

**NOAA
FISHERIES**

**West Coast
Region**

Understanding U.S. west coast whale entanglements

Scott Benson - NOAA / SWFSC, Marine Mammal and Turtle Division
On behalf of Dan Lawson and Lauren Saez - NMFS WCR

Joint Committee on Fisheries and Aquaculture

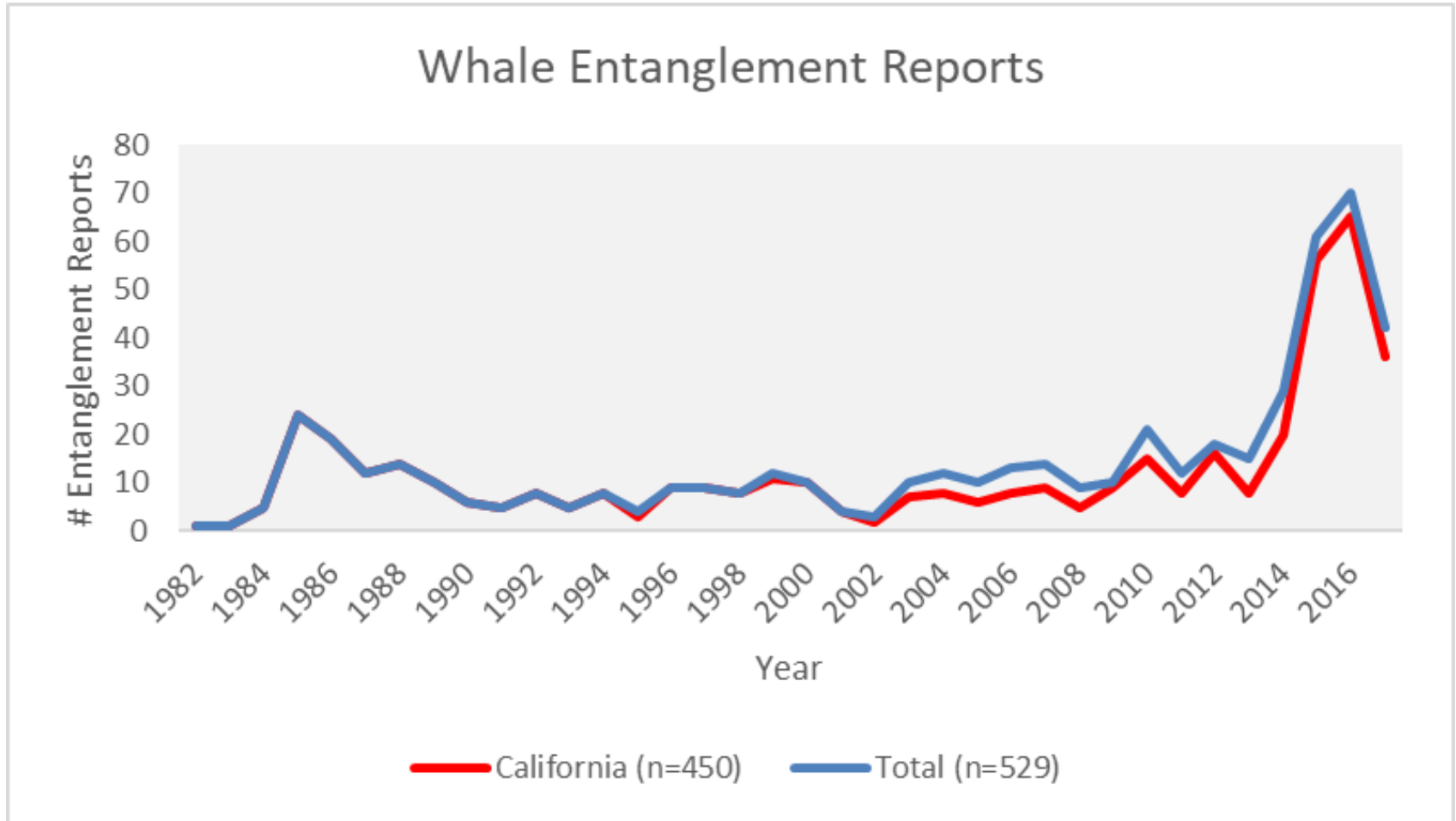
November 28, 2018

San Francisco, CA

The concern

- Entanglement of marine mammals in fishing gear is a global problem
- NMFS has identified large whale entanglement in fishing gear along the US West Coast as a priority management issue
- Entanglement reports
 - Opportunistic sightings from a variety of sources
 - Underestimate of total entanglements
- 450 whale entanglements have been reported in California since 1982 (370 confirmed)
 - Recent spike in entanglements: 177 reports in 2014-2017 (142 confirmed); 40% of all entanglements reported since 1982

