2019-20 Risk Assessments: Available Data

Last updated: January 3, 2020

Factor: Entanglements

Data provided by: Lauren Saez and Pieter Folkens

- 2019-20 season: no confirmed entanglements as of 12/30/2019
- Update: Humpback whale originally reported as entangled on December 9, 2019 was disentangled on December 13, 2019. Whale re-sighted on January 1, 2020 in the same area; individual appeared to be healthy and was behaving normally.
    - Whale was entangled with CA recreational Dungeness crab gear (GO ID number used to determine gear owner); owner states he sets gear outside Moss Landing Harbor and he has lost 3 pots since the start of the season, including one around December 9.

Factor: Marine Life Concentrations

Data provided by: Scott Benson, Karin Forney, Karen Grimmer, Jaime Jahncke

Leatherback Tagging Data

- All six leatherbacks that were tagged during September and October have moved off the shelf and are currently outside of the US Exclusive Economic Zone (200 nautical miles offshore).
- All active transmitters (n=4) continue to indicate movement in a south/southwest direction.
- Leatherbacks are not expected to return to the California Current until early spring.

Monterey Bay Whale Watch Data (see Figure 1)

- Humpback Whale numbers are slowly declining.
- Blue Whales have not been seen in over 2 weeks.
- Grey Whales are being seen regularly and numbers are anticipated to increase during the coming weeks as the southbound migration continues.

