Informational Report 3
April 2021

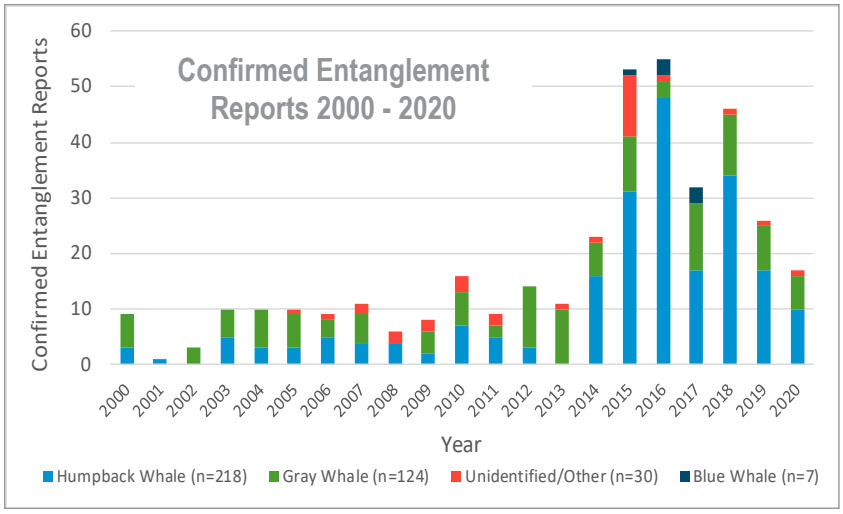
NOAA FISHERIES
WEST COAST REGION

2020 West Coast Whale Entanglement Summary

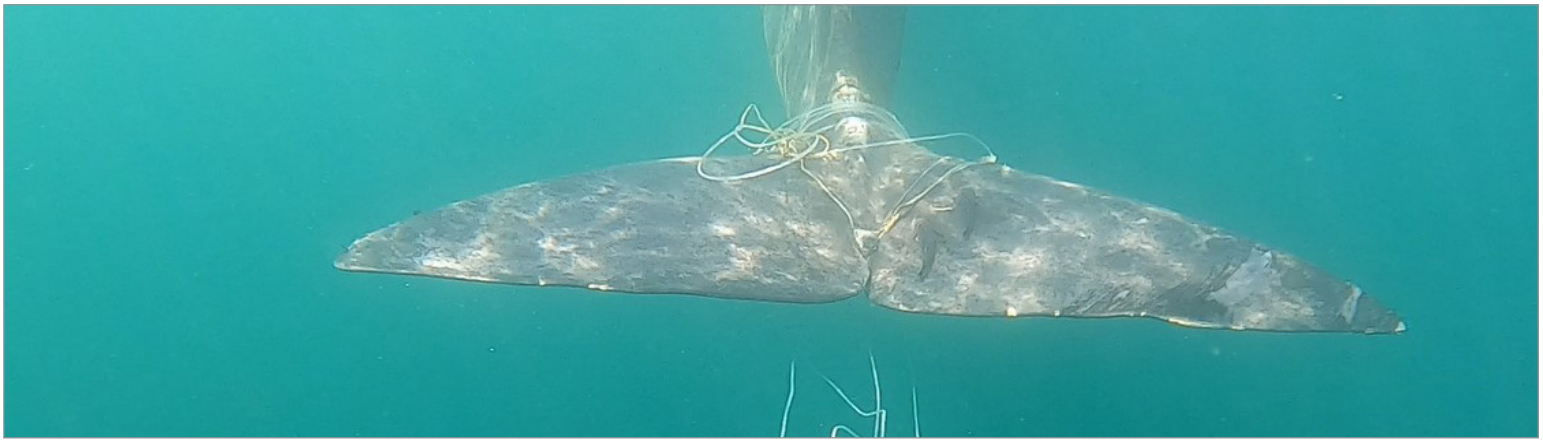
Each year, NOAA Fisheries collects, verifies, documents, and responds to reports of large whale entanglements along the U.S. West Coast from a variety of sources including boaters, fishermen, law enforcement, marine resource agencies, and the public. Included in this summary are the reports received or known to have originated from U.S. West Coast sources in 2020, along with other developments related to entanglements. NOAA Fisheries publishes a separate national entanglement report that summarizes national data on reports and confirmed entanglements, as well as highlights emergency response activities to help whales in U.S. waters by the U.S. Large Whale Entanglement Response Network.

