

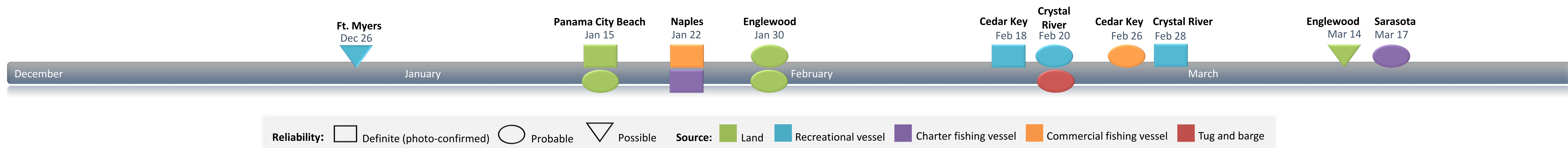
Monitoring the Long-Distance Movement of a North Atlantic Right Whale in the Gulf of Mexico

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Timeline of 2017-2018
Gulf of Mexico Sightings



Previous Right Whale Sightings in the Gulf of Mexico

North Atlantic right whales (*Eubalaena glacialis*) typically range along the Atlantic Coast of the United States and Canada. According to Ward-Geiger et al. 2011, right whale sightings in the Gulf of Mexico (GOM) are remarkably rare. There have been a handful of sightings events in the 20th century: 1963, 1972, 2004 and 2006. Very little is known about their behavior in this habitat and it is unclear whether these sightings represent a few wandering individuals, remnant use of historical habitat, or range expansion. Until 2018, all photo-confirmed sightings in the GOM represented mother-calf pairs (Figure 1).

Response to Right Whale Sightings in the Gulf of Mexico during Winter 2018

The coastal waters of Florida and Georgia are the primary calving habitat for North Atlantic right whales and aerial surveys are conducted each winter between Savannah, GA and Cape Canaveral, FL. During the winter of 2018, a lone right whale was sighted along Florida's west coast. With no dedicated survey effort in the GOM, researchers were dependent upon public reports and social media "sleuthing" to track the long-distance movements of the whale. Fourteen public right whale sightings were reported between December 26, 2017 and March 17, 2018 from Panama City to Naples (Figure 2). FWC researchers coordinated with NOAA Fisheries and local partners to try to document the whale for individual identification and health assessment and to assess and mitigate potential risks:

- FWC Law Enforcement responded by vessel and aircraft to two near real-time sightings near Naples on Jan 22.
- Stranding partners scanned lookout points near Englewood, FL when the whale was reportedly northbound along the shore on Jan 30.
- Researchers from the Cedar Key area helped rundown local sighting reports, verified location information, and attempted to locate the whale by boat during February.
- The Sea to Shore Alliance and FWC conducted two aerial surveys (Feb 9 and Mar 5) and one vessel-based survey (Mar 5), respectively, in conjunction with on-going monitoring efforts in the right whale calving area.
- The U.S. Coast Guard issued a Broadcast Notice to Mariners and FWC disseminated early warning system "whale alerts" via email and text message.

The whale was never relocated by research teams, largely due to delayed communication with the original sighting sources and the novel nature of this type of response effort in the GOM; however, we gathered information about current potential threats along the west coast of Florida (e.g. vessel traffic, harassment, and fixed fishing gear) and increased situational awareness throughout the GOM.

Crowdsourcing for Conservation

Identifying various tools (e.g. social media) and maintaining response flexibility to monitor extralimital movements is important as right whale distribution has shifted in recent years, sightings have declined in the southeastern U.S., and individual identification remains a priority for population survival analyses and health assessment. Through continued work with the public, we know that some individuals do not think about reporting sightings and many others look for information online after-the-fact. So, during this event, FWC and NOAA took to social media to share information about the whale's unusual movements and to encourage real-time reports from the public (Figure 3). Citizens were asked to report all large whale sightings to NOAA's hotline number and boaters were cautioned against approaching whales. Balancing these messages was sometimes difficult given the brevity of social media posts.

