



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
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**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
DECLARATION OF FISHERY MANAGEMENT ACTION MODIFICATION IN THE  
COMMERCIAL DUNGENESS CRAB FISHERY**

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 January 15, 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 January 12, 2021. Prior to this risk assessment and management response, I considered the Working Group's January 14, 2021 management recommendation, and other relevant information provided to my staff.

II

At this time, neither confirmed entanglement data nor marine life concentration data require management response pursuant to Section 132.8(c). Available data can be found at the Department's [Whale Safe Fisheries website](#).

III

The commercial Dungeness crab fishery is currently operating under a Fishing Advisory pursuant to my December 11, 2020 declaration. Section 132.8(b)(4) requires that when the triggers in 132.8(c) are no longer met, I must lift or modify any fishing restrictions in a manner that promotes fair and orderly fisheries.

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 lifting the Fishing Advisory. Therefore, no management restrictions apply to the commercial Dungeness crab fishery.

The next risk assessment is expected to occur on or around February 16, 2021. 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 website](#).

A handwritten signature in dark ink, appearing to read 'CH Bonham', with a long horizontal flourish extending to the right.

Charlton H. Bonham, Director

1/15/21 9:08 AM

Date/Time



## California Department of Fish and Wildlife Final Assessment of Marine Life

### Entanglement Risk and Management Recommendation

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Date: January 14, 2021

An initial assessment and 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. The initial assessment was shared with the Working Group on January 12, 2021 and finalized at the conclusion of the Working Group meeting on January 14, 2021 based on discussions with the group.

#### **A. Marine life entanglement risk, relative to the 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 Zones 1-7: No Triggers reached

#### **B. Scope of elevated 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 measure(s) recommended under this initial assessment

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

- No additional information was made available for this risk assessment and no management measure(s) were recommended for this initial assessment

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

- Aerial surveys were conducted across Fishing Zones 3 and 4. Monterey Bay Whale Watch (MBWW) data was available for Fishing Zone 4. Additional observational data were contributed for Fishing Zones 3, 4 and 6 and Blue whale habitat predictions are available for all Fishing Zones

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

- Seasonal migration of Blue and Humpback whales out of California waters to Mexico and Central America typically occurs in November and early December. Based on MBWW reports and CDFW aerial surveys the bulk of the migration out of the Fishing Grounds appears to have occurred.

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

- Season price negotiations delayed actual start of fishing following the December 23, 2020 statewide opener. Gear setting for a majority of the fleet began on January 11, 2021, which will likely result in high gear concentrations in many areas of the Fishing Grounds.

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

- No additional data was made available for this risk assessment.

Section 132.8(d)(9): Ocean conditions

- La Niña is expected to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March), with a potential transition to ENSO-neutral during the spring 2021 (55% chance during April-June).

#### 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 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.

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

- **Fishing Zones 1-6:** CDFW Marine Region staff's final recommendation is for the Director to lift the Fleet Advisory in all Fishing Zones. Based on CDFW aerial survey data and as indicated by Monterey Bay Whale Watch data, Actionable Species appear to have migrated out of the Fishing Grounds. As a result, co-occurrence of commercial 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 the fleet 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 Marine Region shared the Initial assessment with Working Group representatives and advisors on January 14, 2021. There was no opposition to the recommendation by Marine Region staff.

CDFW will continue to monitor all available data to inform the next risk assessment (expected to occur on or around February 16, 2021).

