

# **California Dungeness Crab Fishing Gear Working Group (Working Group) Risk Assessment and Mitigation Program (RAMP) 2019-20 Management Recommendations Form**

*Discussion Date: May 11, 2020 Recommendation Finalized: May 14, 2020*

The Working Group requests this recommendation and supporting information be considered by the California Department of Fish and Wildlife (CDFW) Director prior to any upcoming risk determination.

## **A. Identified risk(s) and severity**

Based on the information available during the May 11, 2020 discussion, the Working Group's risk assessment associated with the four RAMP factors is as follows:

- **Ocean and Forage Conditions: Risk is low**
- **Entanglement: Risk is low**
- **Fishing Dynamics: Risk is low**
- **Marine Life Concentrations**
  - Blue whales: Risk is low
  - Leatherback sea turtles: Risk is low
  - Humpback whales
    - Northern Management Area: Risk is low (consensus)
    - Central Management Area: Risk is low (majority); risk is high (minority); risk is moderate (minority)

The Working Group also provided an overall risk assessment across all four RAMP factors:

- **In the NMA, overall risk is low (consensus)**
- **In the CMA, overall risk is low (majority); overall risk is moderate (minority)**

Rationale supporting the consensus portions of the risk assessment, and the majority assessments for humpback whales in the CMA and overall risk, are provided in Section B. The majority recommendation regarding suggested management measures is provided in Section C. The minority rationale for their assessments of humpback whales in the CMA and overall risk, and their recommendation regarding suggested management measures, is provided in Section D.

## **B. Available information**

The Working Group's discussion was informed by the Data Compilation<sup>1</sup> provided by CDFW, in partnership with Working Group advisors, on May 8, as well as additional real-time contributions during the May 11 discussion. Rationale and key information which informed the assessment are summarized below for each factor.

### *Ocean and Forage Conditions*

- Oceanographic conditions are largely consistent with those described in prior risk assessments, including cool and productive upwelling habitat present in northern waters and warmer conditions south of Point Reyes.
- Sea surface temperatures in the Southern California Bight (south of Point Conception) indicate persistent warming. This strong regionalization of temperature and upwelling conditions is similar to last year, but is distinct from the patterns seen during large marine heatwave events or El Niño years, when warm waters are seen both nearshore and offshore along the entire coast. These conditions could reduce available forage in the Santa Barbara Channel, indirectly impacting distribution of humpback whales, blue whales, and leatherback sea turtles.
- On-the-water observations indicate pyrosomes -- which are associated with warm water conditions and provide additional foraging opportunities for leatherback sea turtles -- are abundant in Monterey Bay and at Pioneer Seamount. Velella velella, also associated with warm water conditions, have been observed along Moss Landing beaches.

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<sup>1</sup> <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=179001&inline>

- There were no substantial changes in ocean and forage conditions within Dungeness crab fishing grounds since the last risk assessment, therefore risk remains low.

#### *Entanglement (Humpback whales, Blue whales, Leatherback sea turtles)*

- There have been no confirmed entanglements in California commercial Dungeness crab gear during the 2019-20 fishing season; therefore, risk remains low.

#### *Fishing Dynamics*

- CDFW landings data suggests trends identified during the last risk assessment (e.g. lower levels of vessel activity and lower levels of actively fished traps compared to earlier in the season) have generally continued.
- A port survey conducted by the California Coast Crab Association on May 11, 2020 indicates that less than 13% of those who were fishing during the season openers are still fishing and less than 20% of the crab gear deployed at the start of the season is still in the water.
- Given the trends above, risk remains low.

#### *Marine Life Concentrations (Humpback whales, Blue whales, Leatherback sea turtles)*

- The CDFW reconnaissance flight on May 7, 2020 followed a zig-zag pattern from Point Reyes to Eureka. One group of humpback whales was observed off Point Reyes, and no large whales were observed in the NMA. An additional flight by a CDFW warden during the salmon opener documented humpback whales feeding amongst fishing vessels in Monterey Bay.
- Monterey Bay Whale Watch (MBWW) research surveys observed a running average of 27.6 humpback whales per half-day trip (Figures 9 and 10). This is within the upper half of the historical (2003-2020) average number of humpback whales for this time period (Figure 11).
- The spatial distribution of reports in Monterey Bay over the last week indicates humpback whales are primarily being seen over the Monterey Canyon. This may explain the apparent disconnect between the large number of sightings reported by

researchers and the few sightings by local fishermen, who are largely operating in other areas of the bay.

