeness crab fishery pursuant to Section 132.8(b). I provided the California Dungeness Crab Fishing Gear Working Group (Working Group) and the Whale Safe Fisheries email listserv with notice of the risk assessment and all non-confidential data under consideration on April 27, 2021. Prior to this risk assessment and management response, I considered the Working Group’s April 29, 2021 management recommendation, and other relevant information provided to my staff.

II

There are no Department approved marine life concentration survey data to inform the risk assessment in Fishing Zones 1, 2, 5, and 6. Pursuant to Section 132.8(c)(2)(B)(1), I must implement a protective management action.

III

Upon evaluation of the management considerations pursuant to Section 132.8(d), I have determined that the management action listed below protects Humpback whales, Blue whales, and Pacific leatherback sea turtles based on the best available science. Additional information on the relevant management considerations is provided in the attachment to this declaration.

IV

THEREFORE, under the authority granted by Fish and Game Code Section 8276.1(b) and Section 132.8 of Title 14 of the California Code of Regulations, I am implementing the following management action:

1. Starting at 12:00PM on May 10, 2021, a Depth Constraint limiting fishing activity to inside of 30-fathoms is issued for ocean waters for Fishing Zones 1 and 2 for the California commercial Dungeness crab fleet. All vessels must carry onboard an electronic monitoring system capable of recording the vessel’s location while engaged in fishing activity using GPS coordinates at a frequency of no less than

once per minute during fishing operations. Electronic monitoring data must be made available to the Department upon request for the duration of the fishing period and 60 days thereafter.

2. Fishing Zones 1-6 remain under a Fleet Advisory. The Department 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 1 and 2 should pay particular attention to the location of set gear and foraging whales and minimize entanglement risk by adhering to the [Best Practices Guide](#). Whales have been sighted in and around Reading Rock, north of Trinidad.

This management action is in effect until lifted or modified. The next risk assessment is expected to occur on or around May 14, 2021.

Updates and material regarding future entanglement risk evaluations in the commercial Dungeness crab fishery will be made available on the Department's web page:

<https://wildlife.ca.gov/Conservation/Marine/Whale-Safe-Fisheries>



Charlton H. Bonham, Director

5/3/21 4:25pm
Date/Time

**ATTACHMENT TO DIRECTOR'S MAY 3, 2021 DECLARATION OF A DEPTH
CONSTRAINT AND FLEET ADVISORY FOR THE COMMERCIAL DUNGENESS CRAB
FISHERY DUE TO RISK OF MARINE LIFE ENTANGLEMENT**

Information referenced in this Attachment is further described in the Available Data compilation dated April 29, 2021, and located at the Department's Whale Safe Fisheries website (<https://wildlife.ca.gov/Conservation/Marine/Whale-Safe-Fisheries>), which to the Department's knowledge represents the best available science informing the management considerations in Section 132.8(d).

Information Supporting Trigger for Management Action Under Section 132.8(c)

Marine Life Concentrations:

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

Relevant Management Considerations Under Section 132.8(d)

1. Working Group Management Action Recommendation and Best Available Science Made Available to the Department

Some of the members of the Working Group supported a Depth Constraint limiting fishing to inside 30 fathoms, although fleet representation noted possible burden to the fleet from the electronic monitoring requirement. The Working Group also provided an alternative recommendation for Fishing Zones 1 and 2 of only continuing the Fleet Advisory, which received support from some members of the Working Group. The recommendation memo is available on the Department's web page: <https://wildlife.ca.gov/Conservation/Marine/Whale-Safe-Fisheries>. No other information was made available to the Department.

2. Information from NOAA

No additional information was provided for this risk assessment.

3. Effectiveness of Management Measures to Minimize Entanglement Risk

Given the low relative running average sightings of Humpback whales in Monterey Bay (Zone 4) which is an indication of migration timing, low sightings in Zone 3 and 5, and declining fishing activity, a Fleet Advisory remains an effective Management Action for Zones 3, 4, 5 and 6. A Depth Constraint limiting fishing activity to inside 30 fathoms for Zone 1 and 2 will minimize co-occurrence with Humpback whales, which were largely observed in depths greater than 30 fathoms. Based on bi-weekly reporting, most fishing gear is at depths between 13 and 31 fathoms, with some gear at deeper depths. Therefore, a Depth Constraint is not anticipated to significantly

increase overall gear concentrations but will bring deeper set gear into shallower waters away from observed Humpback aggregations.