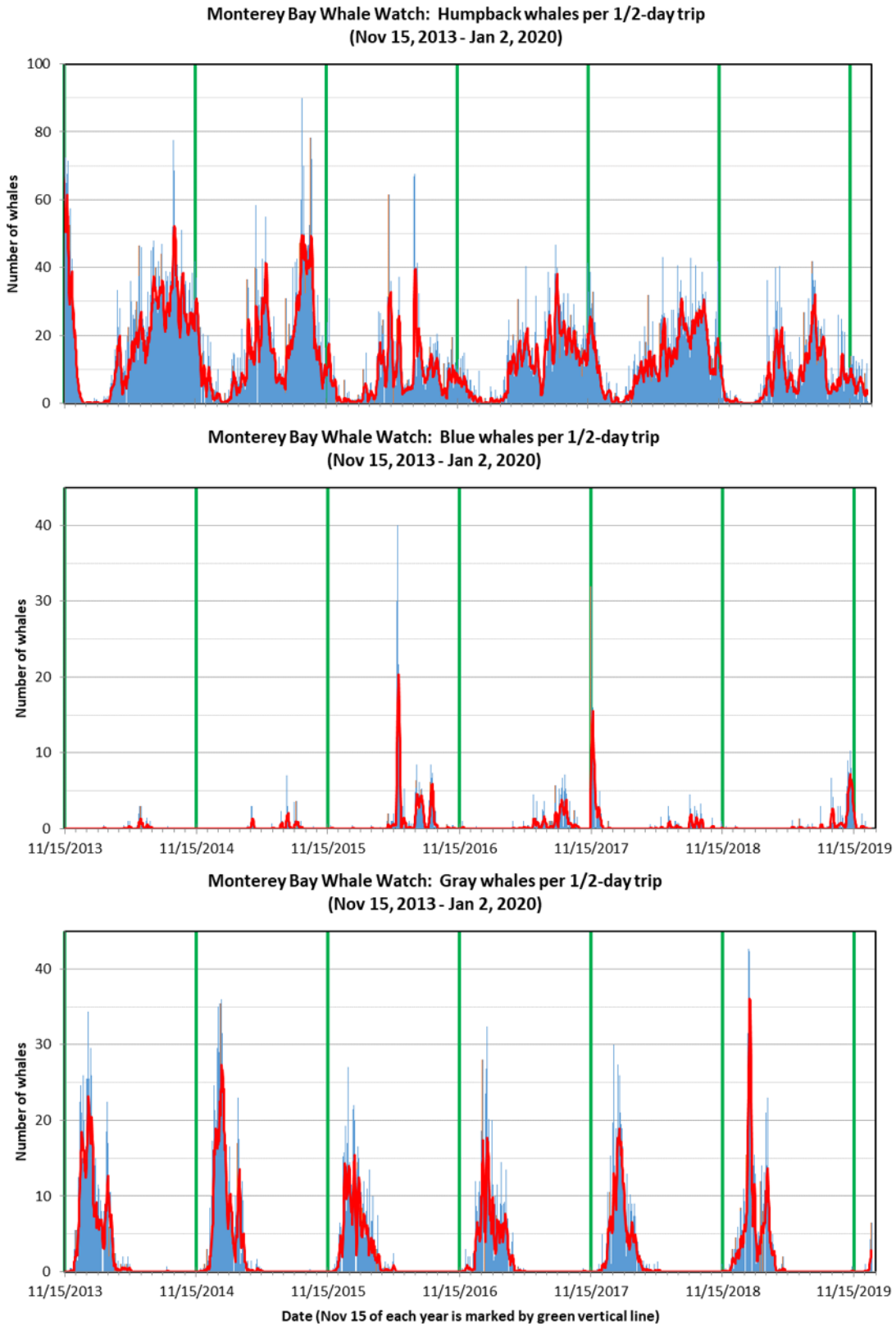

Figure 1. Number of Humpback, Blue, and Grey Whale sightings from 15 November 2013 - 2 Jan 2020 for Monterey Bay Whale Watch. The y-axis is the number of whales; the thin blue bars are the average daily whale numbers, and the red line is a 7-day running average to make the patterns easier to see. A vertical green line has been added at November 15 of each year for reference. Each tick mark is one month.

Point Blue Conservation Science Data Portal (see Figure 2)

- Over the past month (12/3/2019 to 1/3/2020), Farallon Islands observers, Spotter Pro, Whale Alert, and ACCESS vessel surveys documented the following:
    - Monterey Bay region
        - Humpback Whales: 10 observations (12/11/2019)
        - Blue Whales: none
        - Grey Whales: none
    - Greater Farallones region
        - Humpback Whales: none
        - Blue Whales: none
        - Grey Whales: 19 observations (12/14/2019 – 12/20/2019)

