2019-20 Risk Assessments: Available Data

Last updated: May 22, 2020

FACTOR: OCEAN AND FORAGE CONDITIONS

Information provided by: Jarrod Santora and Isaac Schroeder (NMFS SWFSC and UC Santa Cruz) and California Department of Fish and Wildlife

Ocean and Forage Indices

Updated indices from Jarrod Santora and Isaac Schroeder are not available. Information provided for the May 11 Working Group Risk Assessment. (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=179001&inline) is still relevant for the May 26, 2020 discussion.

CDFW Aerial Survey

- CDFW conducted aerial reconnaissance across portions of the CMA and NMA on May 19th and 21st. The area surveyed extended from Shelter Cove to Point Pinos. Bait balls, Mola and krill swarms were observed from Pt Reyes down to Monterey Bay.

FACTOR: ENTANGLEMENTS

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

California Commercial Dungeness Crab Gear

- There has been 1 confirmed humpback whale entanglement with California commercial Dungeness crab gear during the 2019-20 fishing season. The entanglement was reported on May 16 off Moss Landing with three sets of California commercial Dungeness crab gear.

2020 Calendar Year Totals

- 9 confirmed (5 humpback, 4 gray whales), 3 unconfirmed (2 gray, 1 unidentified whale)
    - Humpback whales: 5 confirmed entanglements
        - May 16, 2020: entangled with three sets of commercial CA Dungeness crab gear, reported off Moss Landing, fully disentangled
        - April 15, 2020: calf entangled with unidentified gear (likely gillnet), reported off Orange County
        - April 13, 2020: entangled with spot prawn gear set, reported off Channel Islands, partially disentangled

        - February 28, 2020: entangled with unidentified gear (dark colored line), reported off Monterey
        - February 14, 2020: entangled with gillnet, reported off San Diego
    - Blue whales: 0 reported entanglements
    - Leatherback turtles: 0 reported entanglements
    - Gray whales: 4 confirmed, 2 unconfirmed
        - 1 confirmed entanglement with rope + 1 buoy + 1 trailer float, reported in Washington, dead stranding (May 10)
        - 1 confirmed entanglement with WA commercial Dungeness crab gear, reported in Washington (April 24)
        - 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 a mooring buoy, report in Washington (April 29) *has not been reviewed yet*
        - 1 *unconfirmed* entanglement with unidentified gear, reported as buoys (March 19)
    - Unidentified whale: 1 *unconfirmed* entanglement (March 3)

FACTOR: FISHING DYNAMICS

Data provided by: California Department of Fish and Wildlife and California Coast Crab Association

CDFW Aerial Survey

- CDFW conducted aerial reconnaissance across portions of the CMA and NMA on May 19th and 21st. The area surveyed extended from Shelter Cove to Point Pinos. Trap gear was observed off San Gregorio, Ten Mile Beach and Chimney Rock.

Marine Landings Data System and Automated License Data System

- All analyses were conducted with landing receipt data available as of May 20, 2020. Submission requirements through the E-Tix platform and subsequent availability in the Marine Landings Data System means data are relatively complete through mid-May; only landings through May 9, 2020 (Week 21) were included in the totals and figures below.

- During the 2019-20 season, there have been 6,790 landings of Dungeness crab (13,561,180 pounds and $45,774,856 in Ex-Vessel Value) by 434 vessels.
- CDFW MacroBlocks (aggregated CDFW Fishing Blocks used to report catch location) are shown in Figure 1.
- Vessel activity increased slightly in most CMA ports between the end of April and early May, and is highest in Crescent City (Figure 2).
- Total volume has remained fluctuated between 45,000 and 115,000 pounds over the last several weeks. During the week of May 3, the highest harvest came from MB.1038 (Figure 7) and the highest landings were into Bodega Bay (Figure 3).
- Number of deployed traps 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 May 3 is 27,225 (Table 1). Summed across all MacroBlocks, the estimated number of deployed traps during this week is approximately 25% of those deployed during the first week when both management areas were open.

