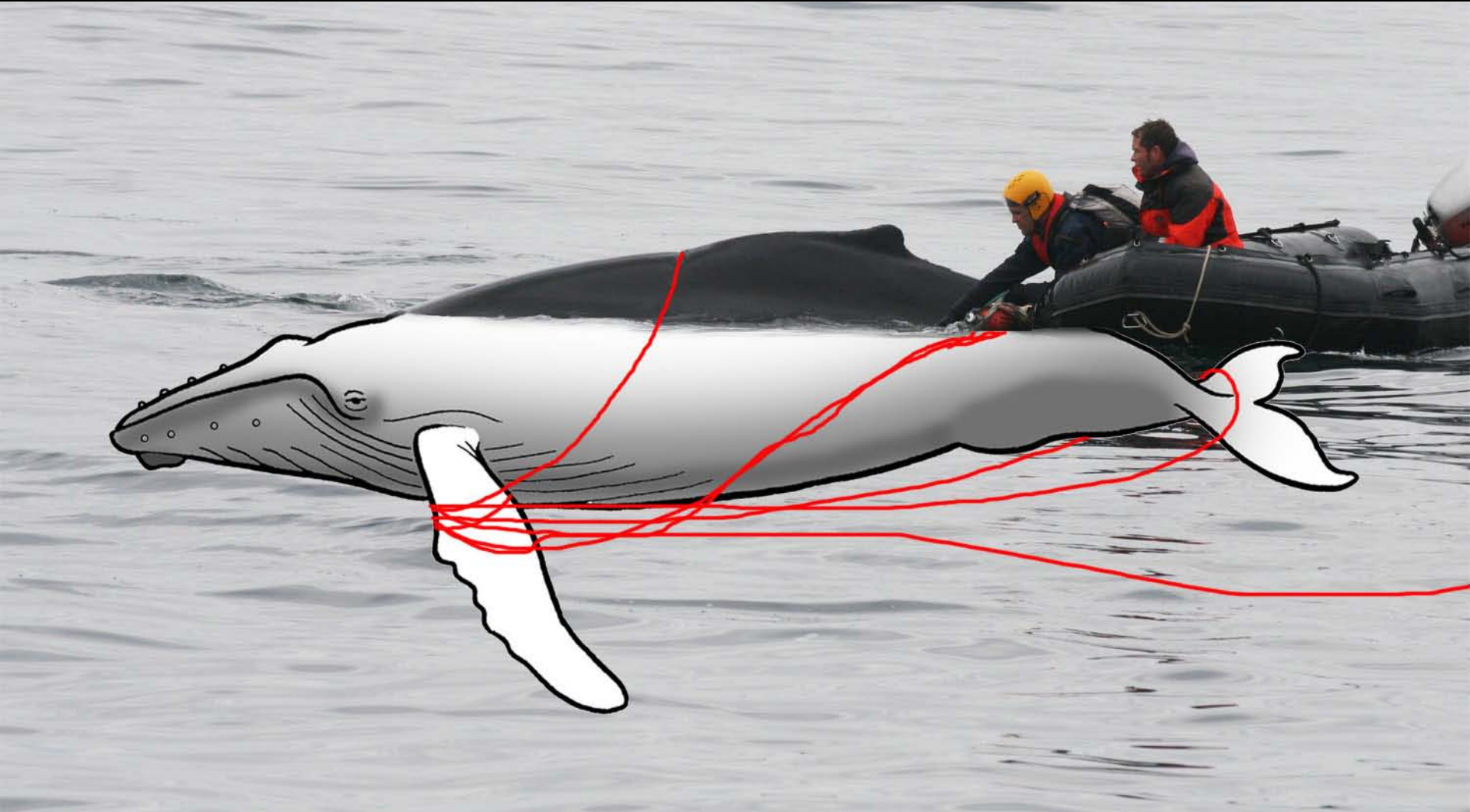


# What we know of entanglements from disentanglement



Scott Landry | Marine Animal Entanglement Response | Provincetown Center for Coastal Studies  
Entanglement response conducted under Canadian & US permits, including NOAA #'s 932-1489 & 932-1905,  
with support from NMFS, MA-DMF and private foundations. PCCS images unless noted otherwise.



