

## 2019-20 Risk Assessments: Available Data

Last updated: April 22, 2020

### FACTOR: ENTANGLEMENTS

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

- There have been no confirmed entanglements with California commercial Dungeness crab gear during the 2019-20 fishing season
- There have been two confirmed humpback whale entanglements reported since the last meeting, neither involving Dungeness crab gear.
- Total entanglements to date for calendar year 2020 are 6 confirmed (4 humpback whales, 2 gray whales), 2 unconfirmed (1 gray whale, 1 unidentified whale)
  - Humpback whales: 4 confirmed entanglements
    - April 15: calf entangled with unidentified gear (likely gillnet), reported off Orange County
    - April 13: entangled with spot prawn gear set, reported off Channel Islands, partially disentangled
    - February 28: entangled with unidentified gear (dark colored line), reported off Monterey
    - February 14: entangled with gillnet, reported off San Diego
  - Blue whales: 0 reported entanglements
  - Leatherback sea turtles: 0 reported entanglements
  - Gray whales: 2 confirmed, 1 unconfirmed
    - 1 confirmed entanglement with gillnet reported off San Diego (January 20)
    - 1 confirmed entanglement with unidentified gear reported off Oxnard (January 12)
    - 1 unconfirmed entanglement with unidentified gear, reported as buoys (March 19)
  - Unidentified whale: 1 unconfirmed entanglement (March 3)
- Appendix 1 in the [4/7 Data Compilation](#) includes a summary of early spring and summer entanglements from 2013-2019.

## FACTOR: OCEAN AND FORAGE CONDITIONS

*No new information was provided for this factor. Information provided by Jarrod Santora and Isaac Schroeder (NMFS SWFSC and UC Santa Cruz) for the April 9 Working Group Risk Assessment (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=178216&inline>) is still relevant for the April 27, 2020 discussion.*

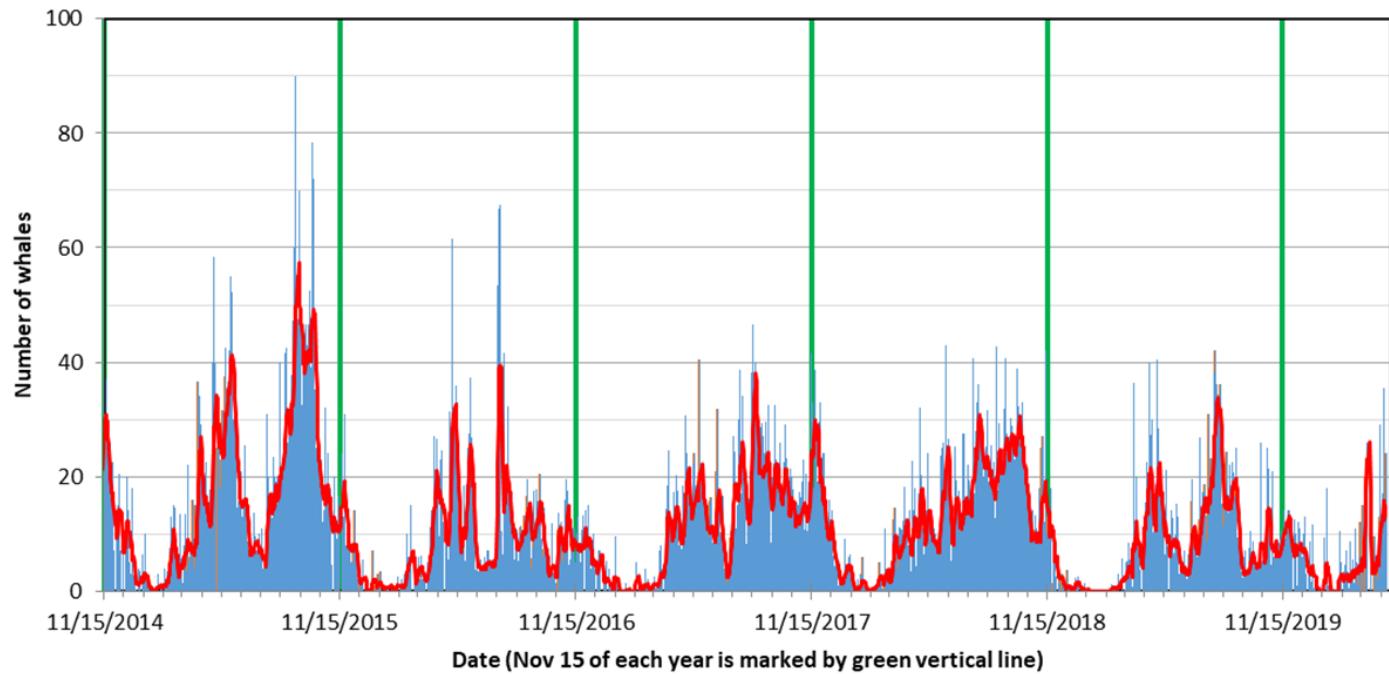
## FACTOR: MARINE LIFE CONCENTRATIONS

*Data provided by: Monterey Bay Whale Watch (compiled by Karin Forney, NOAA SWFSC), Scott Benson (NMNFS SWFSC), Jaime Jahncke (Point Blue Conservation Science)*