FWC researchers also began sifting through Facebook, Twitter and Instagram to follow-up on posts and comments about the whale that might lead to previously unknown sightings. Given the challenges with our relocation efforts, the photo-documentation available through public sightings and social media was of increased importance. Unfortunately, public platforms rarely photograph right whales in a manner that is consistent with photo-identification for research and health assessment and the increased use of cell phone video has led to decreased image quality and difficulties related to file-size and file-sharing. Using photographs shared by the public during this event (Figures 4 - 9), we determined that the sightings likely represent a single juvenile whale, possibly a yearling; however, there was not enough detail to positively identify the individual.



Figure 4: First known photo-documentation of a juvenile North Atlantic right whale in the GOM during winter 2018. This high-resolution photograph was taken from a condominium by a resident of Panama City Beach on Jan 15.
 Figure 5: Cell phone photograph taken by a commercial fisherman off Marco Island (near Naples) on Jan 22.
 Figure 6: Frame grab of a cell phone video taken from a charter fishing vessel off Gordon Pass (Naples) on Jan 22.
 Figure 7: Cell phone photograph taken from a charter fishing vessel off Gordon Pass (Naples) on Jan 22.
 Figure 8: Cell phone photograph taken by a recreational boater during a fishing trip off Seahorse Key (near Cedar Key) on Feb 18.
 Figure 9: Cell phone photograph taken by a recreational boater off Crystal River on Feb 28.

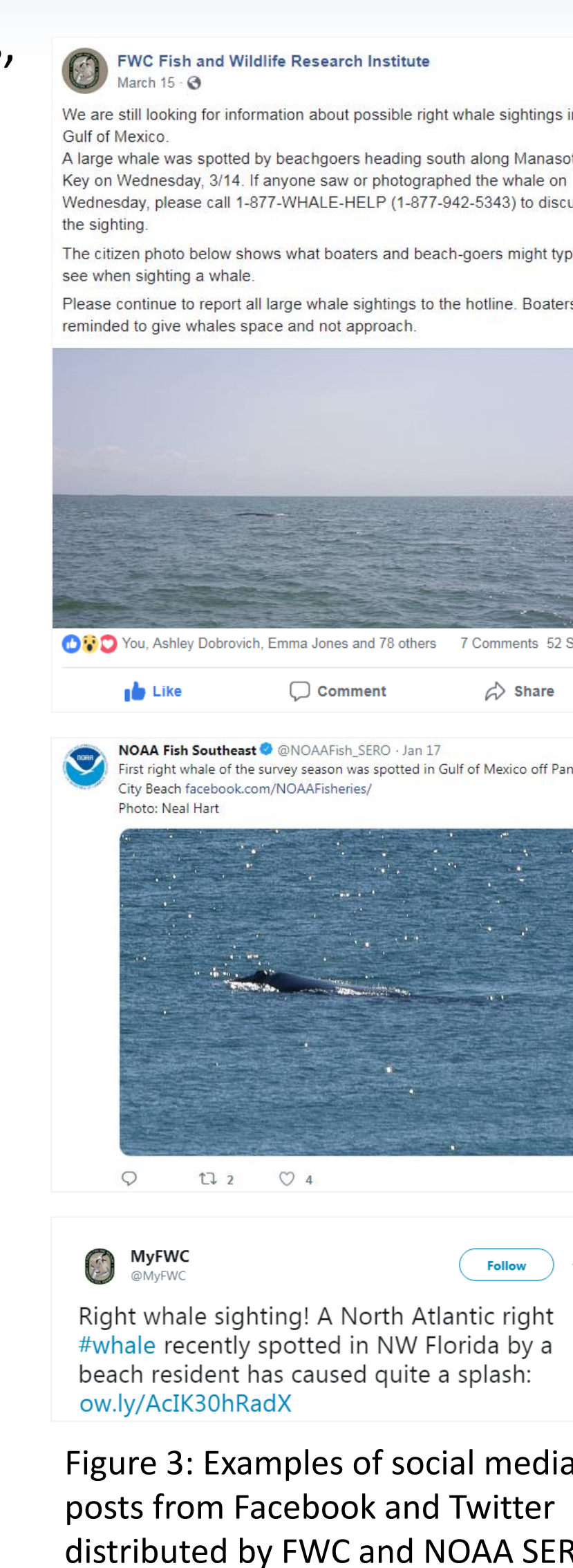


Figure 3: Examples of social media posts from Facebook and Twitter distributed by FWC and NOAA SERO.