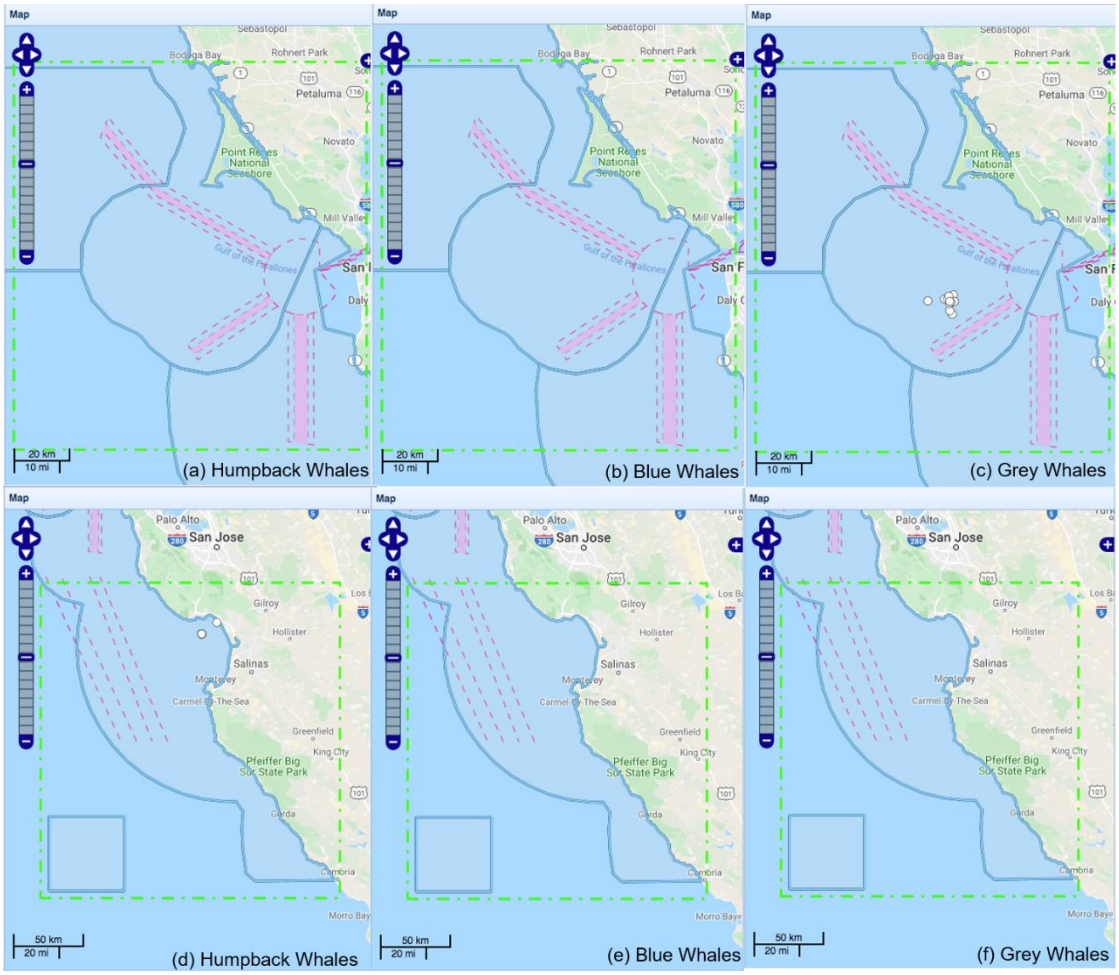

Figure 2. Observations of Humpback, Blue, and Grey Whales in the Greater Farallones (top row) and Monterey Bay (bottom row) areas, from 12/3/2019 to 1/3/2020. Dashed green line shows area under consideration. Reporting locations are represented by white circles. A given report may represent multiple individuals, and the same individual may be included in multiple reports.

Factor: Fishing Dynamics

Data provided by: California Department of Fish and Wildlife

Season Timing

- The fishery opened on December 15, 2019 in the Central Management Area (south of the Sonoma-Mendocino county line) and December 31, 2019 in the Northern Management Area (north of the Sonoma-Mendocino county line).

CDFW Marine Landings Data System

- As of January 3, there have been 1,227 Dungeness crab landings by 339 vessels during the 2019-20 season.
- Total landings to date: 5,368,735 pounds (see Figure 3) and $16,589,120 in Ex-Vessel Value. Average price was $3.31 per pound.
- Current landings suggest a maximum of 32,725 potential traps being fished in the Northern Management Area and 49,525 in the Central Management Area (see Figure 4).