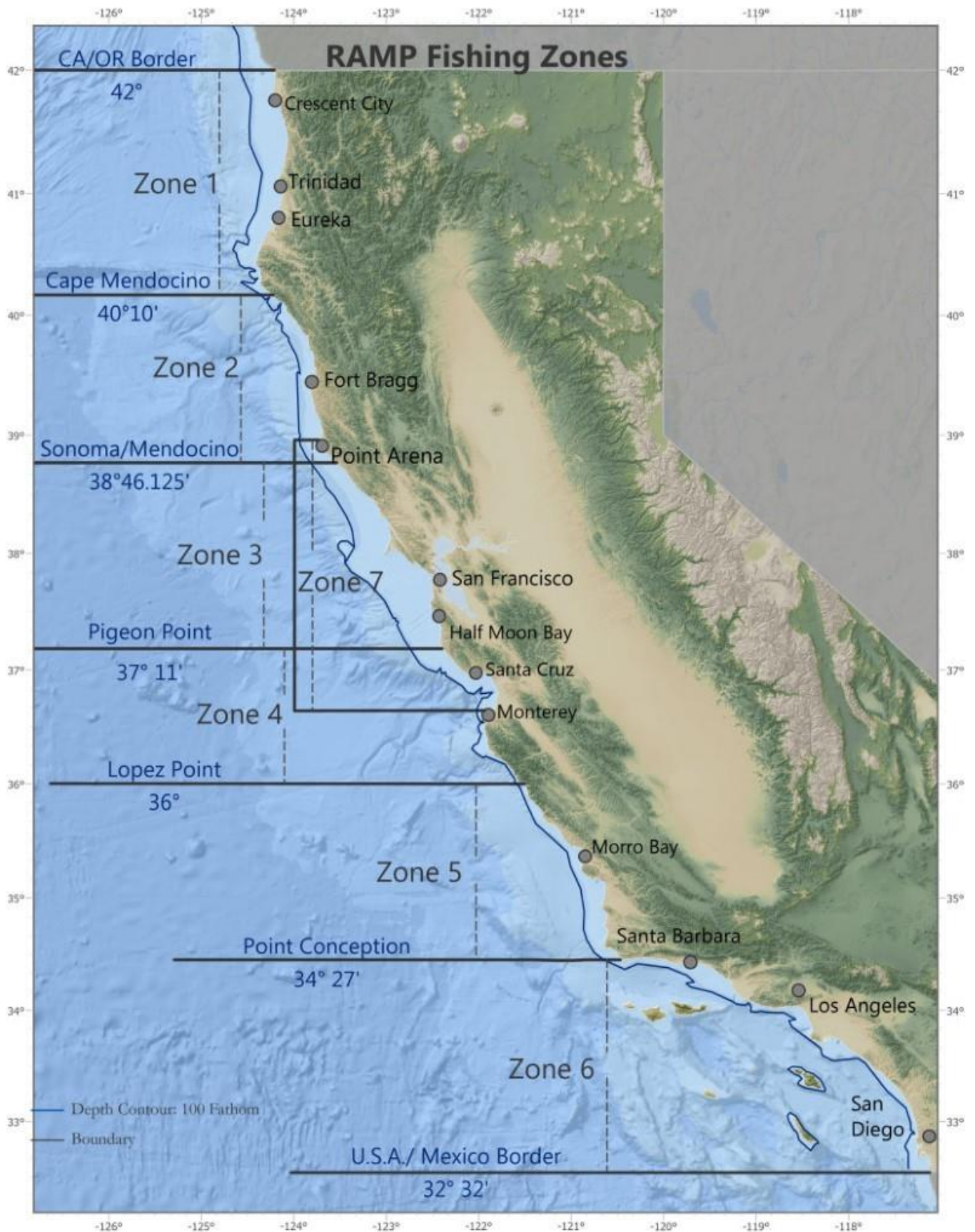


Figure 1. RAMP Fishing Zone boundaries.

## California Department of Fish and Wildlife Initial Assessment of Marine Life Entanglement Risk and Preliminary Management Recommendation

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Date: January 12, 2021

***CDFW will prepare a Final Assessment and Management Recommendation after review of the Working Group Recommendation and any other relevant information.***

This assessment and preliminary recommendation have been developed by California Department of Fish and Wildlife (CDFW) Marine Region staff for consideration by the California Dungeness Crab Fishing Gear 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.

### **A. Marine life entanglement risk, relative to the 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 Zones 1-7: No Triggers reached

### **B. Scope of elevated 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 measure(s) recommended under this initial assessment.

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

- No additional information was made available for this risk assessment and no



management measure(s) were recommended for this initial assessment.

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

- Aerial surveys were conducted across Fishing Zones 3 and 4. Monterey Bay Whale Watch (MBWW) data was available for Fishing Zone 4. Additional observational data were contributed for Fishing Zones 3, 4 and 6 and Blue whale habitat predictions are available for all Fishing Zones.

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

- Seasonal migration of Blue and Humpback whales out of California waters to Mexico and Central America typically occurs in November and early December. Based on MBWW reports and CDFW aerial surveys the bulk of the migration appears to have occurred.

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

- Season price negotiations delayed actual start of fishing following the December 23, 2020 statewide opener. Gear concentrations are expected to be high beginning Monday January 11, 2021.

