



**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
DECLARATION OF FISHERY CLOSURE  
IN 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 March 25, 2022, 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 March 22, 2022. Prior to this risk assessment and management response, I considered relevant information provided to my staff. The Working Group met on March 23, 2022 to discuss the risk assessment but did not provide a written recommendation.

II

On March 17, 2022, a Humpback whale was confirmed entangled in California commercial Dungeness crab gear in Fishing Zone 3, and on March 19, 2022, a second Humpback whale was confirmed entangled in California commercial Dungeness crab gear in Fishing Zone 4. Pursuant to Section 132.8(c)(1)(B) I must implement a Fishing Zone closure or other protective management action.

III

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

IV

Pursuant to Fish & Game Code Section 9002.5(b)(1)(A)(ii) and implementing regulations in Section 132.7 of Title 14 of the California Code of Regulations, I may authorize retrieval operations under the Lost or Abandoned Dungeness Crab Trap Gear Retrieval Program when take of crab is restricted pursuant to Section 132.8.

V

Pursuant to Section 132.8(e)(5), I must allow use of any authorized Alternative Gear during a closure on April 1 or later.

VI

Upon evaluation of the management considerations pursuant to Section 132.8(d), I have determined that the management action listed below protects humpback whales based on the best available science. Additional information on the relevant management considerations is provided in the attachment to this declaration **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. Fishery Closure for commercial Dungeness crab for the remainder of the 2021-2022 season in Fishing Zones 3, 4, 5, and 6 starting at 12:00PM (noon) on April 8, 2022, requiring all Dungeness crab traps be removed from ocean waters in those Fishing Zones by then. The take and possession of Dungeness crab is therefore prohibited after 12:00PM on April 8, 2022. This closure does not apply to fishing activity with authorized Alternative Gear types as stated below.
2. Fishing Zones 1 and 2 remain under a Fleet Advisory. Fishery participants are encouraged to report entangled whales to the United States Coast Guard or 1-877-SOS-WHALE and to review the Best Practice Guide when moving gear to new Fishing Grounds.
3. Retrieval operations under the Lost and Abandoned Dungeness Crab Trap Gear Retrieval Program may begin in Fishing Zones 3, 4, 5, and 6 on April 15, 2022, at 12:00PM.
4. Authorized Alternative Gear may be used in all closed Fishing Zones. Currently there are no authorized Alternative Gear types. If an Alternative Gear type is authorized before the statutory season closure dates, it may be used for take of Dungeness crab.

This management action is in effect until lifted or modified. The next risk assessment is expected to occur on or around April 15, 2022, and will evaluate marine life entanglement risk in the Fishing Zones that remain open and the recreational Dungeness crab fishery.

Updates and material regarding future entanglement risk evaluations in the commercial Dungeness crab fishery will be made available on the [Department's Whale Safe Fisheries web page](#).

  
Charlton H. Bonham, Director

3/25/22 10 AM PT  
Date/Time

## ATTACHMENT TO DIRECTOR MARCH 25, 2022, DECLARATION OF FISHERY CLOSURE IN THE COMMERCIAL DUNGENESS CRAB FISHERY DUE TO RISK OF MARINE LIFE ENTANGLEMENT

Information referenced in this Attachment is further described in the Available Data summary dated March 22, 2022, 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)

#### Confirmed Entanglements:

- **Fishing Zone 3:** March 17, 2022 – Confirmed entanglement in California commercial Dungeness crab gear.
- **Fishing Zone 4:** March 19, 2022 – Confirmed entanglement in California commercial Dungeness crab gear.

#### Marine Life Concentrations:

- **Fishing Zones 5 and 6:** No current data available

### Relevant Management Considerations Under Section 132.8(d)

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

The Working Group met on March 23, 2022 to discuss the risk assessment, but did not provide a consensus recommendation. There was however support for the CDFW staff's preliminary recommendation by some members, with one member opposed. Working Group members expressed differing opinions regarding the appropriate amount of time between the Director's determination and the closure date, with some members wanting the closure to include a provision for weather delays and some wanting an earlier closure to minimize risk as quickly as feasible

#### 2. Information from NOAA

No additional information was made available for this risk assessment.

#### 3. Effectiveness of Management Measures to Minimize Entanglement Risk

Given the low abundance of humpback whales in the Fishing Grounds, it is not possible to identify an appropriate depth-based closure which would reduce co-occurrence risk. A vertical line reduction is not sufficiently responsive to the recent

humpback entanglements confirmed to the commercial crab fishery. Given those entanglements, a Fishery Closure in Zones 3-6 is the most protective of Actionable Species within the Fishing Grounds. While no Alternative Gear is currently authorized for use, should a gear become authorized it could be used in closed Zones.

While a Fleet Advisory is no longer sufficiently protective for Fishing Zones 3-6 given the recent entanglements, there is no indication of Actionable Species presence in Fishing Zones 1 and 2, supporting a determination of overall low entanglement risk. A Fleet Advisory is sufficiently protective of Actionable Species in those areas.

#### **4. Total Economic Impact to the Fleet and Fishing Communities**

Total economic costs are considered when deciding between management measures that equivalently reduce entanglement risk. A Fishery closure is the only effective management action in response to the current entanglement risk. Additionally, while a fishery closure will have economic costs to the commercial fishery, a closure in response to elevated entanglement risk can prevent longer term loss of fishing opportunity should additional entanglements occur.

#### **5. Data Availability Within and Across Fishing Zones**

CDFW aerial surveys were available for Fishing Zones 1 through 4. Monterey Bay Whale Watch (MBWW) data are available for Fishing Zone 4. No current data was available for Fishing Zones 5 and 6.