Long term trend of whale entanglement reporting



Whale species

Humpback and gray whales are the most commonly reported species; blue, fin, and killer whales are also reported

- The CA/OR/WA stock (MMPA) of humpback whales has been increasing (Carretta et. al., 2018)
 - Two ESA-listed populations of humpback whales forage in California waters
 - Endangered Central America DPS
 - Threatened Mexico DPS
- Gray whale population (Eastern North Pacific stock) has been stable since the mid-1990s
 - There is a small resident subgroup, Pacific Coast Feeding Group, that feeds in a region extending from northern California through Washington; this subgroup has been reported as entangled
- Blue whale population in Eastern North Pacific is stable (Carretta et. al., 2018)
- Fin whale stock off CA/OR/WA is increasing (Carretta et. al., 2017)

2018 California Whale Entanglement Summary

considered preliminary, through 11/20/18

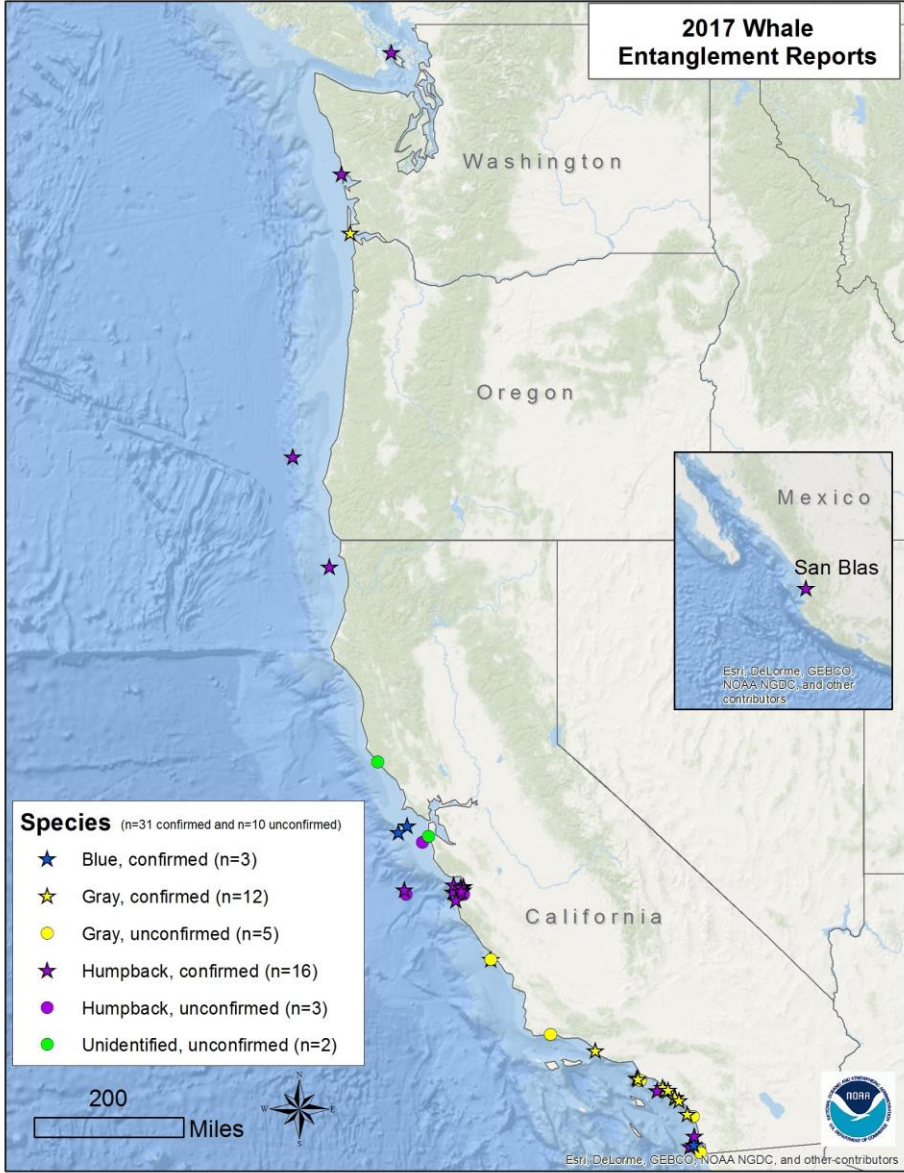
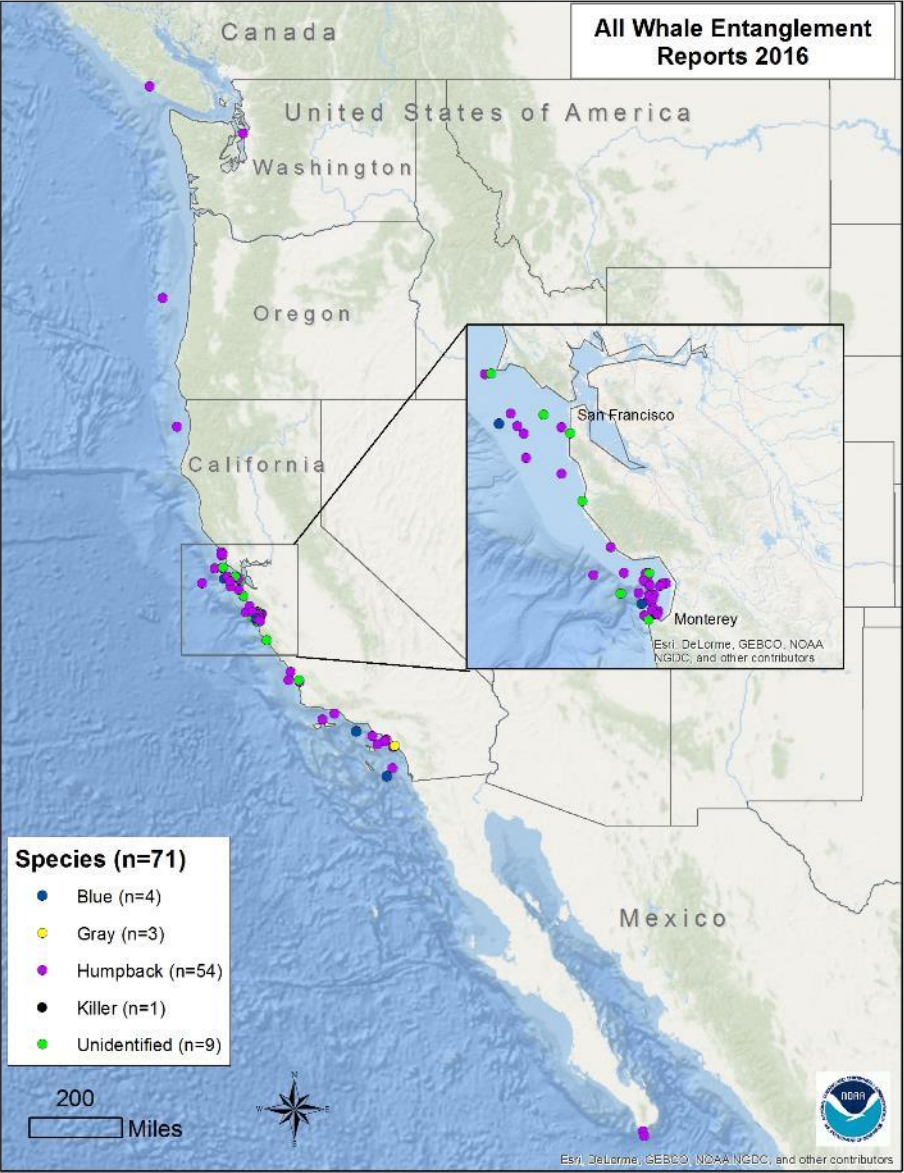
27 confirmed, 9 unconfirmed reports, 36 total

- Humpback whale: 20 confirmed, 5 unconfirmed, 25 total reports
- Gray whale: 6 confirmed, 2 unconfirmed, 8 total reports
- Blue whale: 1 unconfirmed report
- Fin whale: 1 confirmed report
- Unidentified whale: 1 unconfirmed report