In 2020, entanglement reporting on the U.S. West Coast continued to be higher than what had occurred historically prior to 2014, although fewer confirmed reports were received than in any year since 2013 (Figure 1). While several measures were implemented in 2020 to reduce entanglement risks, the COVID-19 pandemic affected observations, reporting, and response. We confirmed 17 entangled whales off the coasts of Washington, Oregon, and California, or off the coast of other countries but entangled in U.S. commercial fishing gear. Similar to recent years, humpback whales continue to be the most common species entangled with 10 separate entanglements confirmed in 2020. There were also six gray whales and one sperm whale confirmed entangled.

Below: This humpback whale is entangled with an unidentified gillnet around its head. Reported off San Diego, CA in February. NMFS MMHSRP #18786-04.



Above: Figure 1: Number of confirmed entanglements by species reported to the West Coast Region each year from 2000 to 2020.



Above: This sperm whale fluke is entangled with an unidentified monofilament line. Reported off Santa Barbara, CA in October. NMFS MMHSRP #18786-04.

2020 Entanglement Report Locations

SPECIES KEY

- Humpback Whale
- Gray Whale
- Sperm Whale

FISHERY

Washington Dungeness Crab (1)

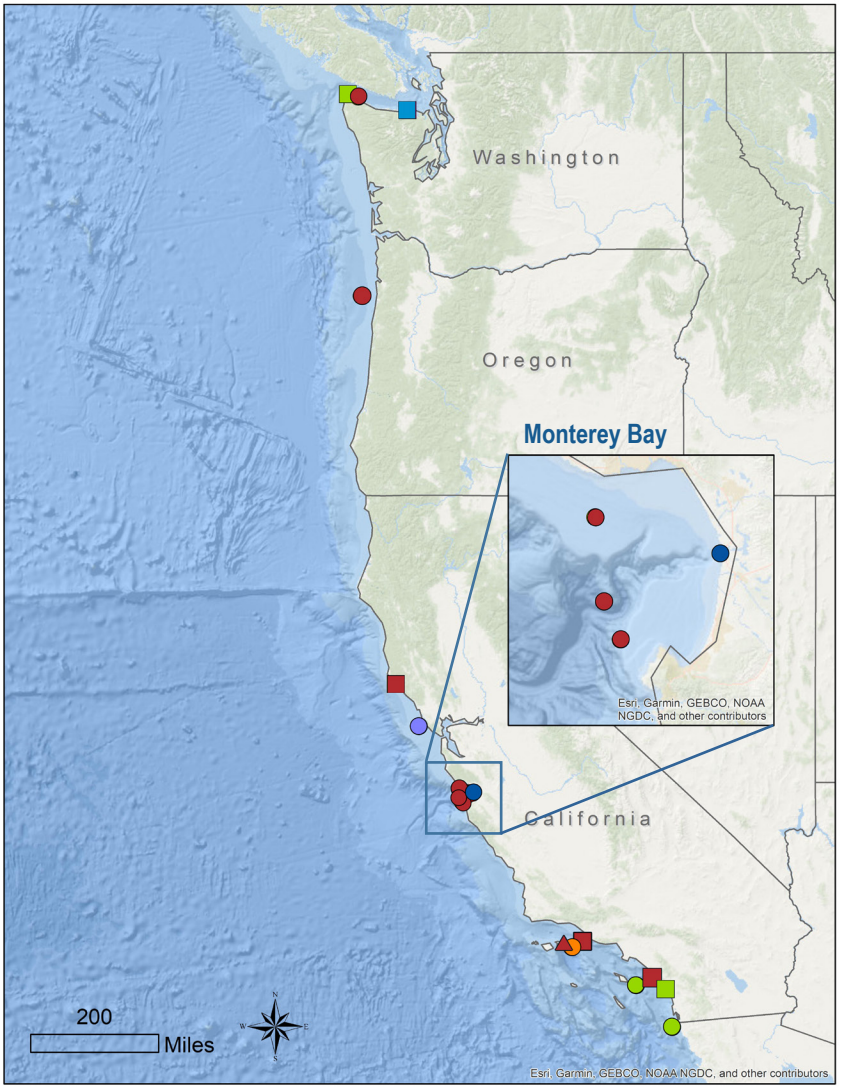
Oregon Dungeness Crab (1)

California Dungeness Crab (1)

Spot Prawn (1)

Gillnet (4)

Unknown (9)



Species	Confirmed (Unconfirmed)	Report Location of Confirmed Reports	Fisheries
Humpback	10 (3)	8 CA, 1 OR, 1 WA	2 commercial Dungeness crab, 2 unidentified gillnet, 1 commercial spot prawn, 5 unknown
Gray	6 (4)	4 CA, 2 WA	1 commercial Dungeness crab, 1 tribal gillnet, 1 unidentified gillnet, 3 unknown
Sperm	1 (0)	1 CA	1 unknown

Alive/Dead

2 humpback whales and 1 gray whale were reported as dead. All the remaining entanglement reports were associated with live animals.