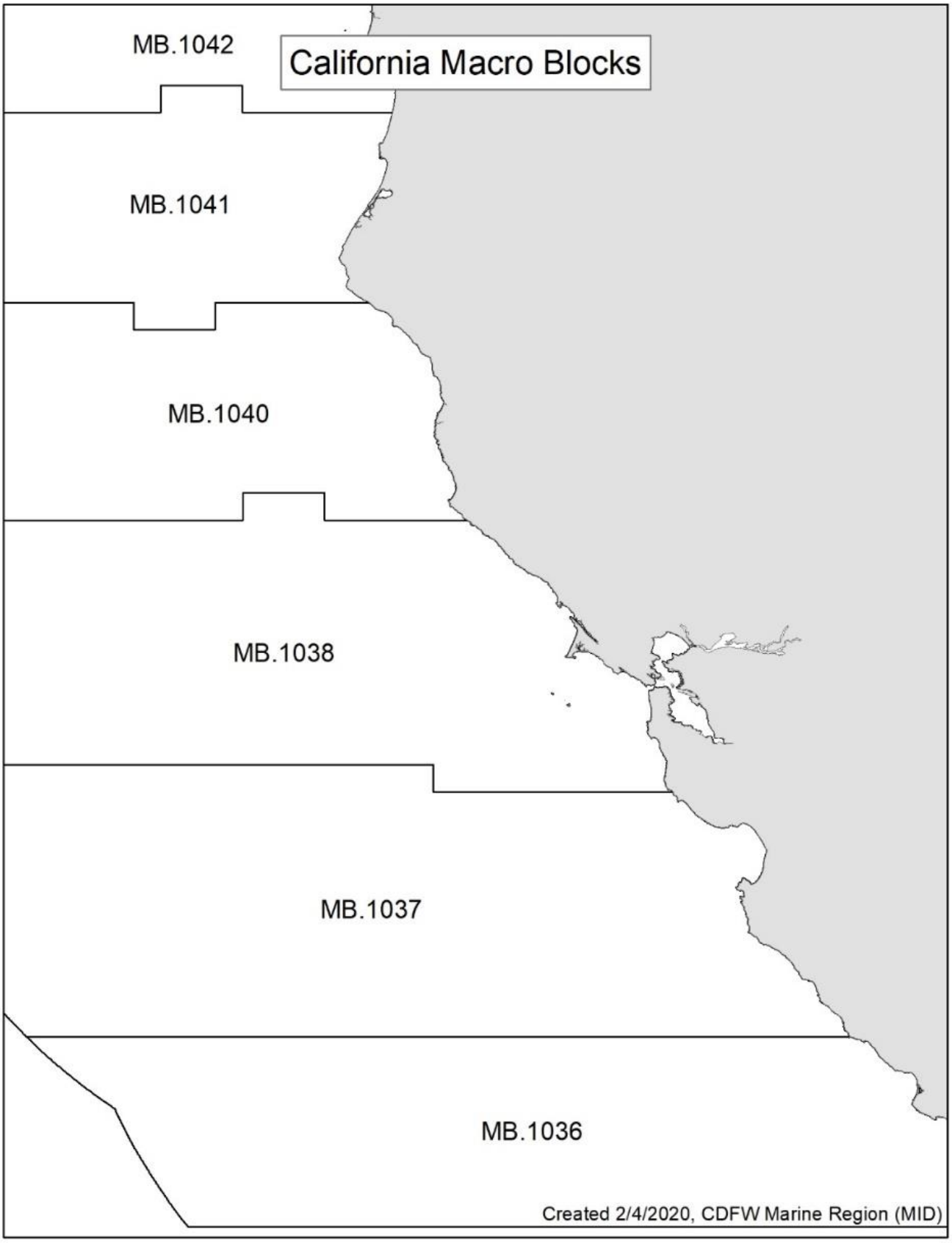

Figure 1. Map showing spatial extent of MacroBlocks used for summarizing landings analysis.