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

- No additional data was made available for this risk assessment.

Section 132.8(d)(9): Ocean conditions

- La Niña conditions are currently forecast for winter/spring 2021. See [Available Data](#) from December 10, 2020.

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 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.

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

- **Fishing Zones 1-6:** CDFW Marine Region staff's preliminary recommendation is for the Director to lift the Fleet Advisory in all Fishing Zones. Based on CDFW aerial survey data and as indicated by Monterey Bay Whale Watch data, Actionable Species appear to have migrated out of the Fishing Grounds. As a result, co-occurrence of commercial 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 the fleet 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 will continue to monitor all available data to inform the next risk assessment (expected to occur on or around February 16, 2021).

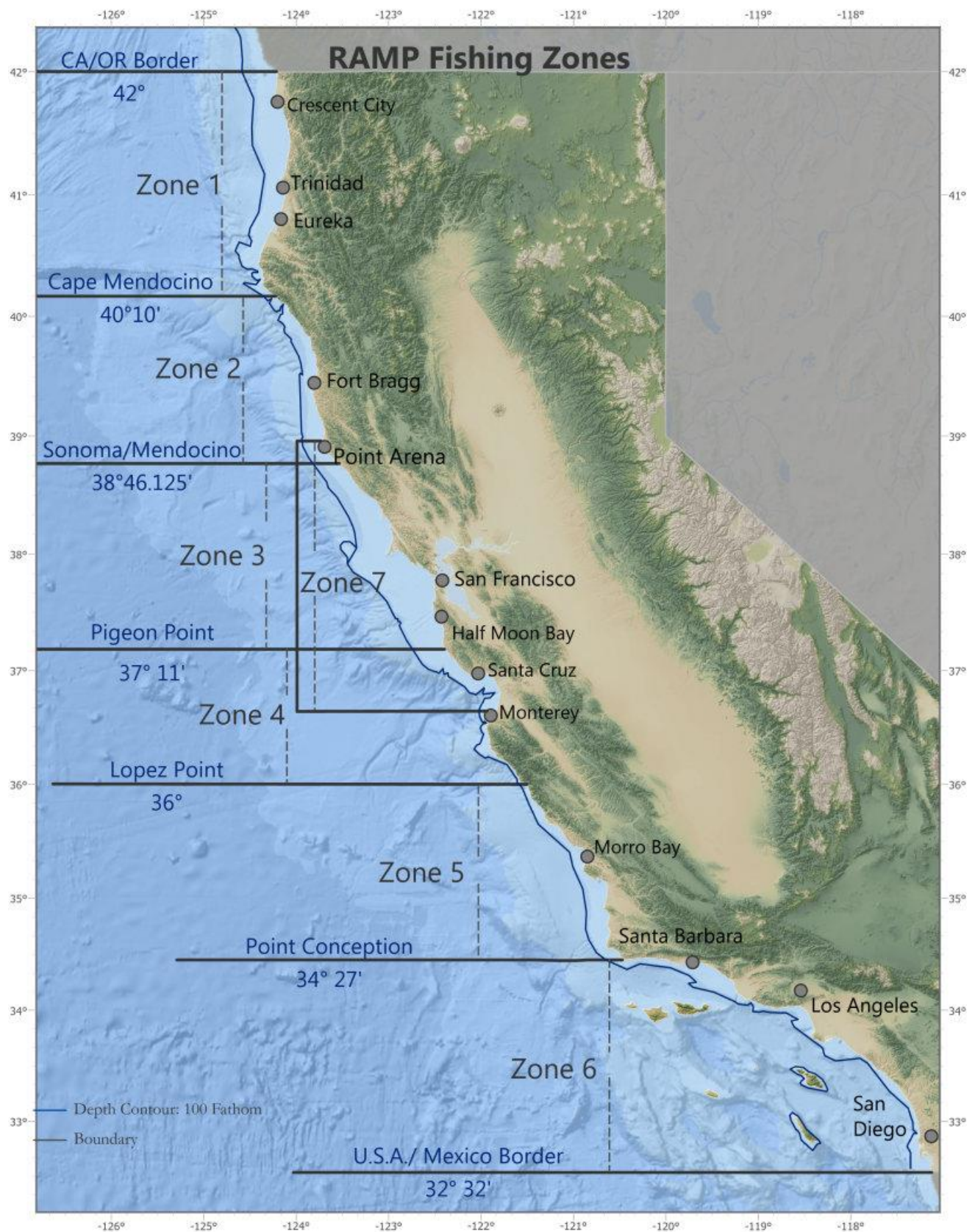


Figure 1. RAMP Fishing Zone boundaries.