- 1 humpback whale entangled with Oregon commercial Dungeness crab gear washed ashore dead in California (June),
- 1 dead humpback whale entangled with unidentified line and buoys was caught in a groundfish trawl net in OR (July),
- 1 gray whale died entangled in a tribal salmon gillnet in Washington (August).

Entanglement Response Outcomes

In 2020, overall reporting and entanglement response network capabilities were reduced. COVID-19-related social distancing requirements could not be achieved on the small vessels required for entanglement response events. There were also fewer vessels available to sight and resight entangled whales and provide documentation and reporting. As a result, the few responses that were initiated were limited in capacity.

- There were 8 cases where a response was initiated (5 humpback, 2 gray, 1 sperm whale).
  - 2 response cases (1 gray, 1 humpback whale) where all gear was removed,
  - 1 response case (humpback whale) where some but not all the gear was removed,
  - 1 response case (humpback whale) documented a self-release from the gear,
  - 4 response cases where no gear was removed (2 humpback whales, 1 gray, 1 sperm whale).
- There were 9 cases where no response was initiated (5 humpback, 4 gray whales).
- There were responses initiated for 3 unconfirmed reports.

Explanatory Notes

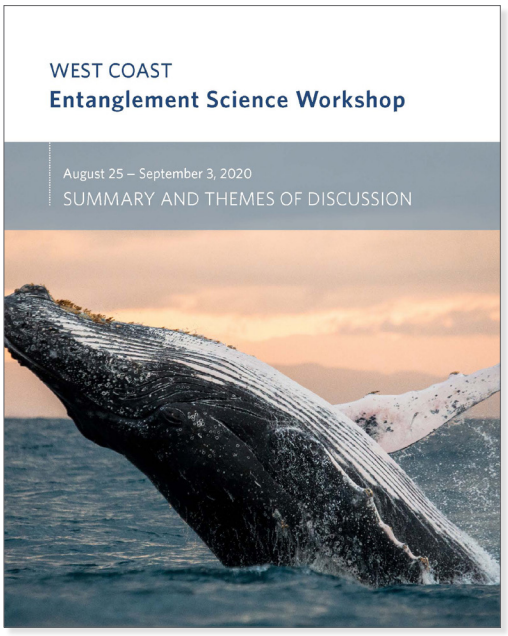
- One humpback whale entanglement involved multiple sets of California Dungeness crab gear from two different fishermen. This whale was successfully disentangled.
- The origins of commercial Dungeness crab gear entanglements were: California (1), Oregon (1), and Washington (1).

West Coast Entanglement Science Workshop

In August, the Nature Conservancy and the California Ocean Protection Council virtually convened the West Coast Entanglement Science Workshop, in partnership with NOAA Fisheries, Pacific States Marine Fisheries Commission, and fishery managers from California, Oregon, and Washington. The workshop helped inform development of management strategies to reduce whale and sea turtle entanglement risk within U.S. West Coast fixed-gear fisheries by featuring science presentations by researchers and targeted discussions with invited fishery managers, fishing industry representatives, and nongovernmental stakeholders. Topics included:

- Management frameworks for entanglement risk
- Forecasting and monitoring marine species dynamics
- Understanding fishing dynamics
- Understanding metrics for entanglement science
- Social and economic dimensions of managing entanglements
- Overcoming barriers to gear innovations
- Understanding and framing risk and tradeoff decisions

A summary report including recordings of presentations is available on the California Ocean Protection Council's workshop web page: *https://www.opc.ca.gov/west-coast-entanglement-science-workshop/.*



Whale Entanglement Scars

While no blue whales were confirmed entangled in 2020, a blue whale was well-documented with scarring along its back consistent with a recent entanglement (photo 1). In another case, a humpback whale was found dead on the beach with its fluke severed (photo 2), consistent with injuries that are expected to occur when entanglements are wrapped tightly around the tail as we saw with another entangled whale in 2020 (photo 3). These two whales documented with evidence of previous entanglement are not included in the total number of confirmed 2020 entanglements.