### Monterey Bay Whale Watch

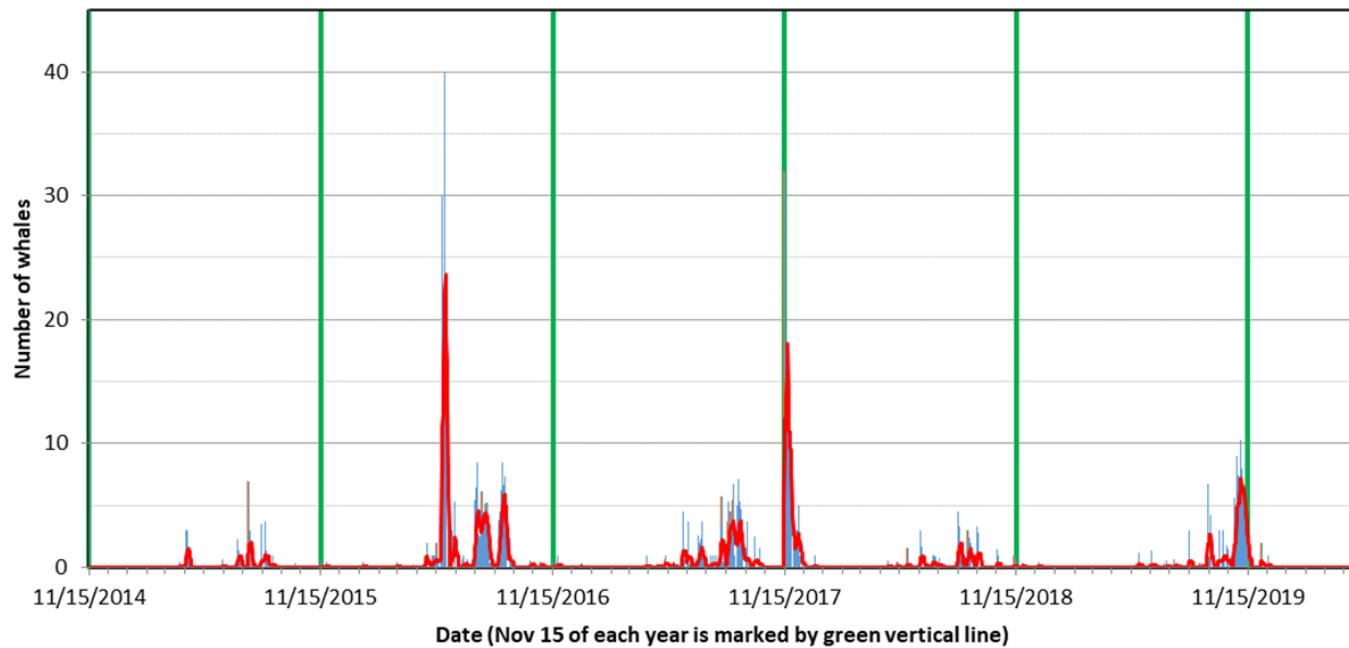
- Although commercial MBWW whale-watching trips have been suspended because of COVID-19, Nancy Black has conducted research-only trips on most days since the last summary on 4/6/2020. Karin Forney has standardized these research trips to the same 'whales per half-day-trip' unit used in previous summaries.
- In response to the Working Group's interest in spatial information on whale sightings, Nancy Black has started reporting her sightings through the WhaleAlert app, and her observations are included in Figures 5 and 6.
- The average number of humpback whales per half-day-trip (Figure 1) was 14.9 during the past week (4/16-4/22), with a daily range of 2-35 whales and trips conducted every day. The week before that (4/8-4/15), there were trips on 6 of 7 days and the average was 11.9 humpback whales (range 3-29).
- No blue whales have been observed since mid-December 2019, consistent with their southward winter migration (Figure 2).
- No gray whales were seen within the last week (4/16-4/22, Figure 3), and gray whales have largely completed their northbound migration (from their breeding grounds in Mexico to their feeding areas in Alaska).
- Historical trends for all three species are included in Figures 2, 5 and 7 of the [4/7 Data Compilation](#).

**Monterey Bay Whale Watch: Humpback whales per 1/2-day trip**  
**(Nov 15, 2014 - Apr 22, 2020)**



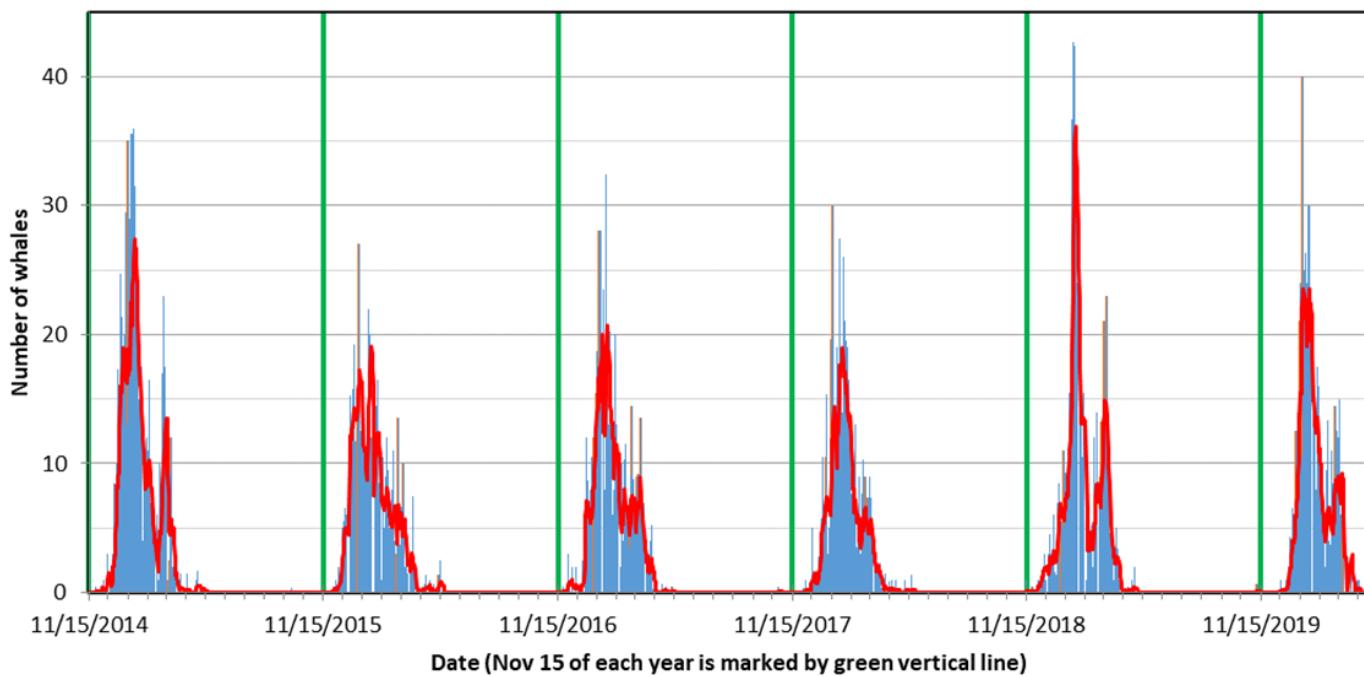
**Figure 1. Standardized number of humpback whale sightings from 15 November 2014 – 22 April 2020 for Monterey Bay Whale Watch (note: for this assessment, the graph has been re-scaled to begin Nov 2014 rather than Nov 2013 to keep the spring 2020 data more visible). After 3/17/2020 these trips are research trips rather because commercial whale-watching operations were suspended in response to COVID-19, but all were standardized to a consistent metric of ‘whales per half-day-trip’. The y-axis is the number of whales; the thin blue bars are the average daily whale numbers, and the red line is a 7-day running average to make the patterns a bit easier to see. A vertical green line has been added at November 15 of each year for reference. Each tick mark is one month.**