## 2020-21 Risk Assessment: Available Data

Last updated: January 12, 2021

### TRIGGERS REQUIRING MANAGEMENT ACTION

#### Section 132.8(c)(1): Confirmed Entanglements

*Data provided by: Lauren Saez and Dan Lawson (NMFS)*

#### **Evaluation of RAMP Triggers (by CDFW)**

Total number of Confirmed Entanglements in California Commercial Dungeness Crab Gear

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

Total number of Confirmed Entanglements in Unknown Fishing Gear reported from California

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

#### **Summary of All West Coast Entanglements (by NMFS)**

Total entanglements for calendar year 2020:

- 17 confirmed: 10 Humpback whales, 6 Gray whales, and 1 Sperm whale
- 11 unconfirmed: 4 Humpback whales, 4 Gray whales, 1 Bryde's whale and 2 unidentified whales

Total entanglements for calendar year 2021: none

#### Section 132.8(c)(2): Marine Life Concentrations

*Data provided by: Monterey Bay Whale Watch (processed by Karin Forney, NMFS), California Department of Fish and Wildlife*

#### Monterey Bay Whale Watch (Fishing Zone 4)

- The number of documented Humpback whales has continued to decline since the last assessment in early December, and no Humpback whales have been observed since December 30, 2020.
- No Blue whales have been observed since December 24, 2020, when a single Blue whale was seen.



### CDFW Aerial Survey - Fishing Zones 3 and 4

CDFW staff conducted a limited aerial survey over portions of Fishing Zones 3 and 4 (Russian River to Point Piños) on January 11, 2021 (Figure 1). Fog and low clouds obscured portions of both Fishing Zones, so the flight transects were adjusted accordingly. One Humpback whale was observed west of Half Moon Bay at the shelf break. Trap gear was observed across both Fishing Zones, with high concentrations around Point Reyes around the Farallon Islands and west of Half Moon Bay. Vessel activity was observed around the ports of Bodega Bay, San Francisco and Half Moon Bay.



Figure 1. Flight path and observations during CDFW aerial survey in Fishing Zones 3 and 4 on January 11, 2021.

## MANAGEMENT CONSIDERATIONS

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

No additional information was shared.

### Section 132.8(d)(4): Total economic impact to the fleet

No additional information was provided to CDFW. See management consideration (d)(7) for available information on fishing activity to date during the 2020-21 fishing season.

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

*Data provided by: Monterey Bay Whale Watch (processed by Karin Forney, NMFS)*

#### Monterey Bay Whale Watch (*Fishing Zone 4*)

- The absence of Humpback whales is consistent with average historical winter-time patterns (Figure 2) that show few or no Humpback whale sightings during January when whales have mostly left the California feeding grounds for their breeding areas off Mexico and Central America.
- The absence of Blue whales is consistent with their known southward migration to breeding areas during winter.