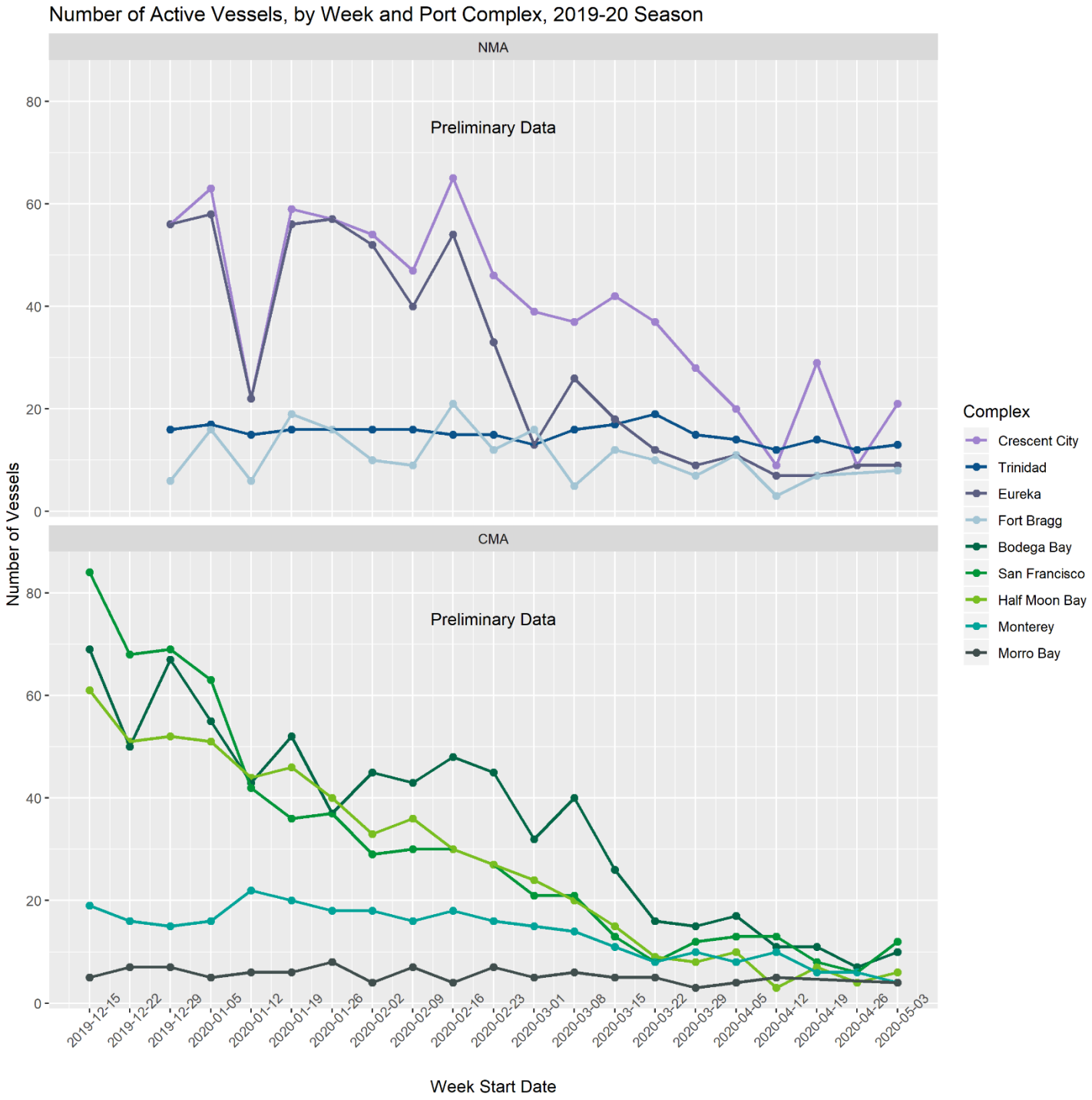

Figure 2. Number of vessels making Dungeness crab landings by week and port complex. Accessed from CDFW's Marine Landings Data System on May 20, 2020. All data is preliminary and subject to change.