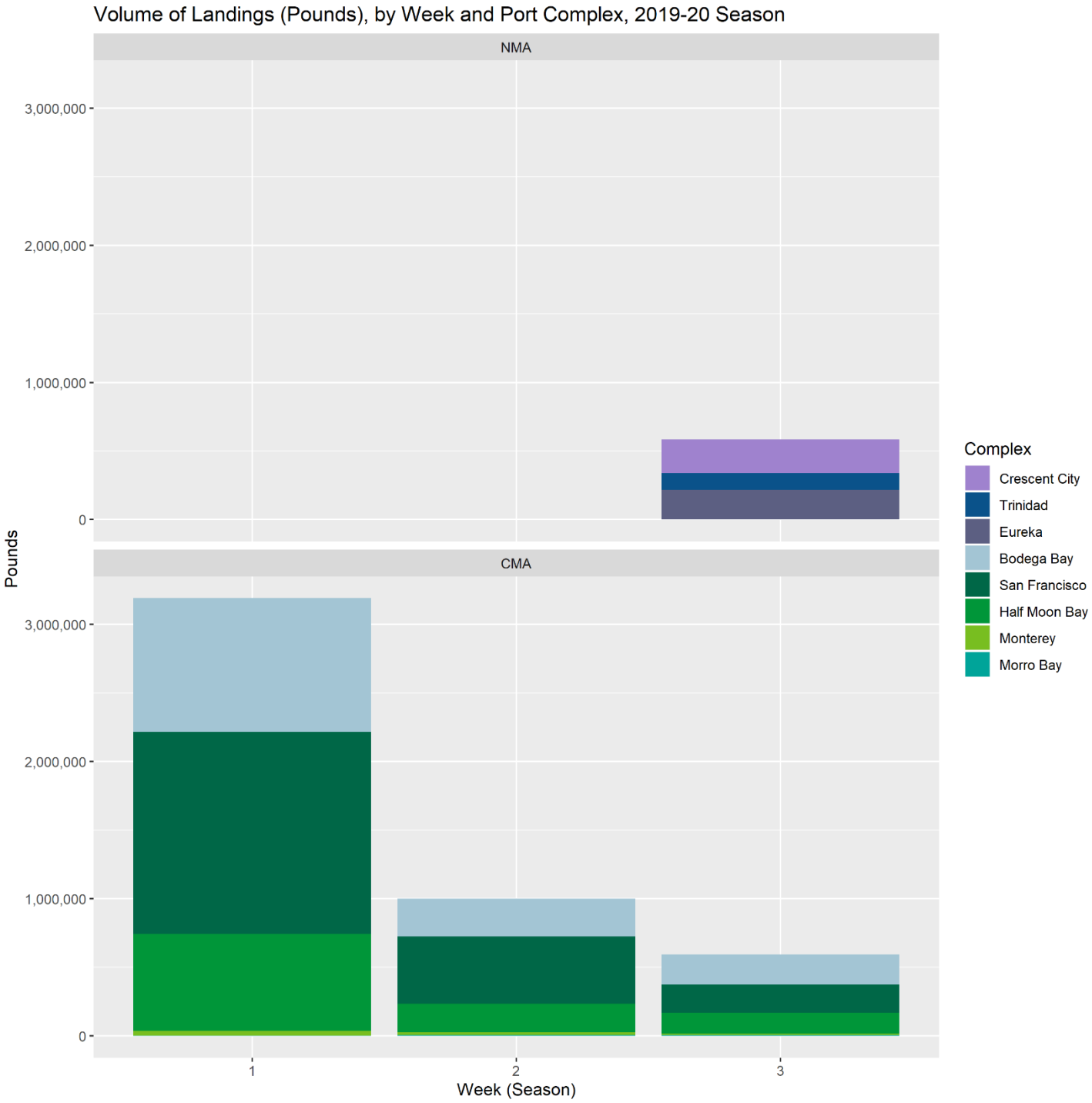

Figure 3. Dungeness crab landings (pounds) by week and port complex. Accessed from CDFW's Marine Landings Data System on January 3, 2020. All data is preliminary and subject to change.