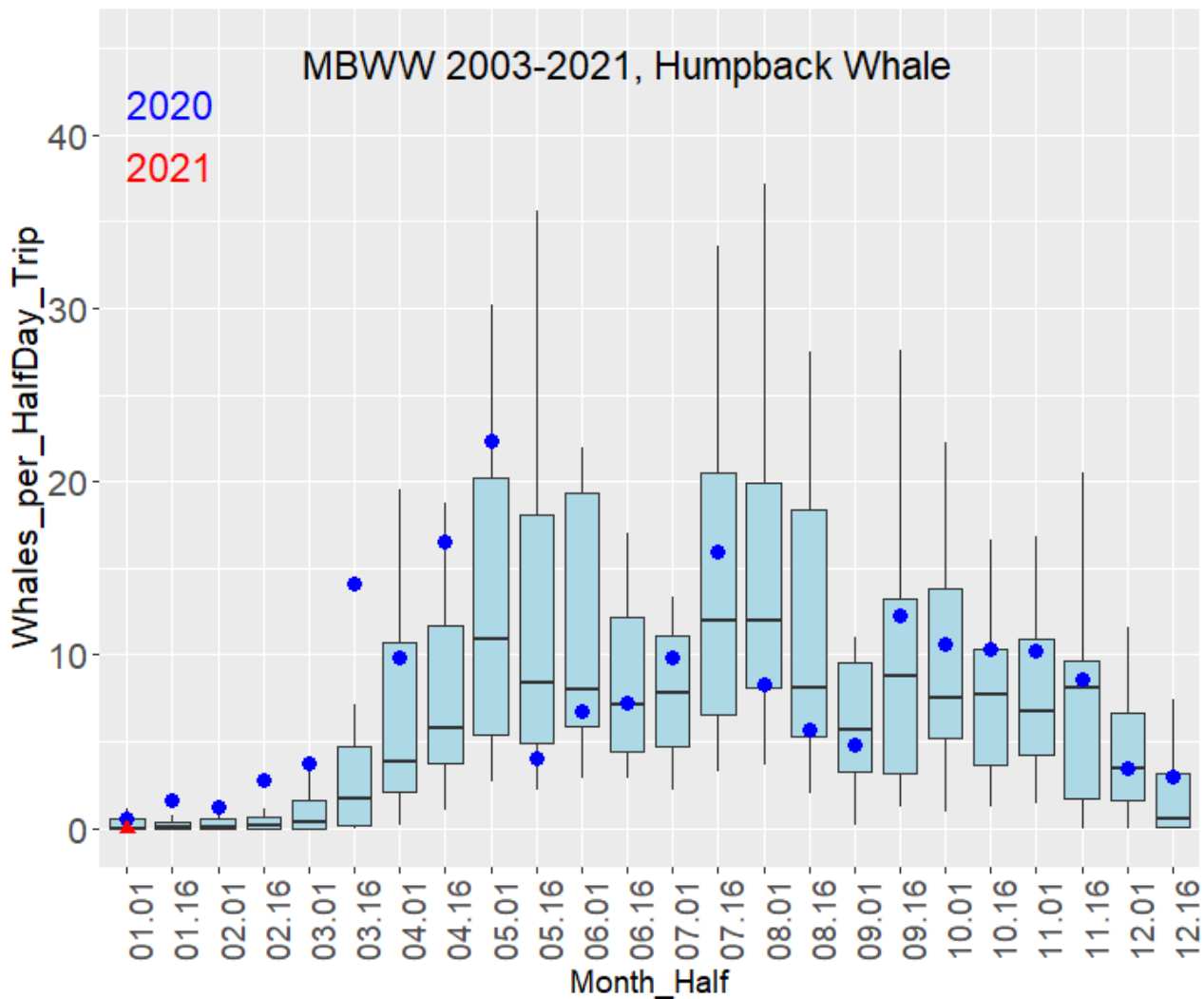


Figure 2. Historical Monterey Bay Whale Watch data for 2003-2021, summarizing the average and variation in the number of humpback whales per half-day trip on a semi-monthly basis (1st- 15th, 16th- end of month). This boxplot follows standard statistical practice in that the black horizontal line is the average number of whales; the blue box shows the 25th -75th percentiles (i.e., half of all past whale numbers are within the blue box); the vertical lines show the range of whale numbers excluding outliers, and outliers are shown as small black dots. Values for 2020 (large blue dots) and 2021 (red triangles) and are provided for reference, placing recent whale numbers in a historical context.

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

Data provided by: California Department of Fish and Wildlife

#### Marine Landings Data System

The commercial Dungeness crab fishery opened statewide on December 23, 2020. Due to ongoing price negotiations, most vessels chose not to begin fishing until January 11, 2021. As of January 12, 2021, landing receipt data available to CDFW through the Marine Landings Data System indicates there have been 18 landings of Dungeness crab during the 2020-21 fishing season with a total volume of 16,539 lbs. Average unit price for these landings was \$3.87 with a total Ex-Vessel Value of \$55,883.70. Given the limited fishery participation to date, data confidentiality requirements preclude sharing more detailed summaries at this time.

## Bi-Weekly Fishing Activity Reports

CDFW has been receiving bi-weekly reports since the first reporting period of January 1, 2021. Based on the low level of fishing activity, CDFW will be providing summaries of these reports at a later date.

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

No information was provided.

### Section 132.8(d)(9): Ocean conditions

No information was provided.