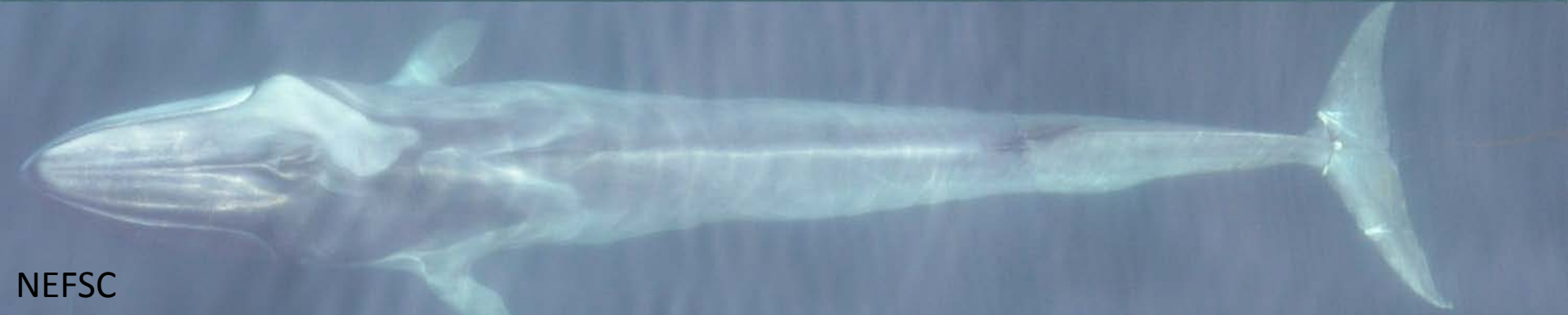


Diversity of species and entanglement types



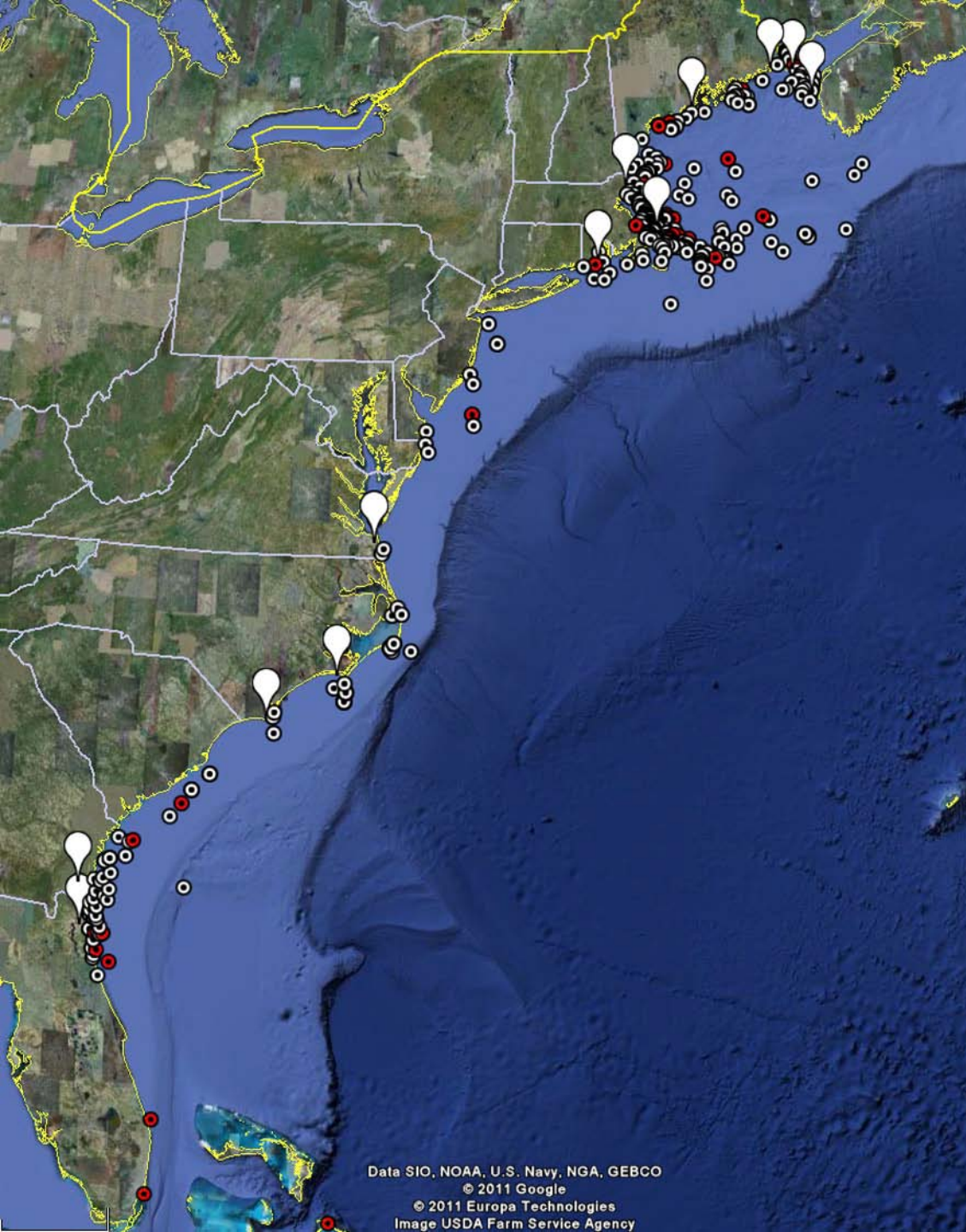


NEFSC



NEFSC

Different vantage points and levels of entanglement detectability



## Entanglement Sightings 1999 to 2010 (in red)

Average sightings per year: 59  
Range: 38 – 73

Total cases: 242  
Total right whales: 57  
Total humpback whales: 135

Hotspots for sightings:  
Southern Gulf of Maine  
Bay of Fundy  
Georgia/Florida

Sightings in all months of the year  
with regional/seasonal spikes

Atlantic Large Whale  
Disentanglement Network  
response caches: ~12



# Rationales behind entanglement response

- Conservation (assist the recovery of endangered populations)
- Prevent a “take” against a management limit (PBR, quota, etc.)
- To enhance the welfare of the animals involved
- To gather information to prevent entanglement and assess veracity of entanglement reports (not all entanglement sightings are correct)
- Public safety (to assist mariners, such as fishermen, whale watch operators and recreational boaters, and prevent them from harming themselves – or whales)
- To prevent danger or damage to property (gear, boats)



## Priorities in entanglement response

human safety - whale safety – documentation (in that order)

### Goals of disentanglement

Remove lethal portions of gear (not necessarily all gear) while maintaining high human and whale safety and gather information to understand the causes and effects of entanglement.

### Assessing a candidate for intervention

Generally, a complete wrap of at least one body area that the whale is not likely to shed on its own.

An understanding of the entanglement configuration will help: gauge the severity of the event, develop a response plan, and add to the understanding of how whales become entangled.