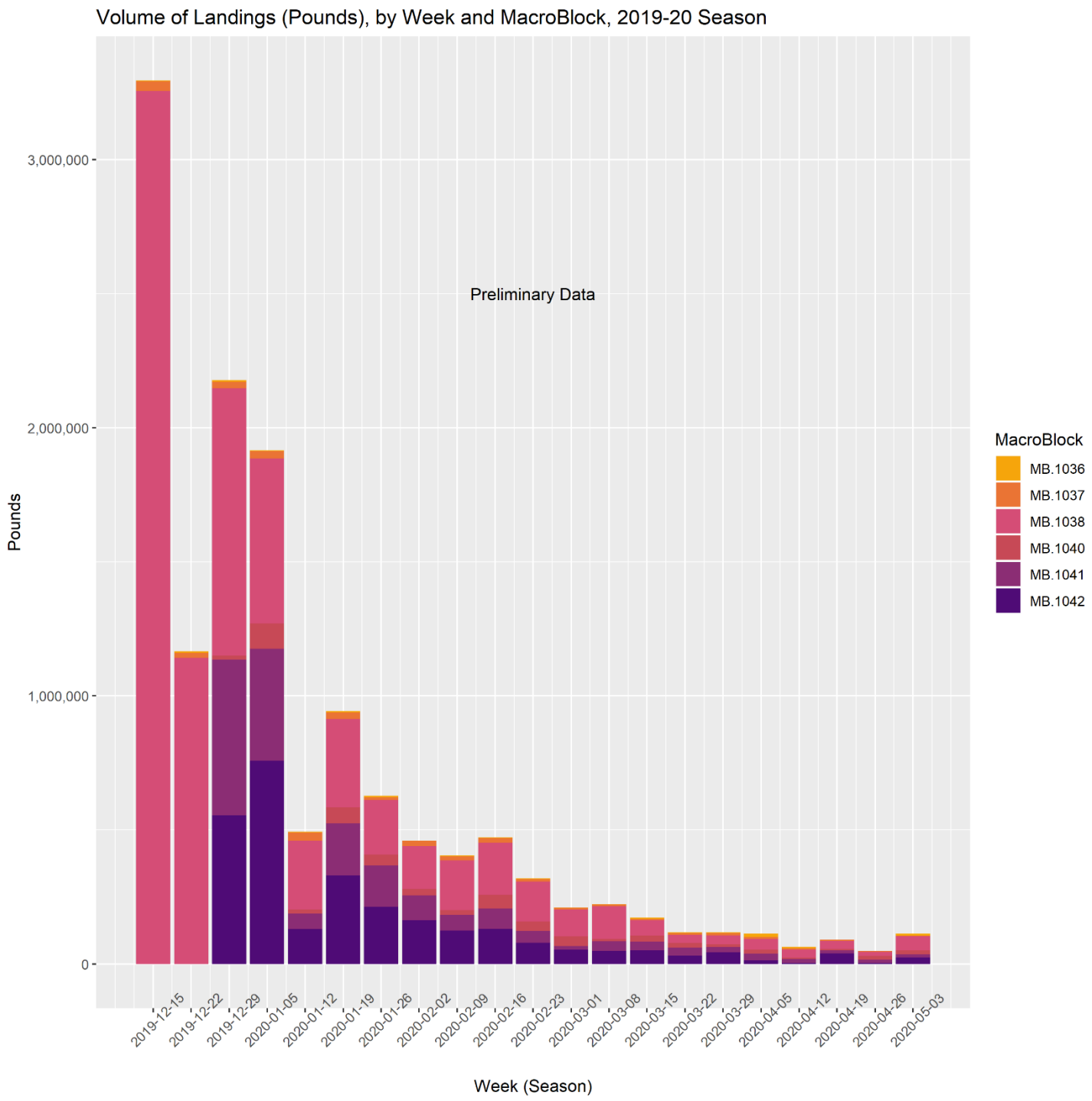

Figure 3. Dungeness crab landings (pounds) by week and MacroBlock. Accessed from CDFW's Marine Landings Data System on May 20, 2020. All data is preliminary and subject to change.