**Monterey Bay Whale Watch: Blue whales per 1/2-day trip**  
**(Nov 15, 2014 - Apr 22, 2020)**



**Figure 2. Standardized number of blue whale sightings from 15 November 2014 – 22 April 2020 for Monterey Bay Whale Watch (note: for this assessment, the graph has been re-scaled to begin Nov 2014 rather than Nov 2013 to keep the spring 2020 data more visible). After 3/17/2020 these trips are research trips rather because commercial whale-watching operations were suspended in response to COVID-19, but all were standardized to a consistent metric of ‘whales per half-day-trip’. The y-axis is the number of whales; the thin blue bars are the average daily whale numbers, and the red line is a 7-day running average to make the patterns a bit easier to see. A vertical green line has been added at November 15 of each year for reference. Each tick mark is one month.**

**Monterey Bay Whale Watch: Gray whales per 1/2-day trip**  
**(Nov 15, 2014 - Apr 22, 2020)**



**Figure 3.** Standardized number of gray whale sightings from 15 November 2014 – 22 April 2020 for Monterey Bay Whale Watch (note: for this assessment, the graph has been re-scaled to begin Nov 2014 rather than Nov 2013 to keep the spring 2020 data more visible). After 3/17/2020 these trips are research trips rather because commercial whale-watching operations were suspended in response to COVID-19, but all were standardized to a consistent metric of ‘whales per half-day-trip’. The y-axis is the number of whales; the thin blue bars are the average daily whale numbers, and the red line is a 7-day running average to make the patterns a bit easier to see. A vertical green line has been added at November 15 of each year for reference. Each tick mark is one month.

#### Leatherback Sea Turtle Tagging Data

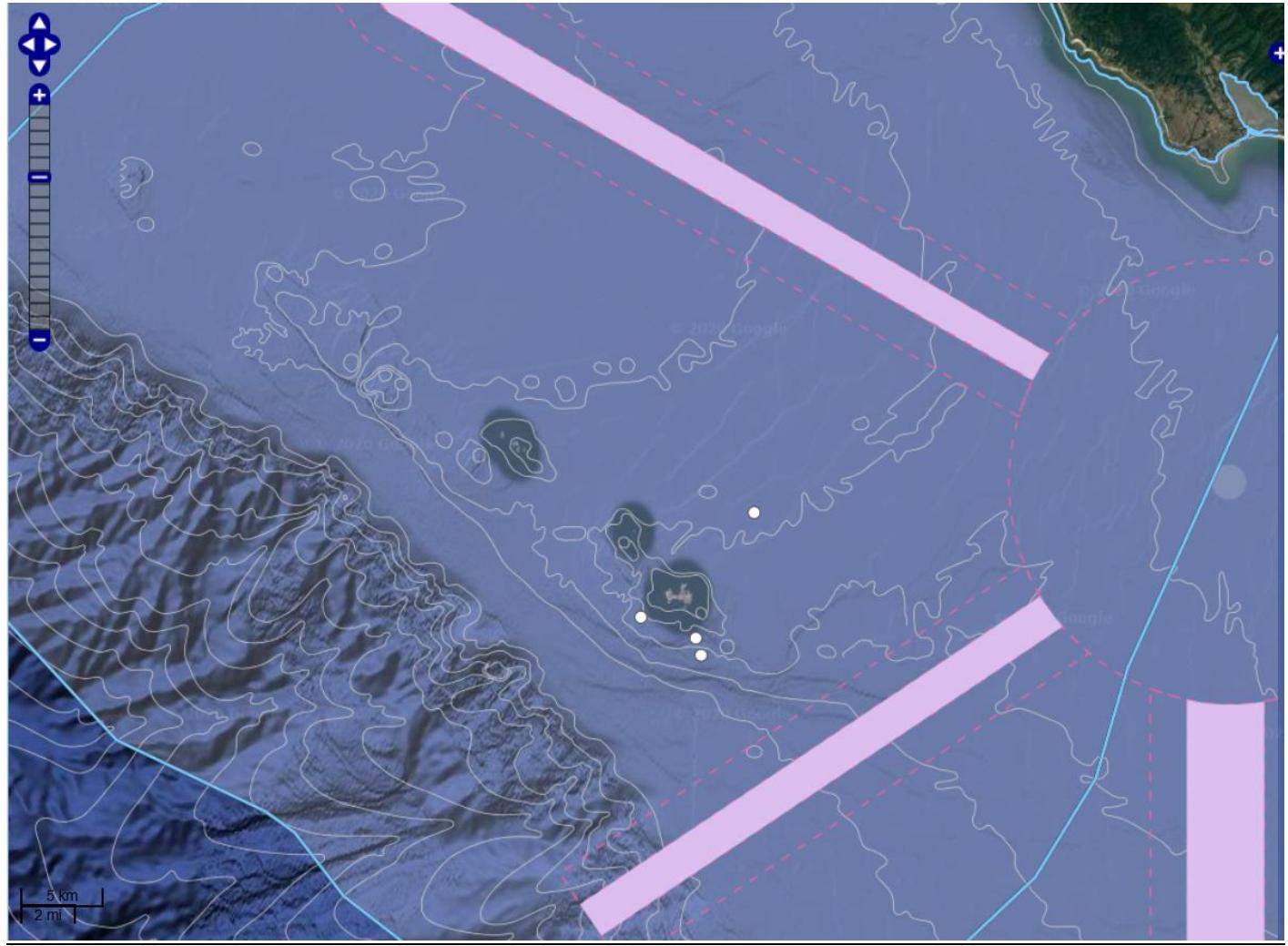
Three of six transmitters that were attached to leatherback turtles during September/October 2019 remain active. One turtle is now at the western edge of the California Current Ecosystem (30.170N / 122.526W), approximately 270 miles southwest of Point Conception and moving in a northeast direction. The two other turtles are near the Tropic of Cancer and are moving in a northeast direction toward the North American continent.