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

*Data provided by: California Department of Fish and Wildlife*

Pursuant to the Risk Assessment and Mitigation Program (Section 132.8, Title 14, CCR), Impact Score Calculations will be assigned beginning with the 2021 calendar year based on confirmed entanglements of Actionable Species (Humpback whales, Blue whales, or Leatherback Sea Turtles) reported to CDFW by NOAA. As described in Section 132.8(c)(1) above, no confirmed entanglements of Actionable Species have been reported for the current calendar year. Therefore, the Impact Score Calculation is 0 for all three species.

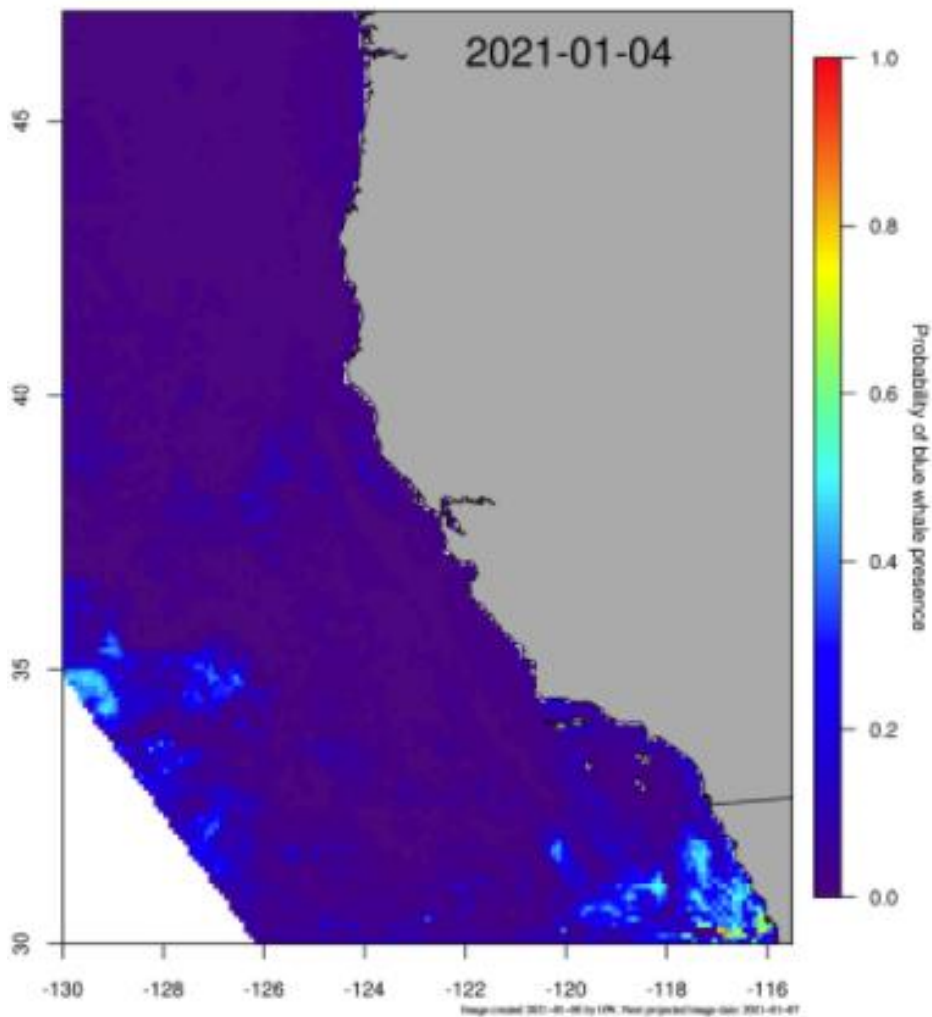
### Section 132.8(d)(11): Actionable Species migration into or out of Fishing Grounds and across Fishing Zones

*Data provided by: Briana Abrahms (University of Washington), Kathi George (The Marine Mammal Center), Point Blue Conservation Science*

### WhaleWatch 2.0 (All Fishing Zones)

The best whale habitat predictions for January 4, 2021 indicate that probability of Blue whale presence is low in Fishing Zones 1-6 (Figure 3).