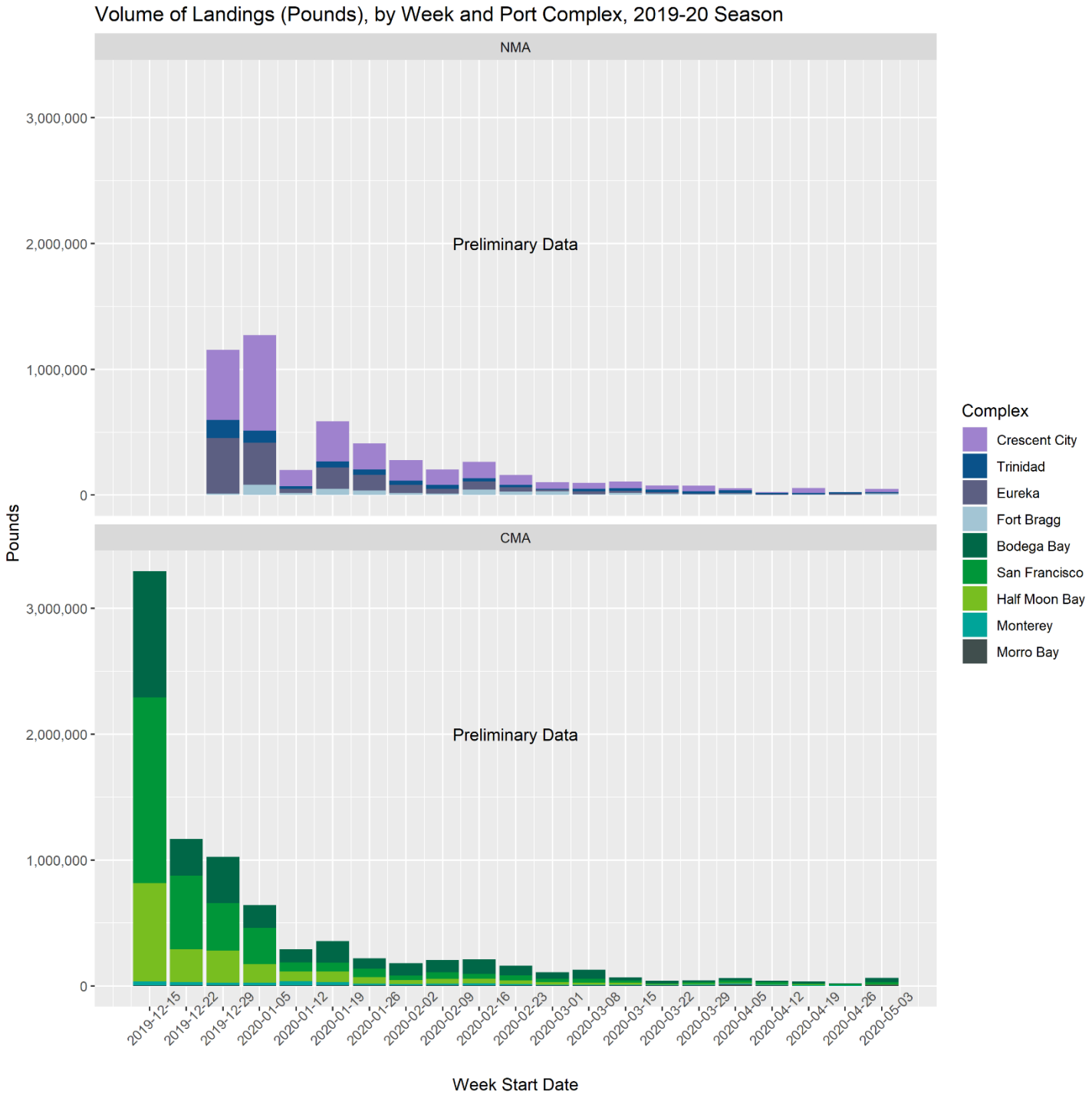

Figure 4. Dungeness crab landings (pounds) by week and port complex. Accessed from CDFW's Marine Landings Data System on May 20, 2020. All data is preliminary and subject to change.