#### Point Blue Conservation Science (<https://geo3.pointblue.org/whale-map/index.php>)

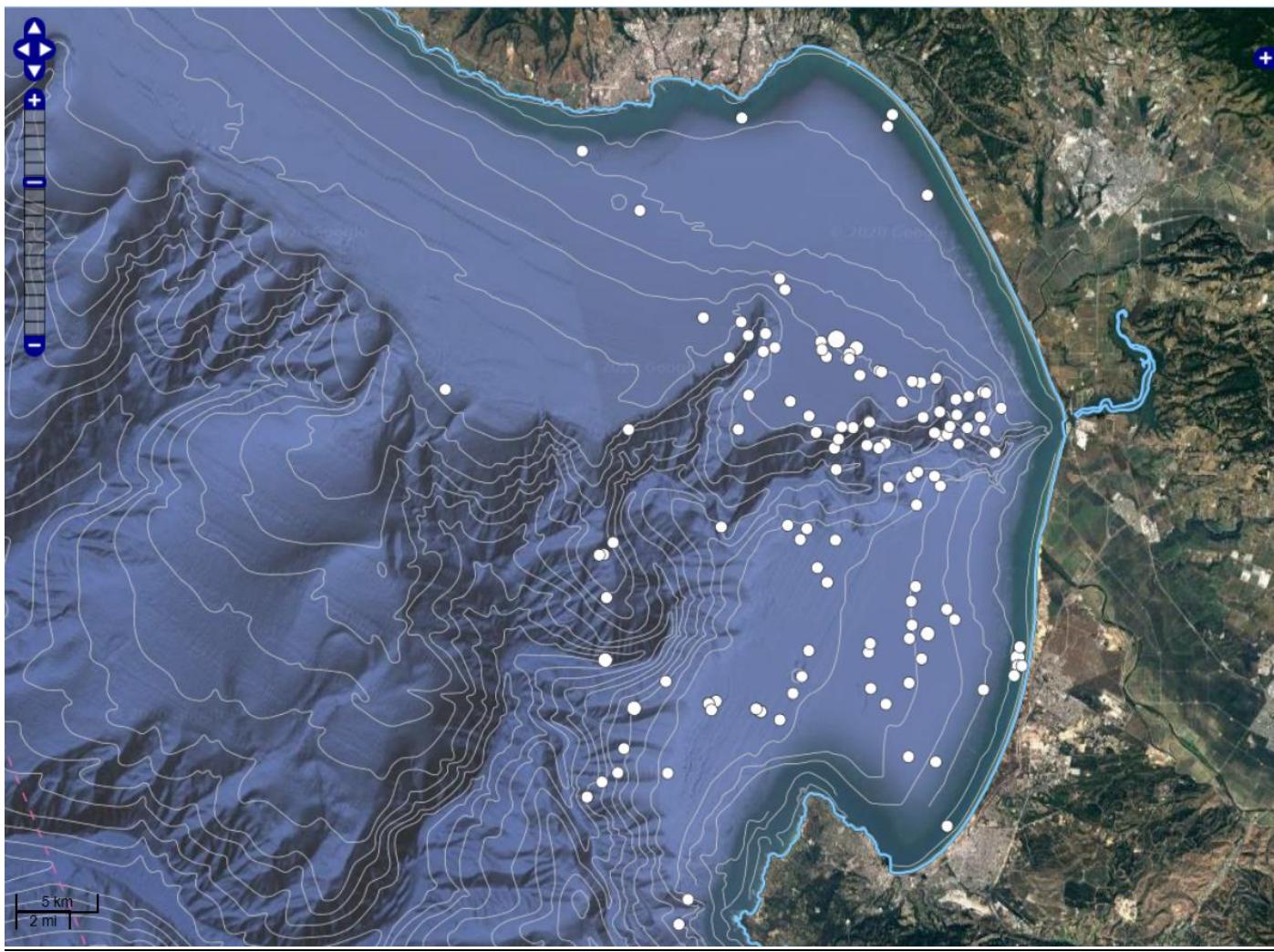
- Observations by trained biologists at the Farallon Islands (reported through the Spotter/Whale Alert app) show 5 humpback whales in the last month (March 22 – April 21; Figure 4). No humpback whale sightings were reported during the week ending April 21, and no blue whales were reported in the last month.
- Observations from research surveys by Nancy Black (Monterey Bay Whale Watch) and Peggy Stap (Marine Life Studies) reported through the Whale Alert app within Monterey Available Data, April 27, 2020 Working Group Discussion

Bay included 288 Humpback Whales in the last month (March 22 – April 21; Figure 5) and 153 humpback whales during the week ending April 21 (Figure 6). No blue whales were reported during the last month.