4. Total Economic Impact to the Fleet and Fishing Communities

A Depth Constraint and Fleet Advisory are not anticipated to have significant economic impact on the fleet or fishing communities as it allows for continued fishing opportunity. Additionally, given fishing depth zones reported in the bi-weekly reporting for Zones 1 and 2, a constraint at 30 fathoms will allow the majority of current fishing activity (which is already inside of 30 fathoms) to continue.

5. Data Availability Within and Across Fishing Zones

Monterey Bay Whale Watch (MBWW) data are available for Fishing Zone 4. Cascadia Research vessel survey data are available for Zones 3 and 4. California Coast Crab Association (CCCA) and Point Blue Conservation Science (Point Blue) observation data are available for Zones 1, 3, 4, 5 and 6. The Habitat Compression Index and Whale Watch 2.0 habitat predictions are available for all Zones. No data is available for Zone 2 specific to whale or sea turtle presence. Given lack of data in Zone 2, the Department considered data available from Zone 1 in determining management response. For the remaining Fishing Zones, the Department considers the available data to adequately cover the full geographic extent of those Fishing Zones to inform the appropriate management response.

6. Known Historic Marine Life Migration Patterns

Presence of Humpback whales in typically high concentration areas in Fishing Zones 3 and 4 continue to be lower than average based on MBWW data and Cascadia Research vessel surveys. The same is true of humpback sightings provided by Point Blue observational data. Whales that are observed were located primarily offshore in those zones. However, observation data from CCCA and NOAA researchers indicated higher abundances of Humpback whales in Fishing Zone 1, although still largely located offshore with some whales in shallower water.

Continued relative absence of Blue whales is consistent with their overwintering at breeding areas outside of California.

Pacific Leatherback sea turtles typically do not begin to arrive in California waters until late June based on sea turtle tagging studies and historical surveys.

7. Fishing Season Dynamics

Season price negotiations delayed the 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, 358 vessels have participated in the fishery as of April 20, 2021. Week 5 had the highest number of potential traps deployed across all Fishing Zones, with an estimated total of 94,675 traps. Fishing Zone 3 had the highest total, followed by Zone 1. Although the most recent landings data from week 17 indicates a slightly increase in landings compared to prior weeks, overall landings numbers have decreased significantly from the highest landing periods in weeks 4 and 5. Additionally, total numbers of vessels participating in the fishery has continued to decline over the past few weeks. The estimated maximum number of traps is currently 28,975 which is another decrease from the last risk assessment when 39,550 traps were estimated. Average fishing depths statewide range from 13-18 fathoms, with Fishing Zones 1 and 2 averaging from 11 fathoms to 32 fathoms.

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.

Cool ocean temperatures and strong spring upwelling conditions continued from February to March and the Habitat Compression Index (HCI) for both months indicates a low compression state. It is anticipated that cool conditions with expanded upwelling habitat will continue with no impact of habitat compression that would otherwise result in increased concentrations and aggregations forage (and therefore whales) nearshore.

9. Ocean Conditions

La Niña conditions persisted in March with a 80% chance of a transition from this condition to ENSO-neutral during May-July 2021.

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 impact of habitat compression that would otherwise result in increased concentrations and aggregations of whales and forage nearshore.

10. Current Impact Score Calculations

- a. Fishing Season – 0.38 for Humpback whales; 0 for Blue whales and Pacific Leatherback sea turtles
- b. Calendar Year – 0.38 for Humpback whales; 0 for Blue whales and Pacific Leatherback sea turtles

11. Marine Life Concentrations and Distribution During the Current Fishing Season

Based on Monterey Bay Whale Watch data, Cascadia Research vessel surveys, Point Blue Observation, and CCCA vessel surveys and multiple sources of observation data, significant migration into the Fishing Grounds has yet to occur in Fishing Zones 3-5. Whales that are present remain primarily offshore in deep water (70-200 meters, 38-109 fathoms) and outside the depth ranges where most fishing is occurring. In Fishing Zone 1, vessel surveys performed by the fishing industry as well as observations from a NOAA research cruise observed over 50 humpback whales in depths of 30-55 fathoms, with some animals deeper and shallower.