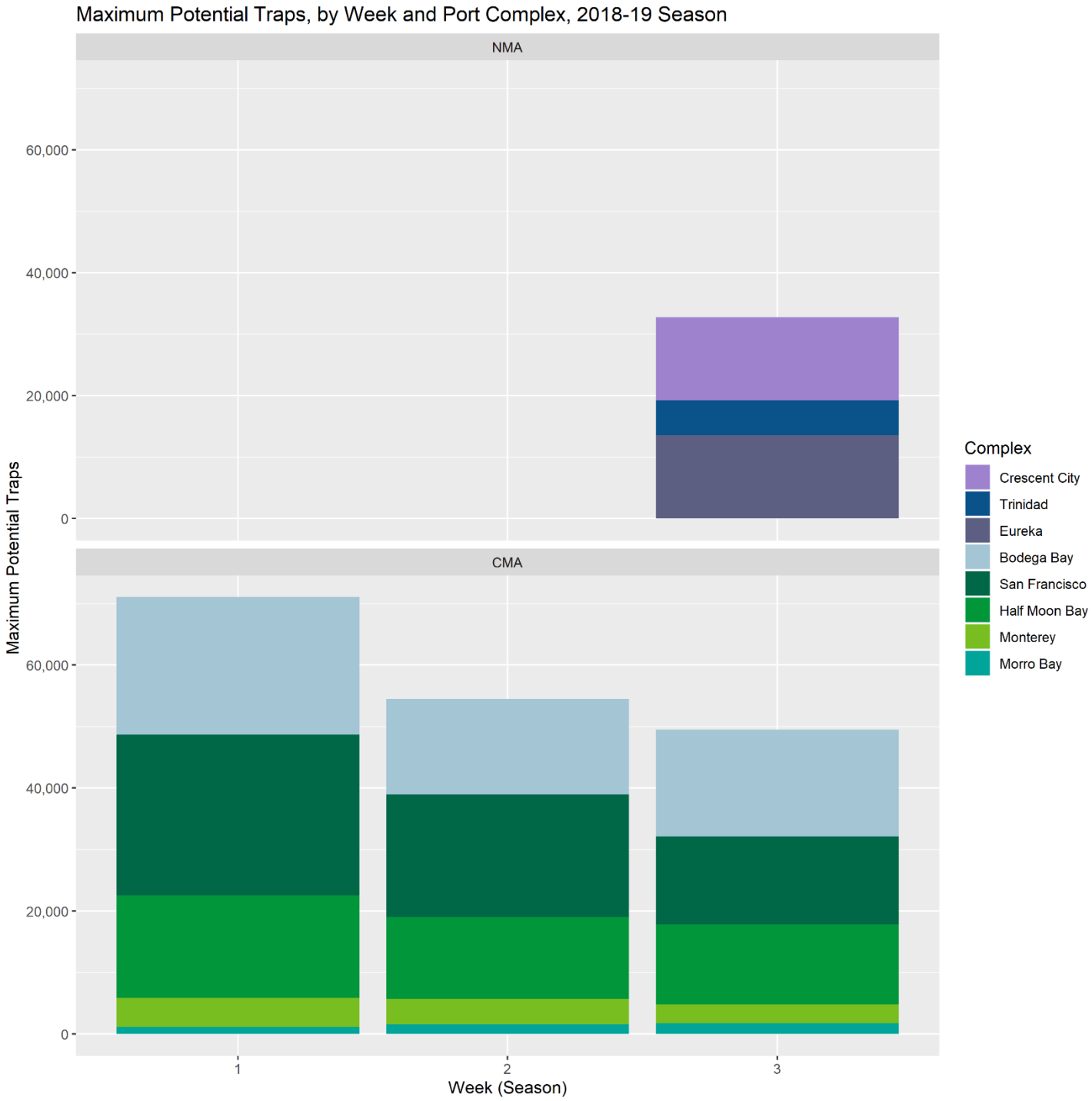

Figure 4. Maximum potential traps by week and port complex, based on landings data and Dungeness Crab Vessel Permit tier information. Accessed from CDFW's Marine Landings Data System on January 3, 2020 and CDFW's Automatic License Data System on November 18, 2019. All data is preliminary and subject to change.

Factor: Ocean and Forage Conditions

Data provided by: Pieter Folkens

ENSO

- Bureau of Meteorology shows NINO3.4 region in neutral territory with a sea surface temperature (SST) anomaly of +0.38°C and trending cooler (see Figure 5).
- Data from the National Weather Service's Climate Prediction Center shows the majority of the models favor a neutral ENSO in NINO3.4 through our summer and autumn 2020, then decreasing further towards 0°C after December (see Figure 6). As the neutral forecast trends towards 50/50 probability, the probability of La Niña increases and will exceed the probability of an El Niño next autumn, particularly going into the next year (2021).
- As of January 2, 2020 the local SST anomaly was neutral nearshore and cold offshore (-2°C to -2.5°C; see Figure 7). Waters around the Hawaiian Islands and in the Gulf of AK remain slightly above average (+1° to +1.5°C).
    - The base period used in NOAA's ESTL daily anomalies is 1971–2000. If the base period were longer to encompass the 1960s and early 2000s, the anomalies would be slightly cooler compared with the longer time frame.
- Updated information will be available from the Bureau of Meteorology on January 7 and the Climate Prediction Center on January 9.