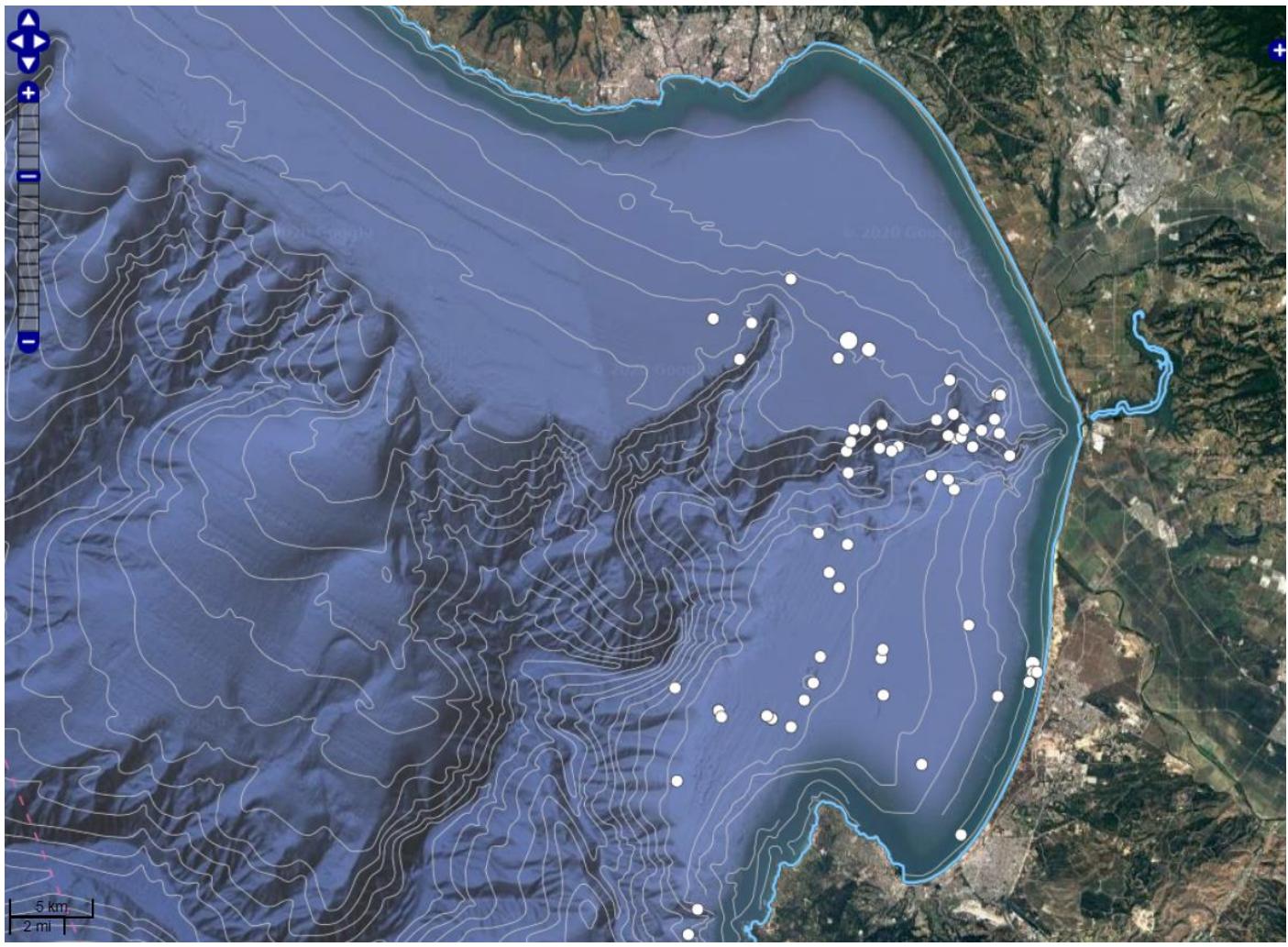
- No observations by trained naturalists from Channel Islands National Marine Sanctuary and the National Park Service were reported during the last month (March 22 – April 21).



**Figure 4.** Humpback whale sightings (5 total animals) in the Greater Farallones from March 22 to April 21, 2020. Reporting locations are represented by white circles. A given report may represent multiple individuals.



**Figure 5.** Humpback whale sightings (288 total animals) within Monterey Bay from March 22 – April 21. Reporting locations are represented by white circles. A given report may represent multiple individuals, and the same individual may be included in multiple reports. Sightings were reported through the WhaleAlert app during research surveys by Nancy Black/Monterey Bay Whale Watch and Peggy Stap/Marine Life Studies.



**Figure 6. Humpback whale sightings (153 total animals) within Monterey Bay over the seven-day period ending April 21.** Reporting locations are represented by white circles. A given report may represent multiple individuals, and the same individual may be included in multiple reports. Sightings were reported through the WhaleAlert app during research surveys by Nancy Black/Monterey Bay Whale Watch and Peggy Stap/Marine Life Studies.

#### CDFW Aerial Surveys

Not yet available at the time this document was developed. Information will be shared during the 4/27 Working Group call.

#### FACTOR: FISHING DYNAMICS

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

Marine Landings Data System and Automated License Data System

- All analyses were conducted with landing receipt data available as of April 22, 2020. Submission requirements through the E-Tix platform and subsequent availability in the

Marine Landings Data System means data are relatively complete through mid-April; only landings through April 11, 2020 (Week 17) were included in the totals and figures below.

- During the 2019-20 season, there have been 6,326 landings of Dungeness crab (13,161,724 pounds and \$44,298,036 in Ex-Vessel Value) by 454 vessels.
- CDFW MacroBlocks (aggregated CDFW Fishing Blocks used to report catch location) are shown in Figure 7.
- Activity has increased slightly in Eureka, Fort Bragg, Bodega Bay, San Francisco, Half Moon Bay, and Morro Bay (Figure 8).
- Total volume (across all port complexes) has remained fairly stable during the last 3 weeks. The highest volume is coming into Trinidad and San Francisco (Figure 9) and the highest harvest is coming from MacroBlock 1038, followed by 1041 (Figure 10).
- Number of deployed traps (referred to as “maximum potential traps” in earlier available data compilations and Working Group recommendations) is estimated by summing the number of allotted traps (i.e. trap tier) for each permitted vessel making a landing during the specified time period. Overestimation may occur if a vessel does not utilize their full trap allocation. Underestimation may occur if a vessel has traps deployed but does not make a landing during that time period or if a vessel number was incorrectly reported on a landing receipt (preventing assignment of the vessel’s trap allocation). Incorrectly reported catch locations (blocks) will also generate discrepancies. Within these constraints, the estimated number of deployed traps during the week of April 5 is 31,250. (Table 1). Summed across all MacroBlocks, the estimated number of deployed traps during this week is approximately 27% of those deployed during the first week when both management areas were open.