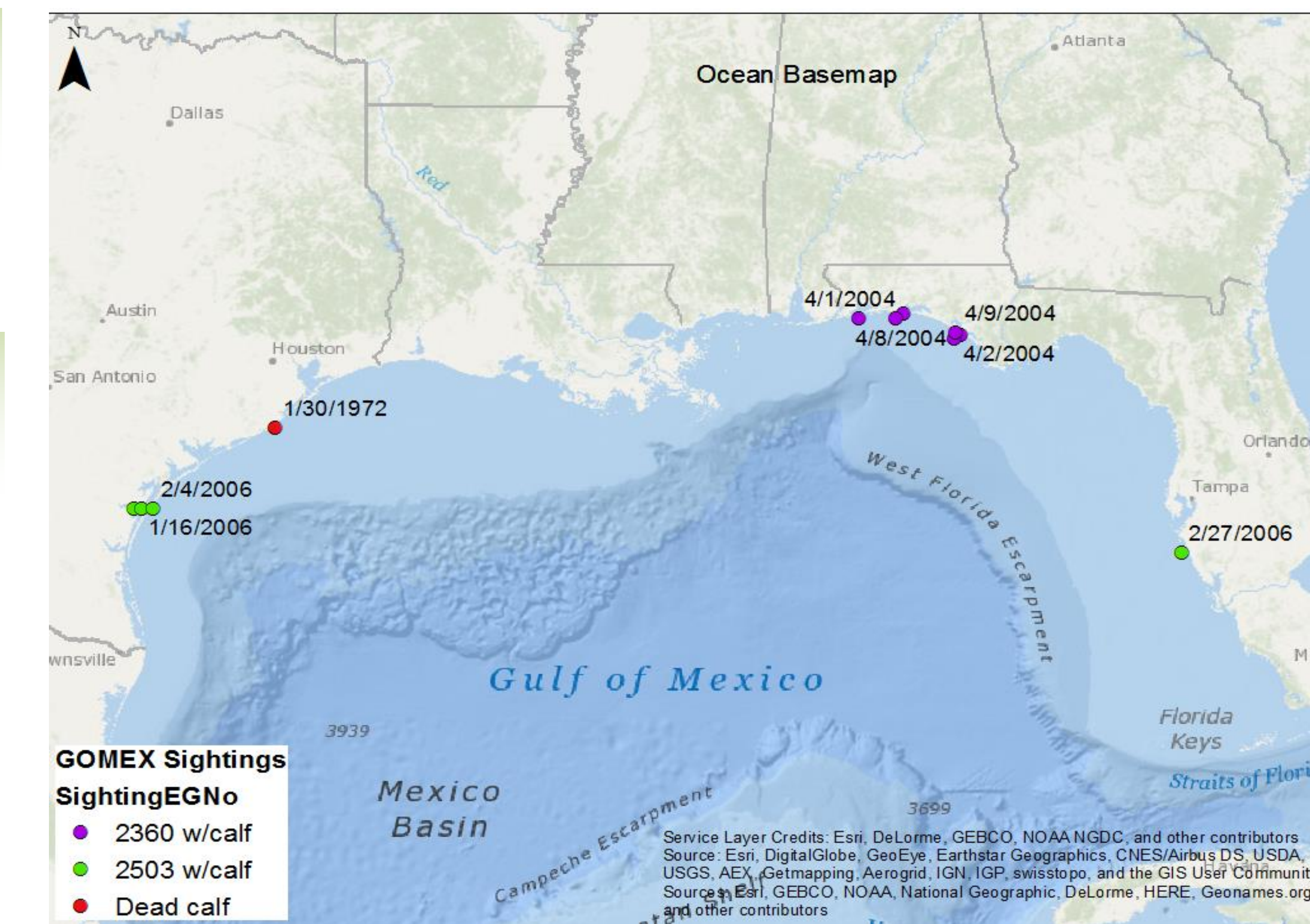


Figure 1: Photo-confirmed right whale sightings in the Gulf of Mexico prior to 2018.