Entanglement response example: typical view of entangled humpback

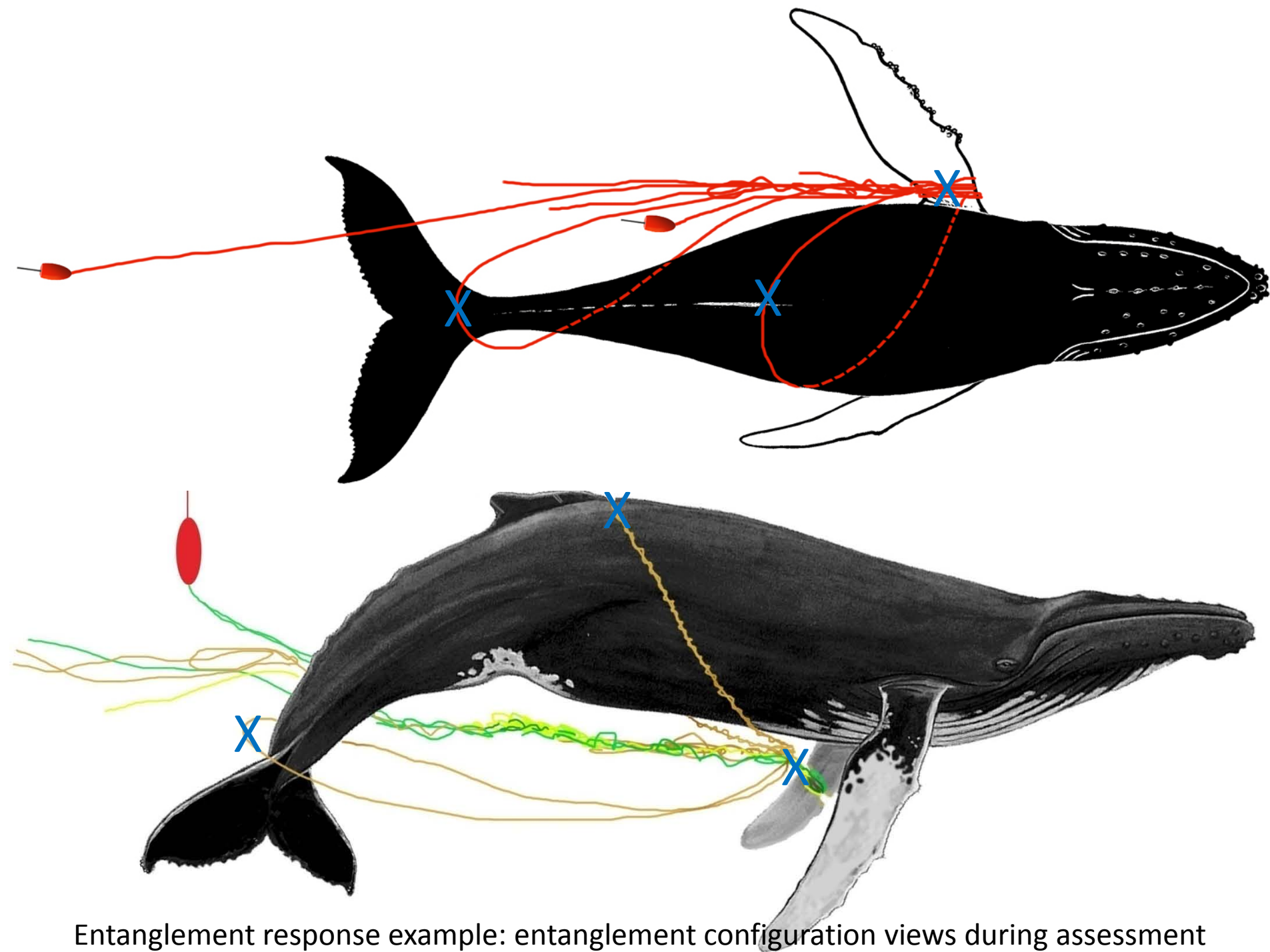


Entanglement response example: establishing a work line



Entanglement response example: using work line to slow and assess whale





Entanglement response example: entanglement configuration views during assessment



Entanglement response example: cutting key points of entanglement







Entanglement response example: retaining gear as intact as possible





Entanglement response example: reviewing changes to gear made during disentangling