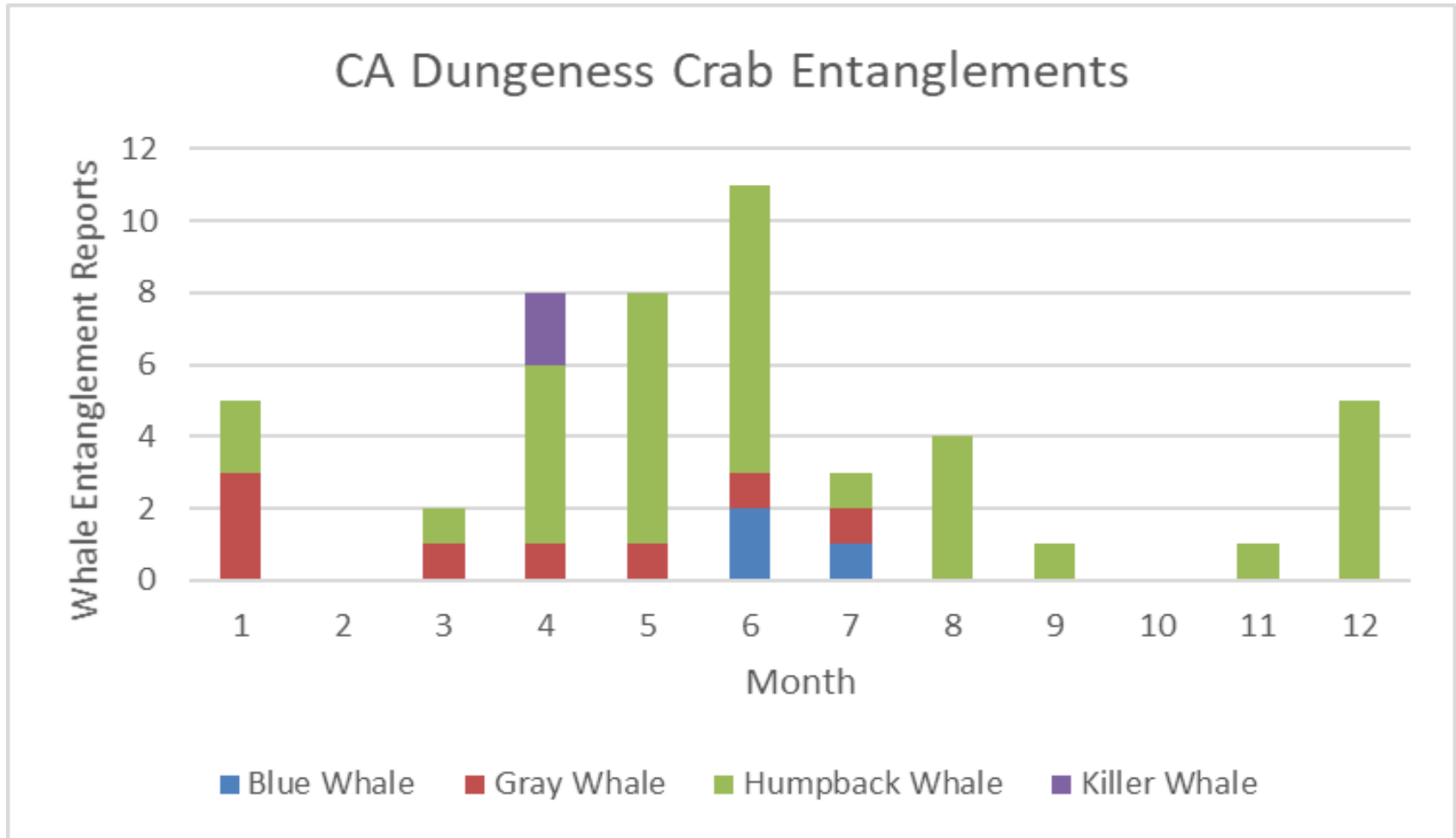
Confirmed fisheries associated with entanglements

- 5 CA commercial Dungeness crab (5 humpback whales)
- 1 commercial Dungeness crab tag seen, undetermined shape (color consistent with CA and WA, on 1 humpback whale)
- 1 CA recreational spot prawn (1 humpback whale)
- 1 CA commercial spot prawn (1 humpback whale)
- 4 gillnet (3 gray whales, 1 humpback whale)

Locations where whale entanglements were reported



California Commercial and Recreational Dungeness Crab Whale Entanglements



What we don't know (data gaps)

Entanglement Data

- Identifying entanglement origins - where to focus management and research efforts
 - Fishery
 - Locations (site of initial entanglement)
 - Timing (of initial entanglement)
- Understanding configurations of gear involved
- Knowing the total # of entanglements that occur (unobserved/unreported)
- Understanding how whale behavior and gear configuration could lead an interaction to become an entanglement
- Understanding outcomes of entanglements (long term survival, serious injuries, impacts on reproduction)