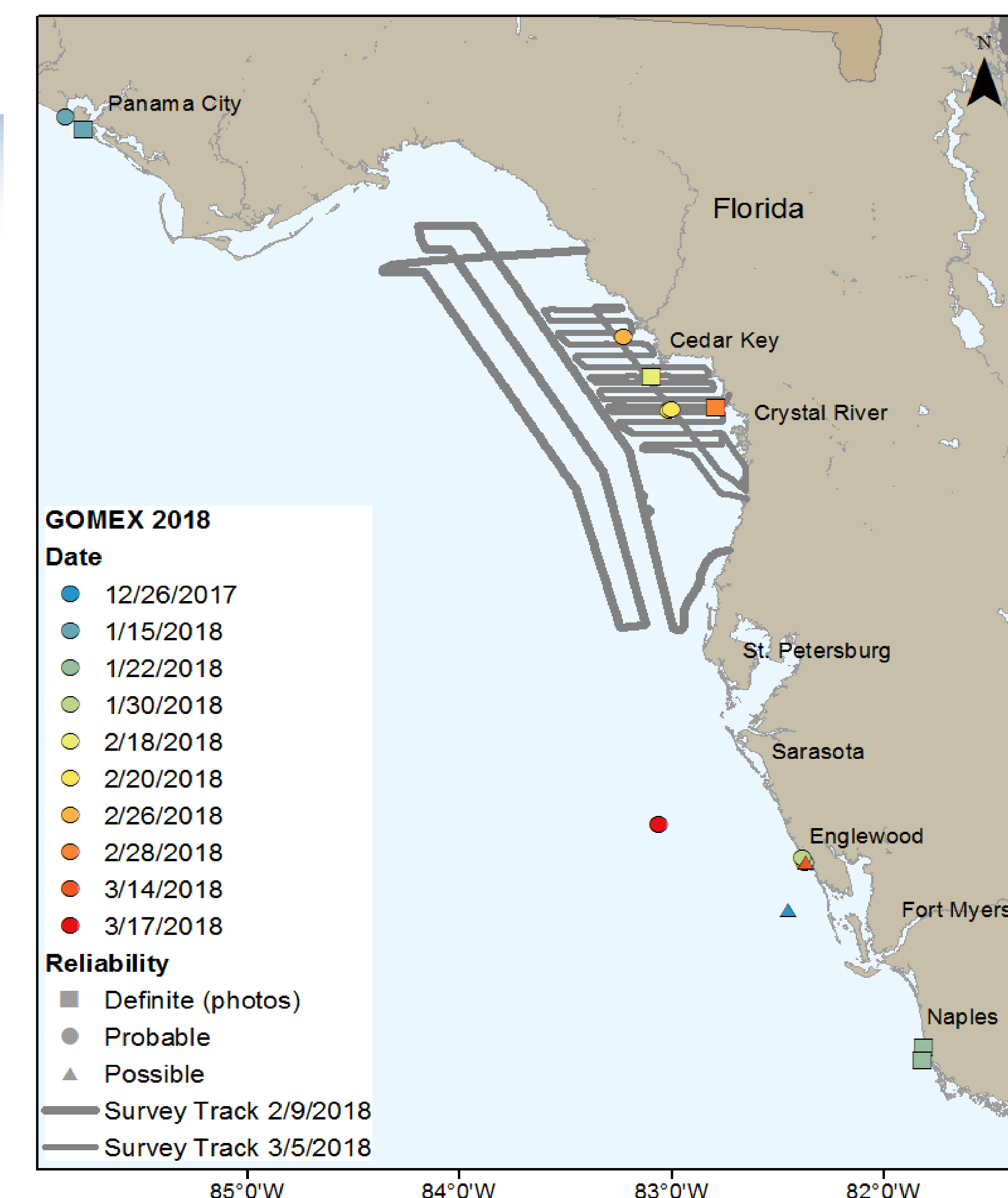


Figure 2: 2018 Gulf of Mexico right whale sightings displayed by sighting day and reliability, and mapped over aerial survey effort by Sea to Shore Alliance on Feb 9 and Mar 5. FWC conducted a vessel survey on Mar 5 through the same area as the aerial survey. Definite sightings are photo-confirmed, probable sightings include details of right whale features/behavior, and possible sightings are low-confidence.