WhaleWatch 2.0 [or future product name] is a dynamic ocean management tool that aims to provide information on suitable whale habitat in real-time to minimize ship strike risk. Map shows predicted daily blue whale habitat suitability at 10km resolution which represents where whales are most likely to be based on environmental conditions. ([link to website](#))

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Figure 3. WhaleWatch 2.0 map for January 4, 2021. [View a current map.](#)

### Solar Loggers (*Fishing Zone 4*)

Track lines from whale watching vessels participating in the solar logger pilot project (Figure 4) indicate a high amount of effort in the southern half of Monterey Bay during 43 trips between December 19, 2020 – January 8, 2021.

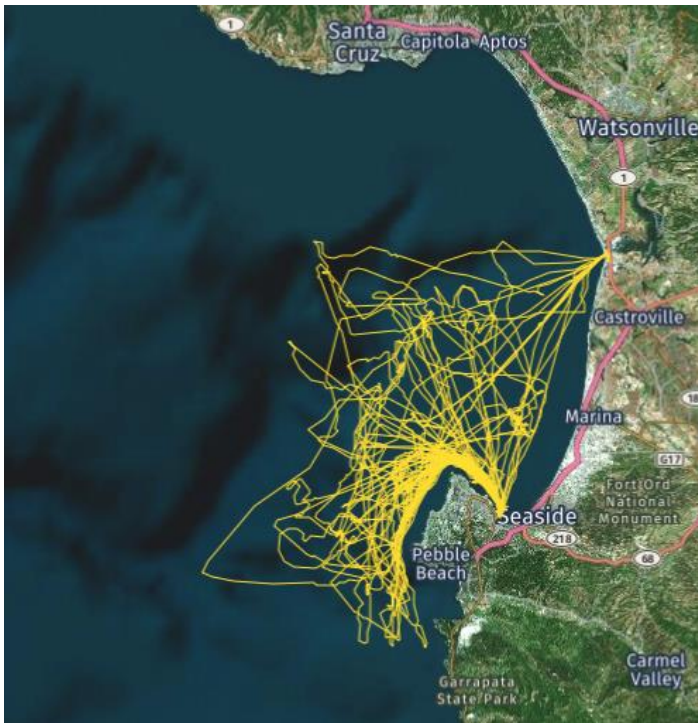


Figure 4. Track lines for all whale watch trips from December 19, 2020 – January 8, 2021. Sightings and species are not reflected on this map.

#### Point Blue Conservation Science Data Portal (*Fishing Zones 3, 4 and 6*)

Over the 7-day period ending January 12, 2021, 1 Humpback whale and 0 Blue whales were reported by trained biologists at the Farallon Islands (Figure 5). No Humpback or Blue whales were reported in Monterey Bay (through the Spotter/Whale Alert app) or the Santa Barbara Channel (by trained naturalists from the Channel Islands National Marine Sanctuary and National Park Service) during this period.

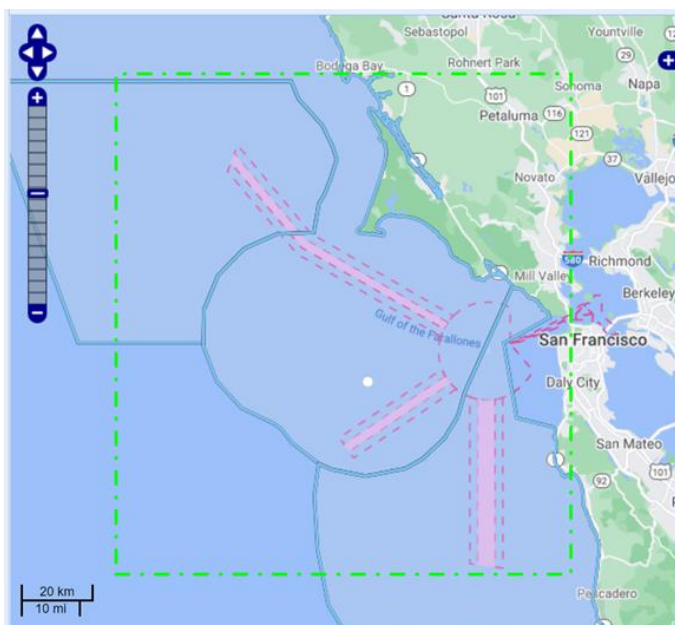


Figure 5. 1 Humpback whale sighting in Fishing Zone 3 during the 7-day period ending January 12, 2021. Reporting locations are represented by white circles. A given report may represent multiple individuals.