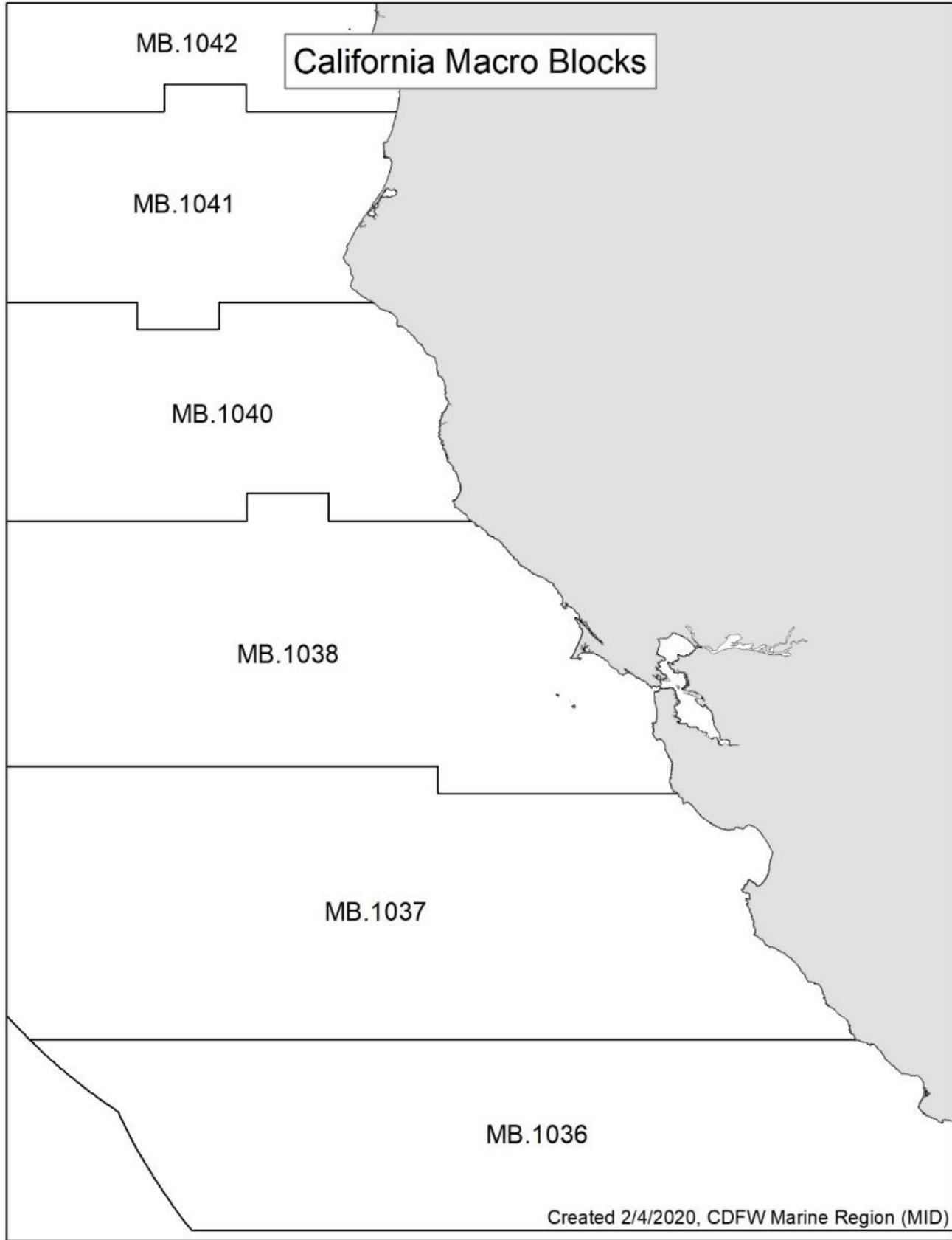
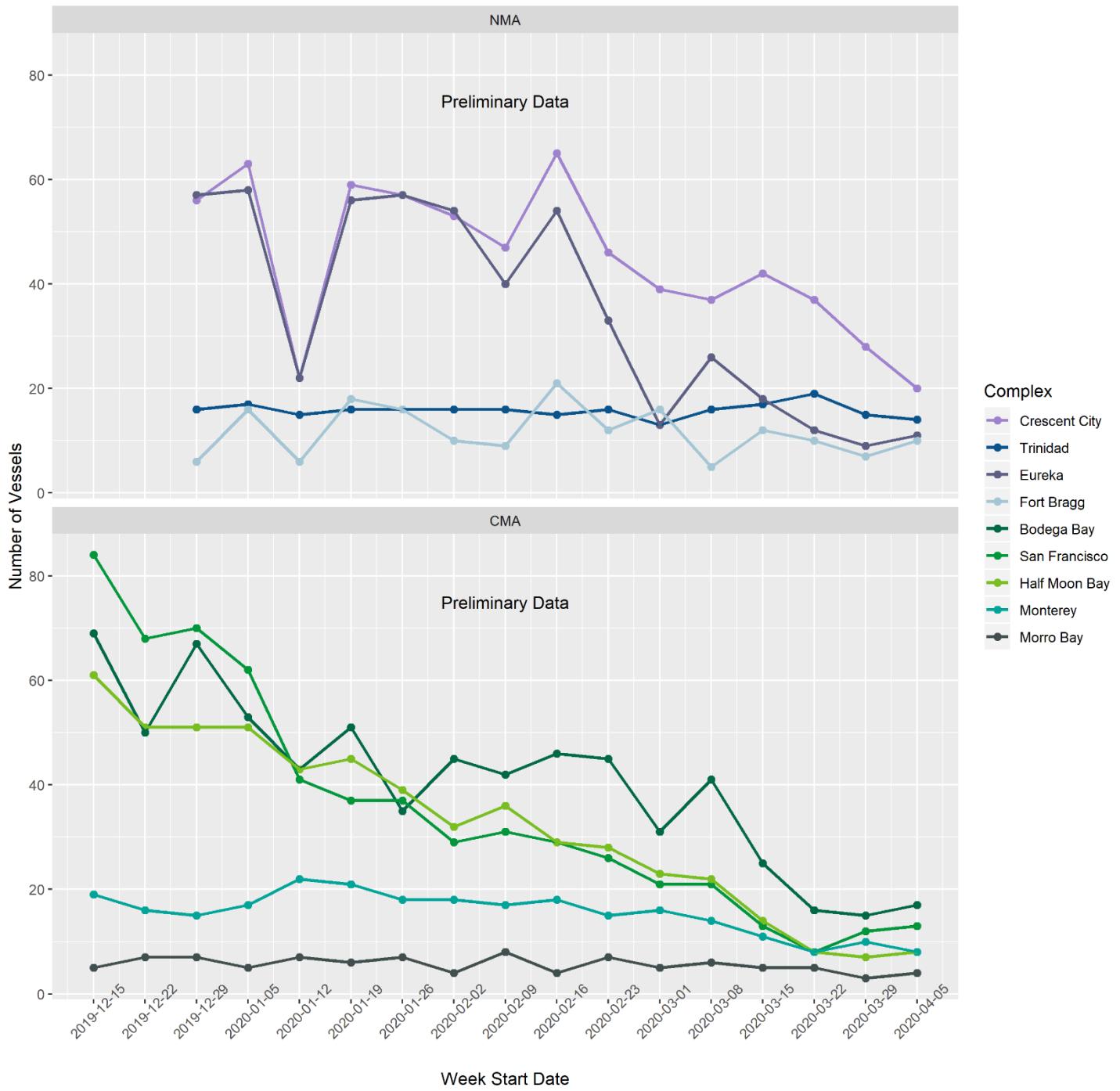