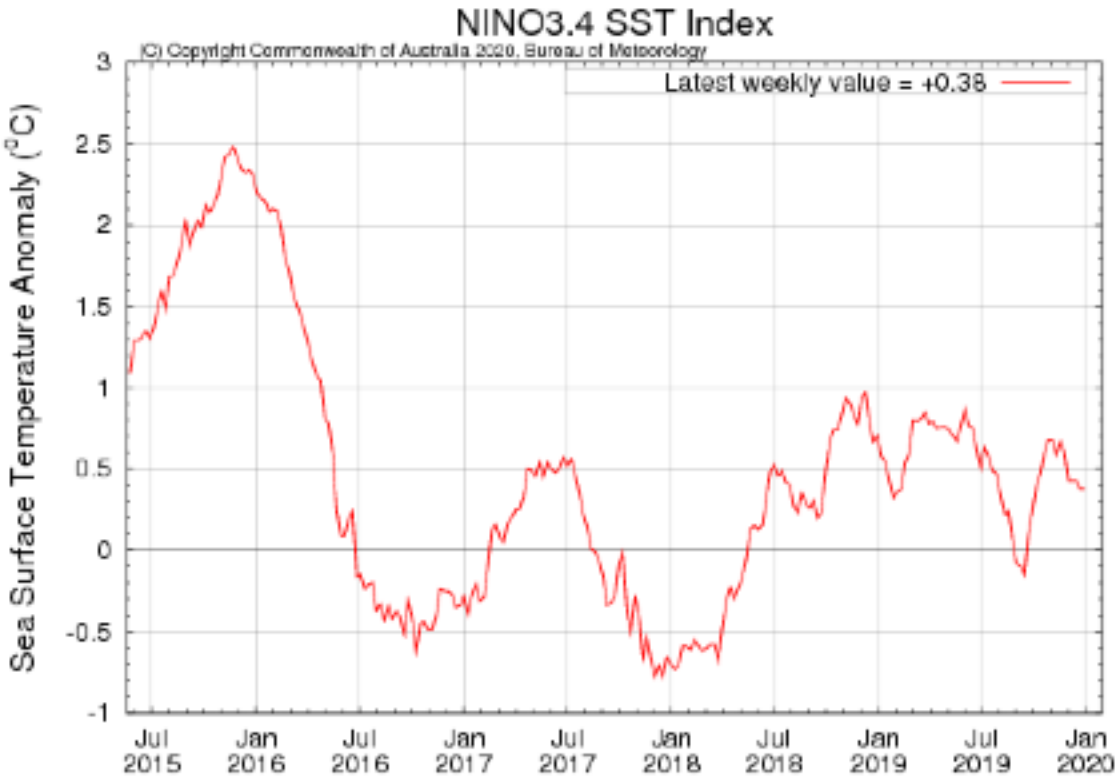

Figure 5. Sea Surface Temperature readings, July 2015 to December 2019. Published December 29, 2019.