- Due to the absence of humpback whale observations, the full Working Group determines risk remains low in the NMA. Given the lack of observations reported by fishermen, and the majority perspective that MBWW trends and observations in Monterey Bay do not imply elevated concentrations throughout the CMA, the majority assessed risk for humpback whales in the CMA as remaining low.
- No blue whales have been sighted in Monterey Bay, however trained biologists documented one whale near the Farallon Islands on May 9, 2020 (not shown in Figure 12). Due to low numbers of blue whale sightings, risk in both the CMA and NMA remains low.
- Typically, leatherback sea turtles returning to the US West Coast initially enter the California Current from the south near Point Conception. Based on information from previous years, a Working Group advisor expects the tagged leatherback currently migrating towards California will arrive in Monterey Bay around late June. Therefore, risk for leatherback sea turtles remains low for both the NMA and CMA.

### **C. Management recommendation(s)**

The majority of the Working Group does not recommend any mandatory management measures at this time. The full Working Group assessed overall risk for the NMA as low, and a majority also assessed overall risk for the CMA as low. In particular, the majority viewed information regarding humpback whale abundance within Monterey Bay as informative of localized presence, and insufficient to characterize overall risk for the entire CMA as elevated. Any potential risk from humpback whale presence in the CMA is mitigated by the low risk from changes in fishing activity (e.g. continued removal of fishing gear) and broadly distributed foraging opportunities.

The Working Group made a consensus recommendation for fishery participants in both management areas to use best practices, as outlined in their current Best Practices Guide<sup>2</sup>, including avoiding areas with bait balls, krill swarms, or other signs of potential co-

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<sup>2</sup> [http://www.opc.ca.gov/webmaster/\\_media\\_library/2019/11/2019-20\\_BPG\\_Final.pdf](http://www.opc.ca.gov/webmaster/_media_library/2019/11/2019-20_BPG_Final.pdf)

occurrence. Fishery participants should pull gear promptly once done fishing for the season. The Working Group also encourages industry participation in the post-season Trap Gear Retrieval Program to reduce entanglement risk from lost or abandoned commercial Dungeness crab fishing gear.

A majority of the Working Group (10 members) recommended the CDFW Director rescind the scheduled May 15, 2020 closure of the CMA and instead institute the voluntary management measures from previous risk assessments and described above. Five members abstained from the vote on management measures in the CMA.

The Working Group made a consensus recommendation for CDFW to develop finer-scale approaches to implementing future management measures (i.e. finer spatial scale than the CMA/NMA level). CDFW should avoid creation of static lines, but rather collaborate with the Working Group to identify appropriate boundaries based on the specific circumstances for the management measure being considered.

The Working Group also reached consensus to prioritize the evaluation of available data streams (both qualitative and quantitative) including fishermen's on-the-water observations. This evaluation process should also identify what information is needed to support future risk assessments, establish a process to consider new data sources, and confirm other improvements to the 2020-21 RAMP.

#### **D. Alternatives**

Two minority opinions were advanced for the assessment of marine life concentrations risk for humpback whales in the CMA. One minority (two members) assessed risk as moderate and another minority (two members) assessed risk as high.

Both minorities referenced recent MBWW data showing an increased running average of humpback whale presence within Monterey Bay. The minority who assessed risk as high expressed the importance of relying on objective criteria previously developed by the Working Group, specifically the draft Risk Assessment Framework which interprets a running average of a one-week period of over 20 whales to be high risk, and that without a quantitative aerial survey, MBWW data is the best available information regarding humpback whale presence in the CMA. The minority who assessed risk as moderate did

not think it was appropriate to elevate humpback whale risk for the entire CMA based on reports from Monterey Bay.

A minority (two members) assessed overall risk for the CMA as moderate for similar reasons as those presented in the April 27, 2020 Working Group recommendation<sup>3</sup>. In addition to increased presence of humpback whales in Monterey Bay, the minority interpreted available data as indicating elevated risk due to available forage (anchovy) inshore and potential overlap with commercial Dungeness crab fishing activity. Historical patterns (see Appendix 1 of the April 7 Data Compilation<sup>4</sup>) show it is common to have at least one entanglement in California commercial Dungeness crab gear during March - June. Furthermore, any entanglements which may occur are less likely to be detected due to COVID-19 restrictions on ocean users. This highlights the need for a precautionary approach. Therefore, this minority recommends the CDFW Director uphold the May 15 closure of the CMA.

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<sup>3</sup> <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=178822&inline>

<sup>4</sup> <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=178216&inline>