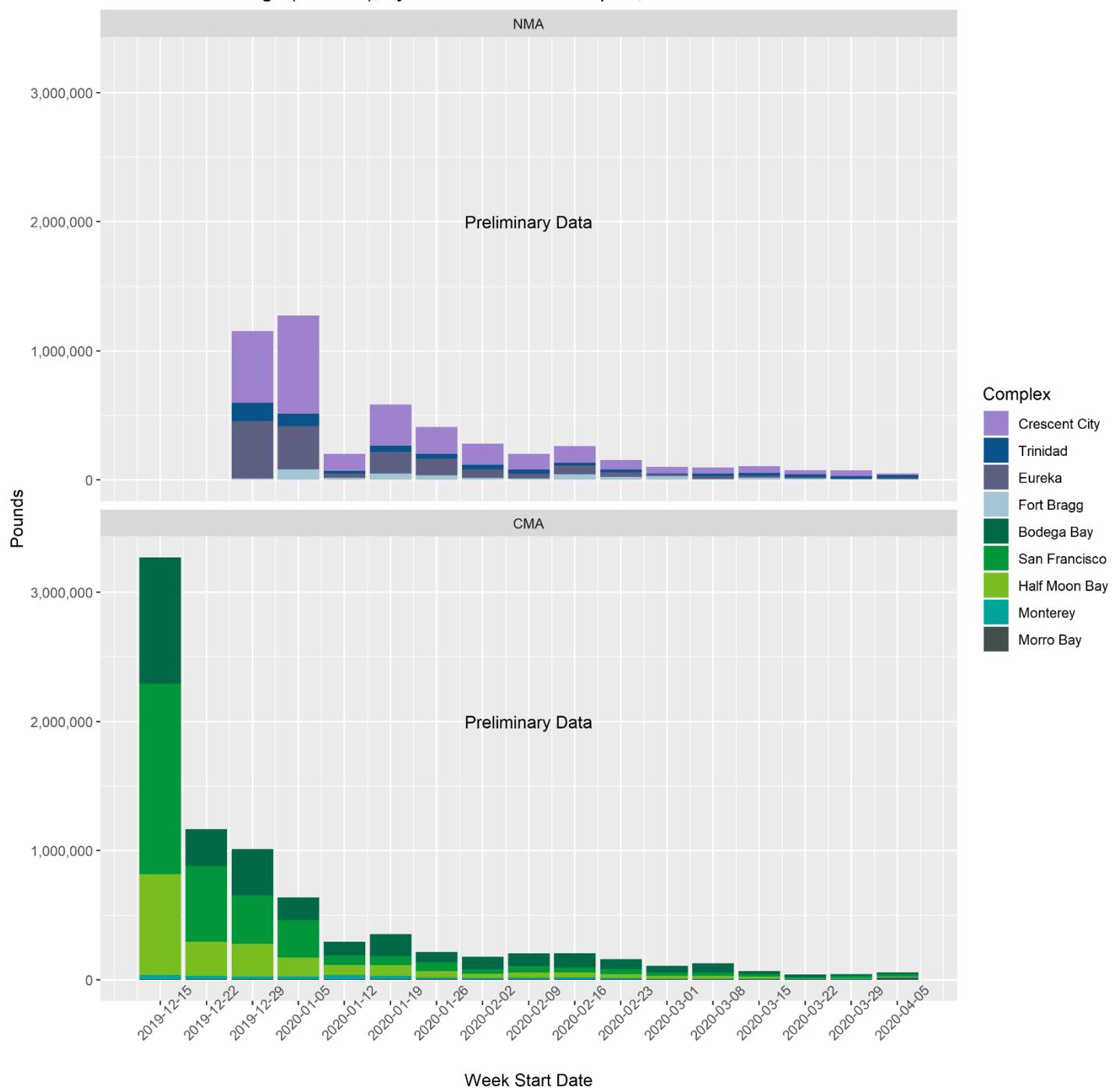
Figure 7. Map showing spatial extent of MacroBlocks used for summarizing landings analysis.