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 and Automated License Data System on May 20, 2020. All data is preliminary and subject to change. Information from MacroBlock 1036 during the weeks of 4/19 and 4/26 is withheld for confidentiality (less than 3 vessels making landings).

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

Week of	MB.1036	MB.1037	MB.1038	MB.1040	MB.1041	MB.1042
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	9,475	3,575	10,025	13,125
3/29/2020	675	2,350	10,175	3,175	7,225	11,075
4/5/2020	925	1,850	11,250	4,100	6,625	7,250
4/12/2020	1,100	2,625	7,450	2,100	5,825	3,225
4/19/2020	confidential	1,575	7,275	3,150	6,675	9,650
4/26/2020	confidential	1,400	4,875	2,325	5,375	3,750
5/3/2020	925	925	7,575	3,225	6,525	8,050

California Coast Crab Association

Table 2. Estimated traps by port area (current and projected).

	05/20/20		**06/03/20**	
Port	# of Vessels	# of Traps	# of Vessels	# of Traps
Crescent City	30	7050	29	6550
Trinidad	11	3870	11	3870
Eureka	7	1850	7	1850
Shelter Cove	3	750	2	500
Ft. Bragg*	10	3750	10	3750
Pt. Arena	2	350	2	350
Total Statewide	63	17620	61	16870

FACTOR: MARINE LIFE CONCENTRATIONS

Data provided by: Scott Benson (NMFS SWFSC), California Department of Fish and Wildlife

Leatherback Sea Turtle Tagging Data

- Three of six transmitters that were attached to leatherback turtles during September and October 2019 remain active. The turtle that was approaching California (32.27°N / 122.83°W), approximately 165 miles southwest of Point Conception, is engaged in foraging behavior, thus delaying entry into shelf waters. The two other turtles have moved north of the Tropic of Cancer and continue to move in a northeast direction toward the North American continent, however, both remain more than 650 miles from the coast.

Data provided by: Point Blue Conservation Science

Whale Concentration Data

Time Period: *Last 7 days (May 14 - May 20) and Last 30 days (April 19 to May 20)*

Link to live map: https://geo3.pointblue.org/whale-map/index.php?nms=mb

- Observations by trained biologists at the Farallon Islands show 3 humpback whales reported through the Spotter/WhaleAlert app in the last 7 days month (Figure 5).
- 5 blue whales were reported during this time period (Figure 6).