Chosen Management Action and Rationale

Based on the management considerations outlined above, the Director will implement a Depth Constraint in Fishing Zones 1 and 2 limiting fishing activity to inside 30 fathoms beginning on May 10, 2021 at 12:00PM. The Fleet Advisory put in place in Fishing Zones 1-6 by the Director's declaration on April 1, 2021 remains in place.

No current survey data was available for Fishing Zones 1, 2, 5, and 6, which requires analysis of the management considerations under Section 132.8(d) and appropriate management response under Section 132.8(c). Those sections anticipate a broader analysis of the factors impacting entanglement risk statewide. Section 132.8(d)(5) anticipated that if data is not available, data from adjacent Fishing Zones may be used. Specifics related to the two management decisions are provided below.

Statewide Fleet Advisory

A Fleet Advisory under section 132.8(e) is not necessarily limited to a single Fishing Zone, and compliance with best management practices throughout the state will ensure that entanglement risk remains low as Humpback and Blue whales migrate into the Fishing Grounds. 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.

Although historic information indicates we are approaching the spring migration period, available data indicate the bulk of the migration has not arrived at this time in Fishing Zones 3-6. Monterey Bay Whale Watch Data and vessel surveys performed by Cascadia Research in Fishing Zones 3 and 4 observed whales at low densities; it is reasonable to use this data as a proxy for whale presence in Fishing Zones 5 and 6. Additionally, observation data from Point Blue Conservation Science and vessel survey data from CCCA covering Fishing Zones 5 and 6 supports low whale presence in the Fishing Grounds in those areas.

Furthermore, based on oceanographic and forage condition data, cool conditions persist, and compression of available forage which could increase co-occurrence of trap gear and whales as they begin to arrive to the Fishing Grounds in Fishing Zones 3-6 is not expected to occur. As expected with low compression conditions, Humpback whales were primarily observed feeding along the 200-m depth line in Fishing Zones 3 and 4. Statewide fleet

participation is low and decreasing compared to activity levels from previous years, and available biweekly reporting from the fleet indicates fishing activity is occurring at a maximum depth of 120 fathoms, and on average maximum depths are 40 fathoms and below. Given the above, paired with low presence of Humpback whales and Blues whales, risk is low across all management considerations at this time in Fishing Zones 3-6.

A Fleet Advisory provides notice to fishermen of possible whale presence, and encourages fishery participants to implement best fishing 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 1 and 2 should pay particular attention to the location of set gear and foraging whales and minimize entanglement risk by adhering to the [Best Practices Guide](#). Whales have been sighted in and around Reading Rock, north of Trinidad.

30 Fathom Depth Constraint in Fishing Zones 1 and 2

Although there is no approved survey data for Fishing Zones 1 and 2 under section 132.8(c)(2), there is observational data for Fishing Zone 1 from CCCA vessel surveys and the NOAA research cruise indicating large aggregations of Humpback whales between the 30 and 45 fathom contour mark, with some whales closer to shore. Fleet participation in these Zones is decreasing based on Department landing data. Available biweekly reporting from the fleet indicates fishing activity in Fishing Zones 1 and 2 is occurring at a maximum depth of 65 and 75 fathoms, respectively, with average maximum depths of 27 fathoms and 31 fathoms. Although the majority of fishing activity is occurring in depths at which whales have not been observed, the large numbers of whales indicate a higher likelihood of co-occurrence with fishing activity. A Depth Constraint at 30 fathoms will minimize co-occurrence with the low and decreasing fishing activity that remains and is appropriately protective of Humpback whales given the most recent available data. Low habitat compression is also anticipated to prevent high whale concentrations inshore in Fishing Zones 1 and 2 given availability of forage offshore.

The Department will perform additional risk assessments throughout the spring and respond to changing entanglement risk as appropriate should new data indicate increased entanglement risk for Humpback whales, Blue whales, or Pacific leatherback sea turtles in the Fishing Grounds.