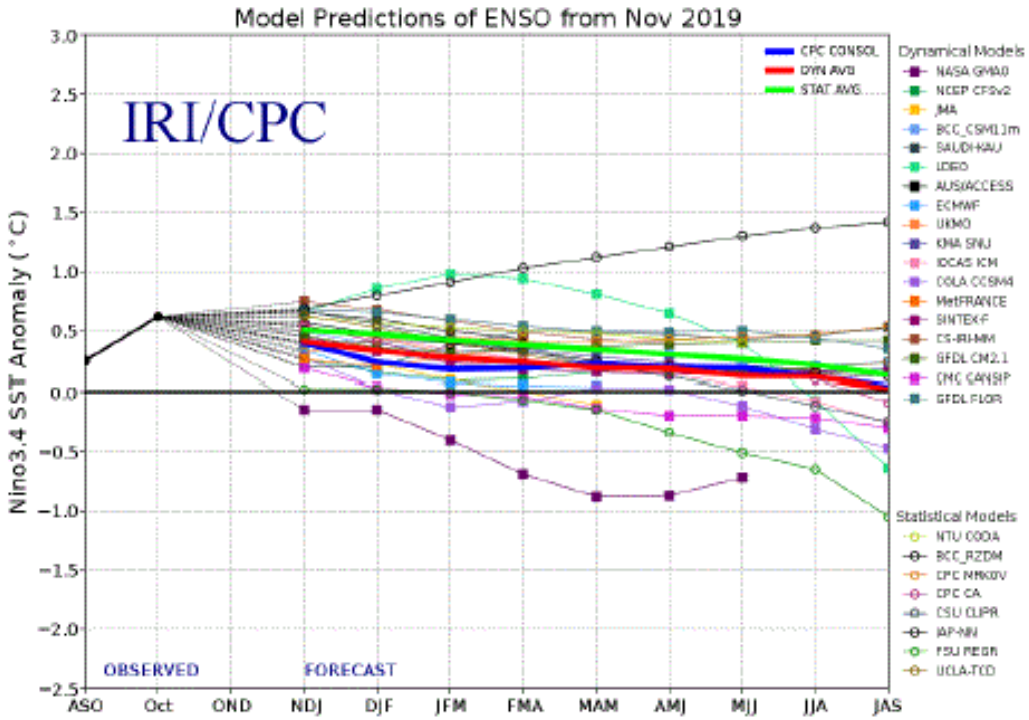

Figure 6. Forecasts of sea surface temperature (SST) anomalies for the Niño 3.4 region (5°N-5°S, 120°W-170°W). Figure updated November 19, 2019.

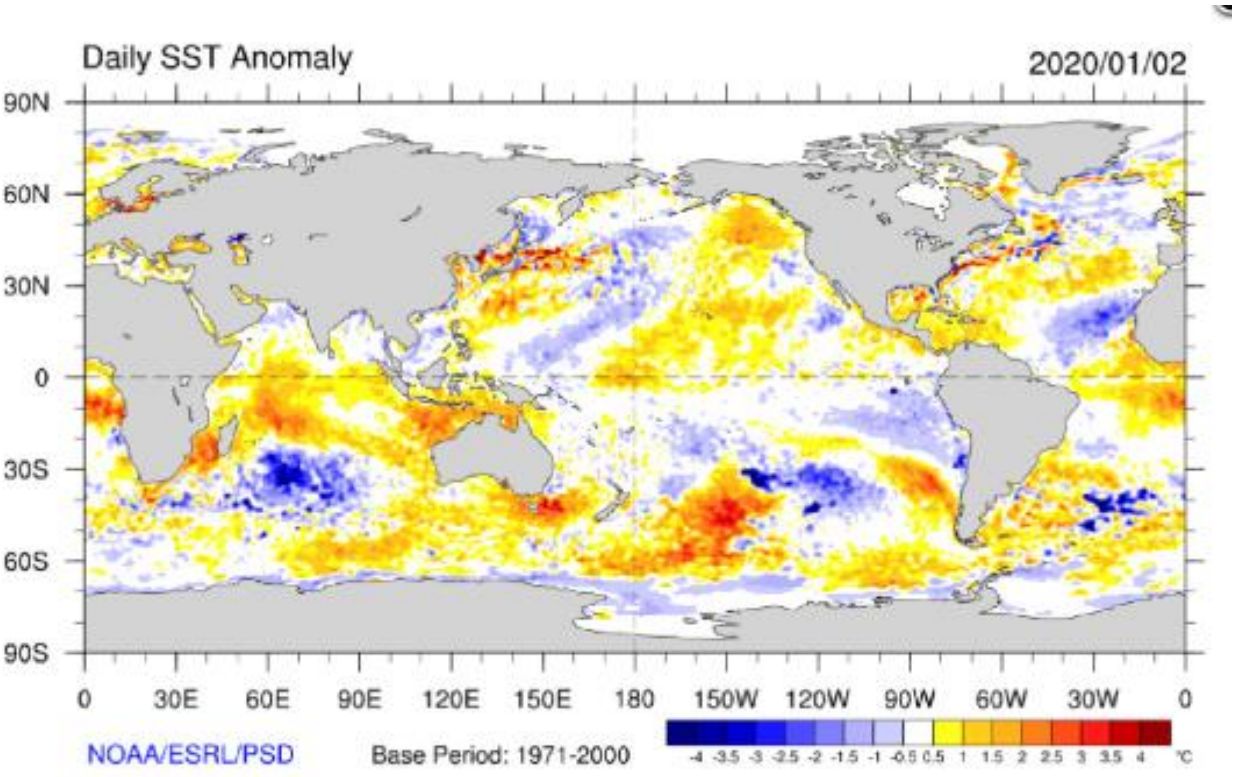

Figure 7. Daily Sea Surface Temperature Anomaly, January 2, 2020.