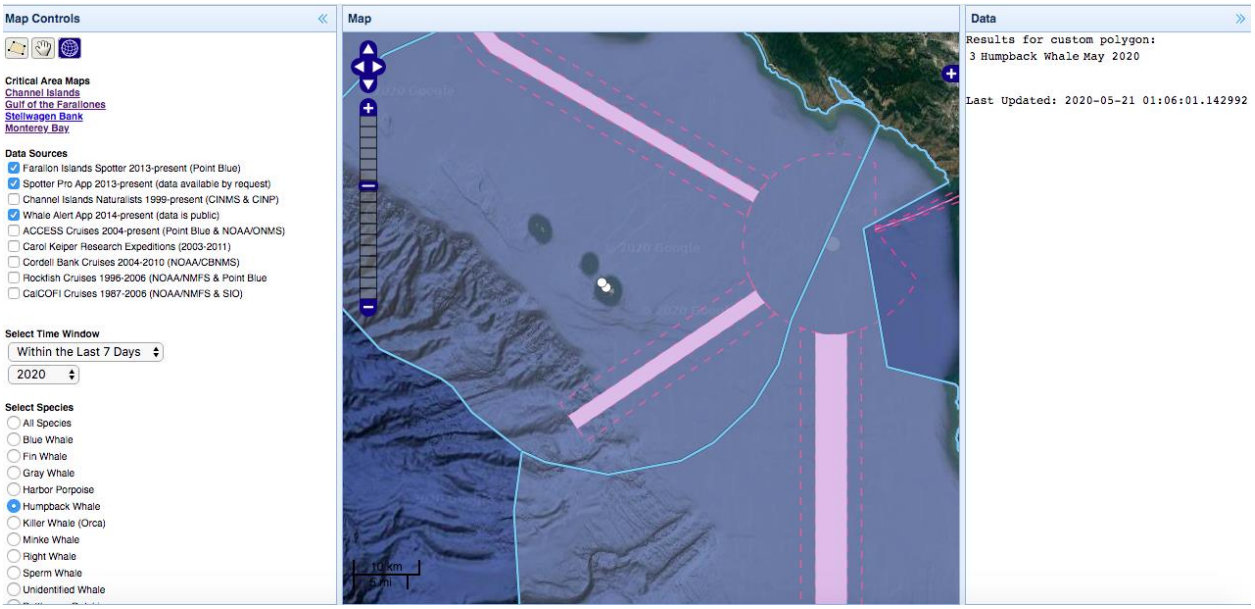

Figure 5. Three humpback sightings in the Gulf of the Farallones from May 14 to May 20, 2020. Reporting locations are represented by white circles. A given report may represent multiple individuals. Right hand panel shows total counts by species and time period.

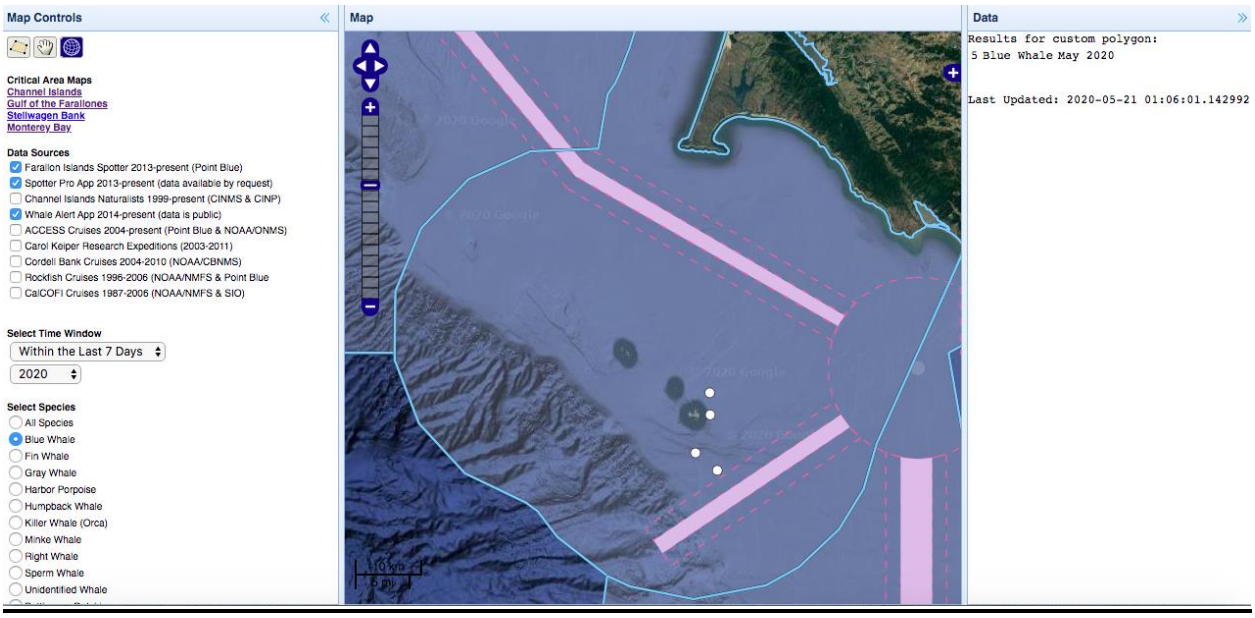

Figure 6. Five blue whale sightings in the Gulf of the Farallones from May 14 to May 20, 2020. Reporting locations are represented by white circles. A given report may represent multiple individuals. Right hand panel shows total counts by species and time period.