#### **6. Known Historic Marine Life Migration Patterns**

Currently, aerial surveys and MBWW data indicate relatively few humpback whales in the Fishing Grounds, which aligns with known historic migration patterns. MBWW data indicates humpback whale presence is similar to historic levels for this time of year. Based on historic migration patterns, the Department expects humpback whales to begin returning to California waters within the coming weeks.

#### **7. Fishing Season Dynamics**

Weekly total landing volume has continued to decrease since late December. In recent weeks, landed volume has primarily been harvested from Fishing Zones 1 and 3. Overall, 66% of the total volume harvested this season has been from Fishing Zone 1, 31% from Fishing Zone 3, and less than 5% each from the other Fishing Zones. To date, 42% of harvested volume has been landed into Crescent City, 20% into Eureka, 11% each into San Francisco and Half Moon Bay, and less than 10% each from the other port complexes. Looking at landings by Zone, 69 active permits made landings in Zone 1, 19 active permits in Zone 2, 88 active permits in Zone 3, and 15 active permits in Zone 4. Zones 5 and 6 had fewer than 3 active permits. Overall, the number of weekly Dungeness crab landings reflects the port-specific

trends in vessel activity, including the recent uptick in Crescent City vessel activity. Unit price (price per pound) has continued to trend upwards for Crescent City, Eureka, Bodega Bay, San Francisco, Half Moon Bay, and Monterey Bay. While the overall trends in Trinidad and Eureka reflect increased prices relative to those at the start of the season, prices have remained stable for these ports during the last few weeks. The most recent landings have fetched prices under \$10/lb. for all ports other than Half Moon Bay. Approximately 34,188 traps are estimated to be deployed statewide for the March 16 reporting period, which covers fishery participation from March 1-15, 2022. The majority of these (47%) are located within Fishing Zone 3 while 39% of these located within Fishing Zone 1.

#### **8. Known Distribution and Abundance of Key Forage**

Bait was observed during aerial surveys providing foraging opportunities humpbacks whales.

#### **9. Ocean Conditions**

As of February 10, 2022, La Niña conditions are expected to continue into the Northern Hemisphere spring (77% change during March-May) and then transition to ENSO-neutral (56% change during May-July). The most recent Habitat Compression Index values are for February 2022, during which there was moderate compression between 35.5 and 40°N. During the Working Group meeting, fleet members expressed concerns about the limited opportunity to safely remove gear due to spring ocean conditions. Spring conditions along the coast often bring long periods of gale force winds and large swell.

#### **10. Current Impact Score Calculations**

- a. Fishing Season – 1.88 for Humpback whales; 0 for blue whales and leatherback sea turtles.
- b. 2022 Calendar Year – 1.88 for Humpback whales; 0 for blue whales and leatherback sea turtles.
- c. 2021 Calendar Year – 1.89 for Humpback whales; 0 for blue whales and leatherback sea turtles.

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

Based on aerial survey data and MBWW data, most humpback whales appear to be outside the Fishing Grounds, and overall whale presence is low. However, based on the time of year, migration is likely underway and arrivals can be anticipated in the coming weeks.

### **Chosen Management Action and Rationale**

Based on the management considerations outlined above, the Director will implement a Fishery Closure in Fishing Zones 3, 4, 5, and 6, and maintain the Fleet Advisory in Fishing Zones 1 and 2. Any authorized Alternative Gear will be allowed to be used in the closed Fishing Zones.

The confirmed entanglements of humpback whales in California commercial Dungeness crab fishing gear in Fishing Zones 3 and 4 require the Department to evaluate risk and take an appropriate management response. Based on available data, a Fishery Closure is appropriate protective management response. Two recent entanglements show a clear indication of co-occurrence of fishing gear and humpback whales. Additionally, although fishing effort has decreased statewide and is anticipated to continue to decrease into the spring months, the arrival of migrating humpback and blue whales in the next few weeks is expected and the Department anticipates that numbers of Actionable Species will increase, thereby also increase entanglement risk. The two-week period for gear removal in advance of the closure will help the fleet accommodate safe removal and work when ocean conditions allow.

Under Section 132.8(d)(10), the Director may consider current Impact Score calculations when evaluating an appropriate management response. The Impact Score for the current fishing season is 1.88 for Humpback whales. The potential for additional entanglements this Fishing Season begins to raise concerns of meeting the mandatory season closure Impact Score of 3, as well as the possibility of reaching the running average score trigger at the end of this calendar year pursuant to Section 132.8(c)(1)(C). This concern is warranted as there have been entanglements occur during the fishing season and not detected until after the season closes. A Fishery Closure will mitigate that risk.

There was no available Marine Life Concentration data for Fishing Zones 5 and 6, requiring the Director to implement a management action pursuant to Section 132.8(c)(2)(B)(1). Given that northward migrating whales will first reach those southern Fishing Zones, and the entanglements that have occurred in the season to date, a closure in that area is the appropriate protective measure for those Zones.

For Fishing Zones 1 and 2, based on the available data continuing the Fleet Advisory is protective of humpback whales in those Zones. Aerial surveys in Fishing Zones 1 and 2 show low numbers of humpback whales in the Fishing Grounds, which is consistent with historic migration patterns. Furthermore, fishery participation is decreasing, and it is anticipated that fishing effort will continue to decline into the spring months, reducing the likelihood of co-occurrence between commercial crab traps and Actionable Species. All confirmed entanglements to-date are from Fishing Zones 3 and 4 either in or near Monterey Bay. However, fishery participants in Fishing Zones 1 and 2 should be prepared for a Fishery Closure within those Zones should another entanglement occur or be detected. A Fleet Advisory will also alert fishery participants and other mariners to increase

entanglement detection and the potential for an entanglement response team to disentangle the animal.