### Number of Active Vessels, by Week and Port Complex, 2019-20 Season



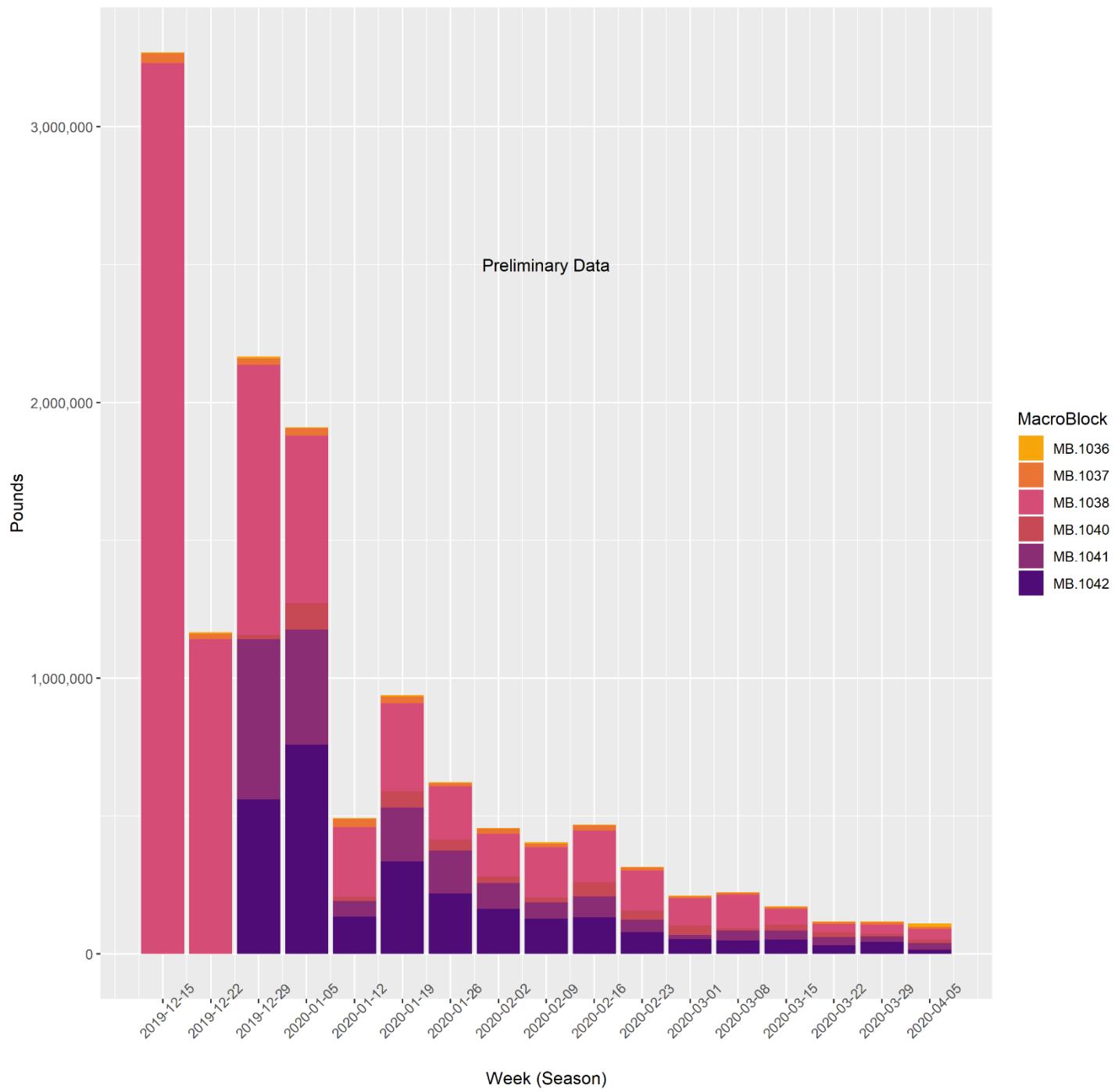
**Figure 8. Number of vessels making Dungeness crab landings by week and port complex. Accessed from CDFW's Marine Landings Data System on April 22, 2020. All data is preliminary and subject to change.**

### Volume of Landings (Pounds), by Week and Port Complex, 2019-20 Season



**Figure 9.** Dungeness crab landings (pounds) by week and port complex. Accessed from CDFW's Marine Landings Data System on April 22, 2020. All data is preliminary and subject to change.

### Volume of Landings (Pounds), by Week and MacroBlock, 2019-20 Season



**Figure 10. Dungeness crab landings (pounds) by week and MacroBlock. Accessed from CDFW's Marine Landings Data System on April 22, 2020. All data is preliminary and subject to change.**

**Table 1. Estimated number of Dungeness crab traps deployed in each MacroBlock based on trap allotments of vessels making landings each week. Accessed from CDFW's Marine Landings Data System on April 22, 2020 and CDFW's Automated License Data System on March 19, 2020. All data is preliminary and subject to change.**

Week of	MB.1036	MB.1037	MB.1038	MB.1040	MB.1041	MB.1042
12/15/2019	1,100	5,425	65,900	*season not open	*season not open	*season not open
12/22/2019	1,725	4,350	53,700	*season not open	*season not open	*season not open
12/29/2019	1,725	4,400	60,325	2,175	24,225	20,875
1/5/2020	1,300	5,100	52,075	5,175	23,875	24,175
1/12/2020	1,300	5,000	37,600	1,600	14,350	9,550
1/19/2020	1,550	5,300	39,900	5,425	22,600	23,400
1/26/2020	1,725	4,175	33,700	5,125	24,250	20,075
2/2/2020	1,050	5,150	31,875	3,675	22,300	19,325
2/9/2020	1,725	4,575	32,100	2,975	18,600	19,325
2/16/2020	1,050	5,400	31,600	6,075	22,350	23,500
2/23/2020	1,625	3,975	28,825	4,500	14,100	17,750
3/1/2020	1,475	3,850	21,550	4,500	8,400	14,775
3/8/2020	1,550	3,950	26,025	2,225	11,250	13,800
3/15/2020	1,375	2,625	14,300	3,800	10,700	16,100
3/22/2020	1,125	2,175	9,225	3,575	10,025	13,125
3/29/2020	675	2,350	9,925	3,175	7,225	11,075
4/5/2020	925	1,850	11,000	3,600	6,625	7,250