- In the Monterey Bay region, 800 Humpback Whale sightings were reported through the Spotter/WhaleAlert app over the last 30 days ending on May 20, 2020 (Figure 7)
- No research surveys were conducted during the last 7 days, so zero sightings were reported
- No blue whales were reported during this time period.

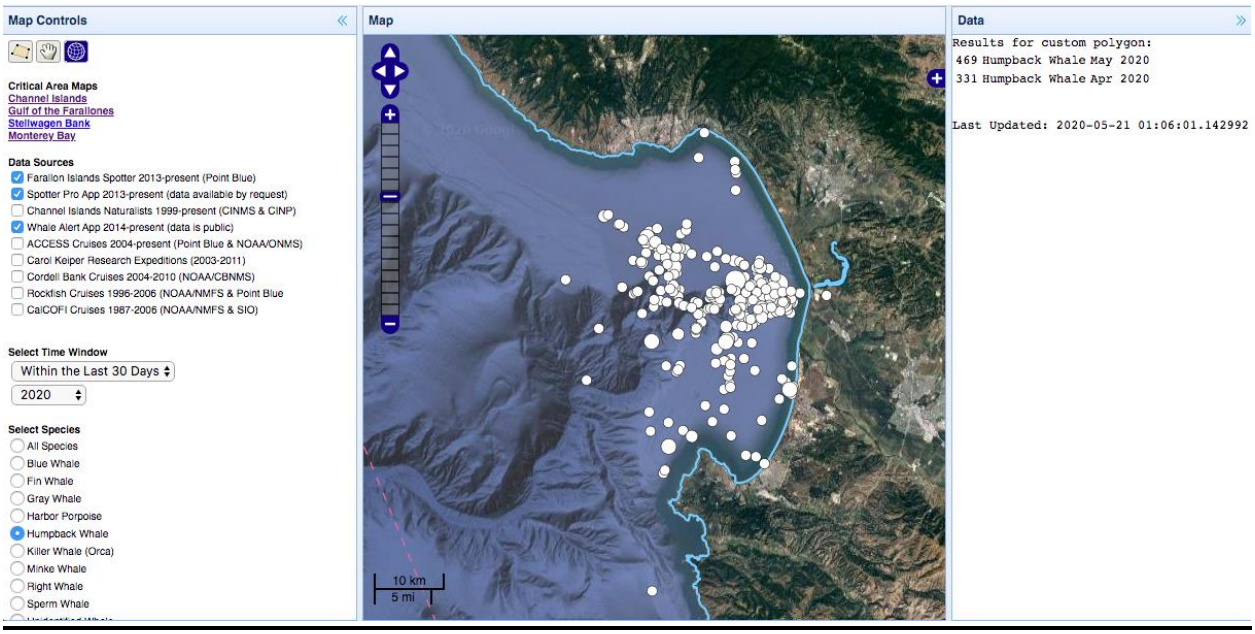

Figure 7. 800 reported humpback sightings in the Monterey Bay area from April 7 to May 6, 2020. Reporting locations are represented by white circles. A given report may represent multiple individuals, and the same individual may be included in multiple reports. Right hand panel shows total counts by species and time period. Sightings were reported during research surveys by Nancy Black/Monterey Bay Whale Watch and Peggy Stap/Marine Life Studies.

- No whale observations by trained naturalists from Channel Islands National Marine Sanctuary and the National Park Service were reported during this 'shelter-at-home' period.

CDFW Aerial Surveys

- CDFW conducted aerial reconnaissance across portions of the CMA and NMA on May 19th and 21st. The area surveyed extended from Shelter Cove to Point Pinos. Humpback whales were observed from Half Moon Bay south to Ano Nuevo during both flights. On May 19th more than 20 Humpback whales were observed in multiple groups foraging. On May 21st Humpback whales were observed in the same areas foraging in groups of 2-3 animals with a total of 8 animals observed.