Given that: (1) not all entanglements that occur are documented and reported; (2) entanglements are almost never observed as they are occurring; and (3) often times the documentation that is gathered from reports only provide limited amounts of direct information, these reports highlight the challenging nature of understanding the full extent of this threat to large whale recovery and protection. NOAA Fisheries is engaged in significant efforts with many partners to document, investigate, and analyze numerous pieces of forensic data and other information to reconstruct the sequence of events from each case reported. This detective work ultimately contributes to solving the bigger puzzle of how human activities impact populations of protected species.

Photo 1: This blue whale has scars consistent with indications of entanglement-related injuries including line migrating down the back and towards the tail. Documented off Santa Barbara, CA in September. NMFS MMHSRP #18786-04.

Photo 2: This humpback whale's fluke was likely severed from a previous entanglement. Documented on Manchester State Beach, CA in September. NMFS MMHSRP #18786-04.

Photo 3: This humpback whale was entangled in fishing gear that got wrapped around its tail, ultimately severing its fluke. Documented at Point Reyes, CA in June; entanglement originating from OR Dungeness crab gear. NMFS MMHSRP #18786-04.

Publication Notes and Helpful Links:

- NOAA Tech Memo publication summarizing West Coast whale entanglements from 1982-2017 published in February 2020 *(https://www.fisheries.noaa.gov/resource/document/large-whale-entanglements-us-west-coast-1982-2017)*
- Santora et al. (2020): Habitat compression and ecosystem shifts as potential links between marine heatwave and record whale entanglements *(https://www.nature.com/articles/s41467-019-14215-w)*
- NOAA Integrated Ecosystem Assessment page for reducing West Coast whale entanglements: *(https://www.integratedecosystemassessment.noaa.gov/regions/california-current/cc-projects-whale-entanglement)*

How to Report an Entangled Whale

The public plays an important role in saving distressed whales, including those that are entangled. Prompt reporting and monitoring of the animal are the best ways to help.

You can report whales in distress to either:

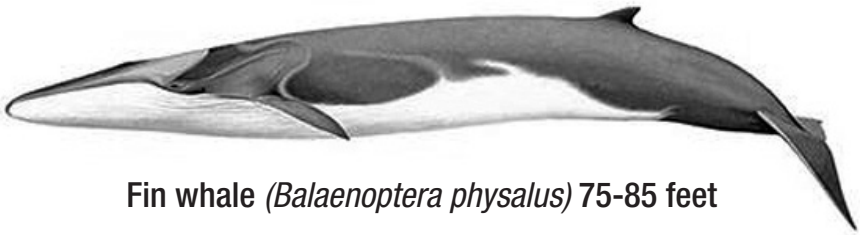
the 24/7 reporting hotline: 1-877-SOS-WHALe (767-9425) or the United States Coast Guard on VHF CH-16

Entangled whales are unpredictable and potentially dangerous. Please keep a safe distance and do not approach the animal. You can continue to monitor the animal's condition and document the encounter while waiting for a response team to arrive.

What to include in your Report

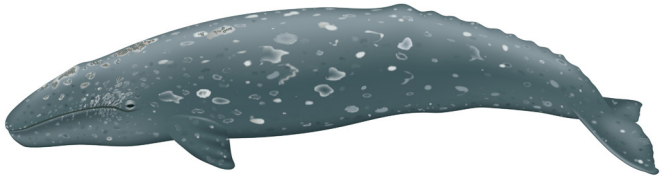
1. Location of the animal;
2. A detailed description of the color and gauge of rope;
3. Location of gear on the whale;
4. Color and size of buoys;
5. Direction of the whale's movement, including whether it is solitary or with a group;
6. Behavior of the whale, including whether it is surfacing or diving, and the length of dive times;
7. Species of whale; and
8. Size and condition of the whale.

Documentation in the form of photos and videos of the entangled whale if they can be safely gathered can provide valuable information to the responders and resource managers. The information from each whale entanglement contributes to our larger knowledge-base and can be a valuable tool in helping to prevent future



Fin whale *(Balaenoptera physalus)* **75-85 feet**

Humpback whale *(Megaptera novaeangliae)* **40-60 feet**



Gray whale *(Eschrichtius robustus)* **39-46 feet**

Blue whale *(Balaenoptera musculus)* **88-108 feet**