# Right whales

Evasiveness: higher

Anchored in gear: very rare

Disentanglement attempts: 1-6

Success rate per case: 52%



# Humpbacks

Evasiveness: lower

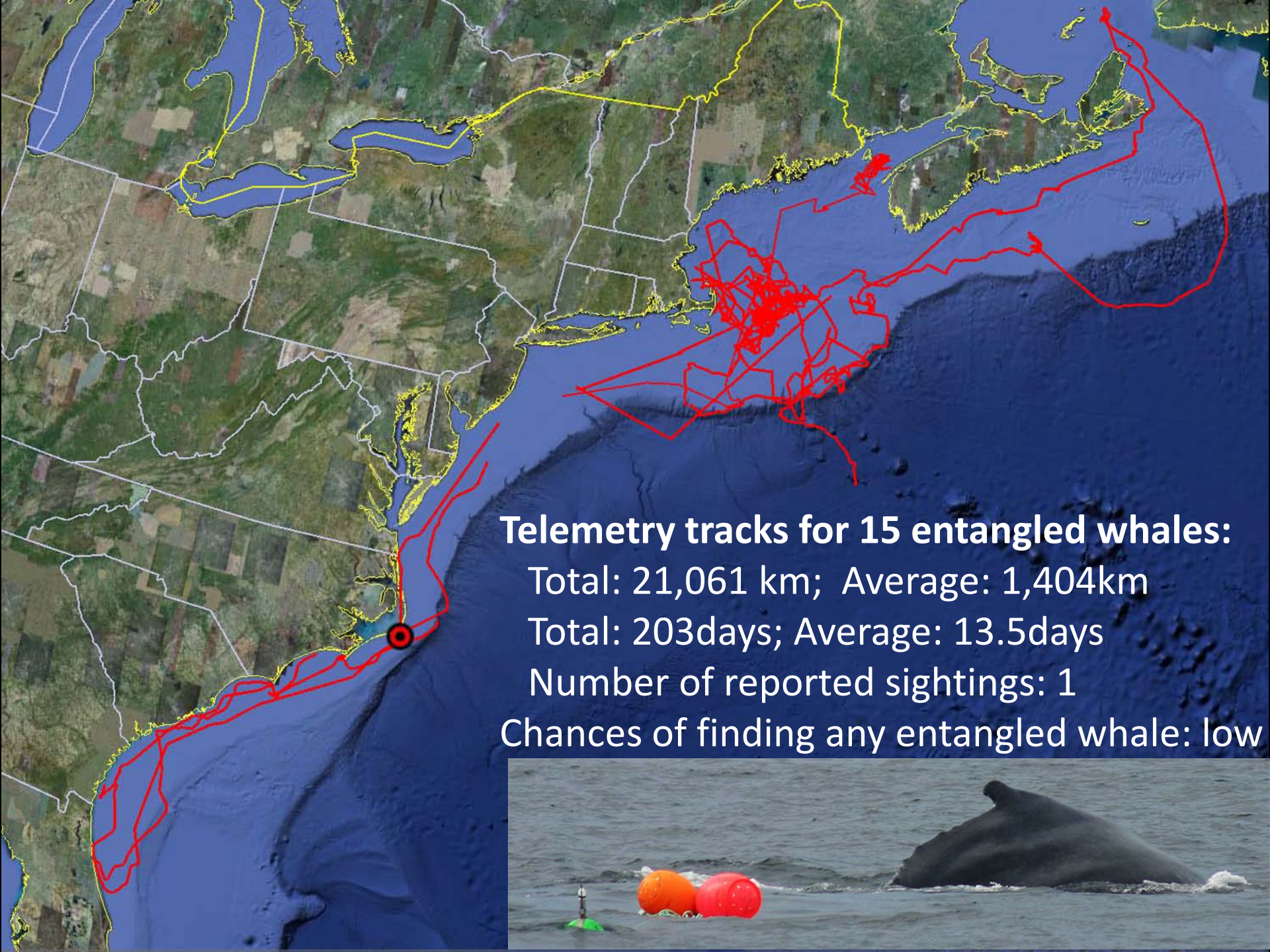
Anchored in gear: not uncommon

Disentanglement attempts: 1-2

Success rate per case: 89%







**Telemetry tracks for 15 entangled whales:**

Total: 21,061 km; Average: 1,404km

Total: 203days; Average: 13.5days

Number of reported sightings: 1

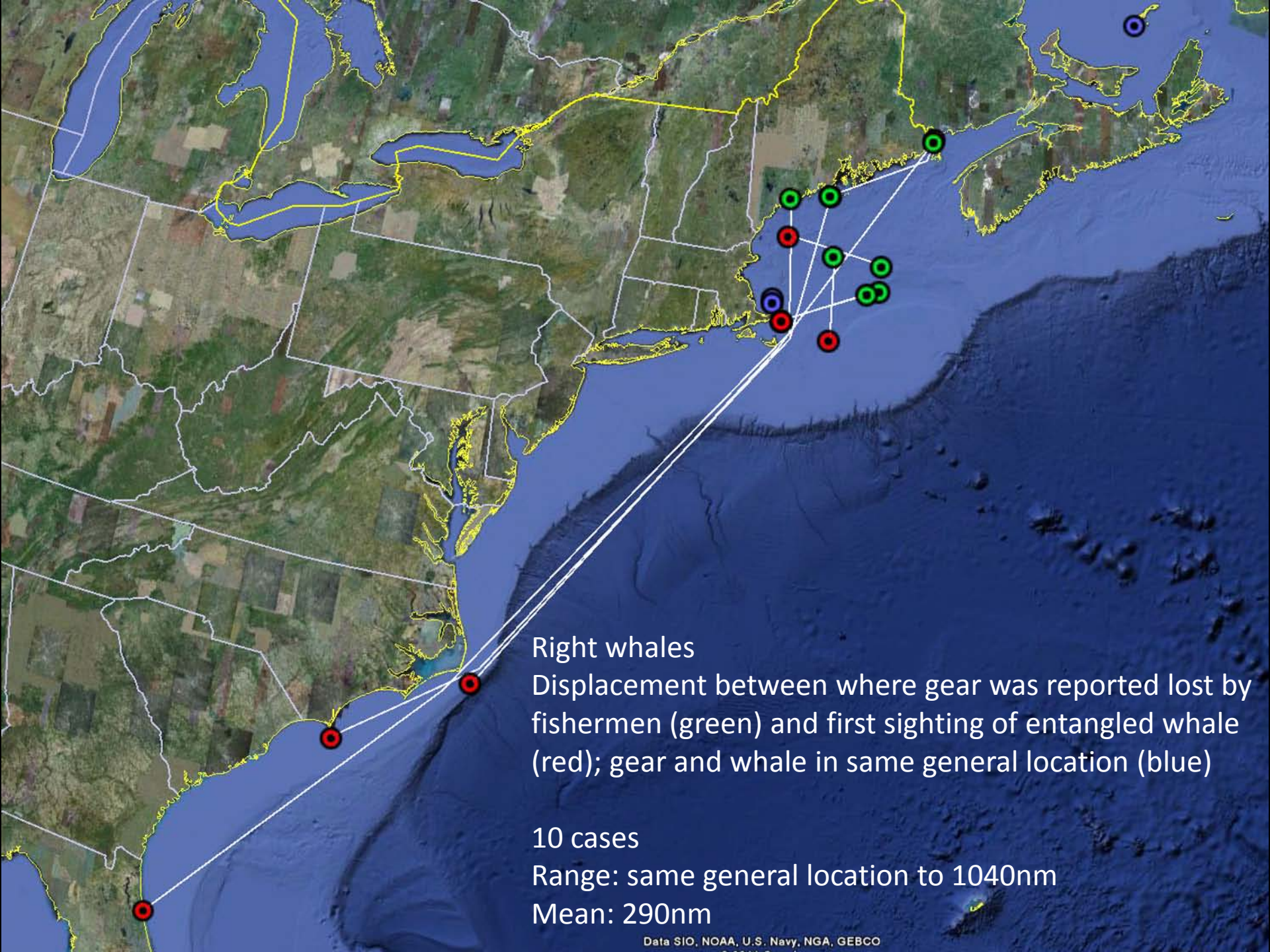
Chances of finding any entangled whale: low



- **Gear type was identifiable in 59%** of cases though more so in humpbacks (22/30) than in rights (14/31). Whales were entangled in many fisheries, as well as aquaculture and anchoring systems.
- **89% of these cases involved pot or gillnet gear** which may have something to do with their relative abundance and any attributes that would make those fisheries more identifiable.
- **All gear parts were represented.** Buoy line was most common but was likely easier to identify than other components.
- **Entanglements involved all body areas.** At time of discovery line was in the mouth in 77% of rights and 43% of humpbacks.
- **Ultimately, rope anywhere in the water column was found to pose risk.**

Johnson, 2003





### Right whales

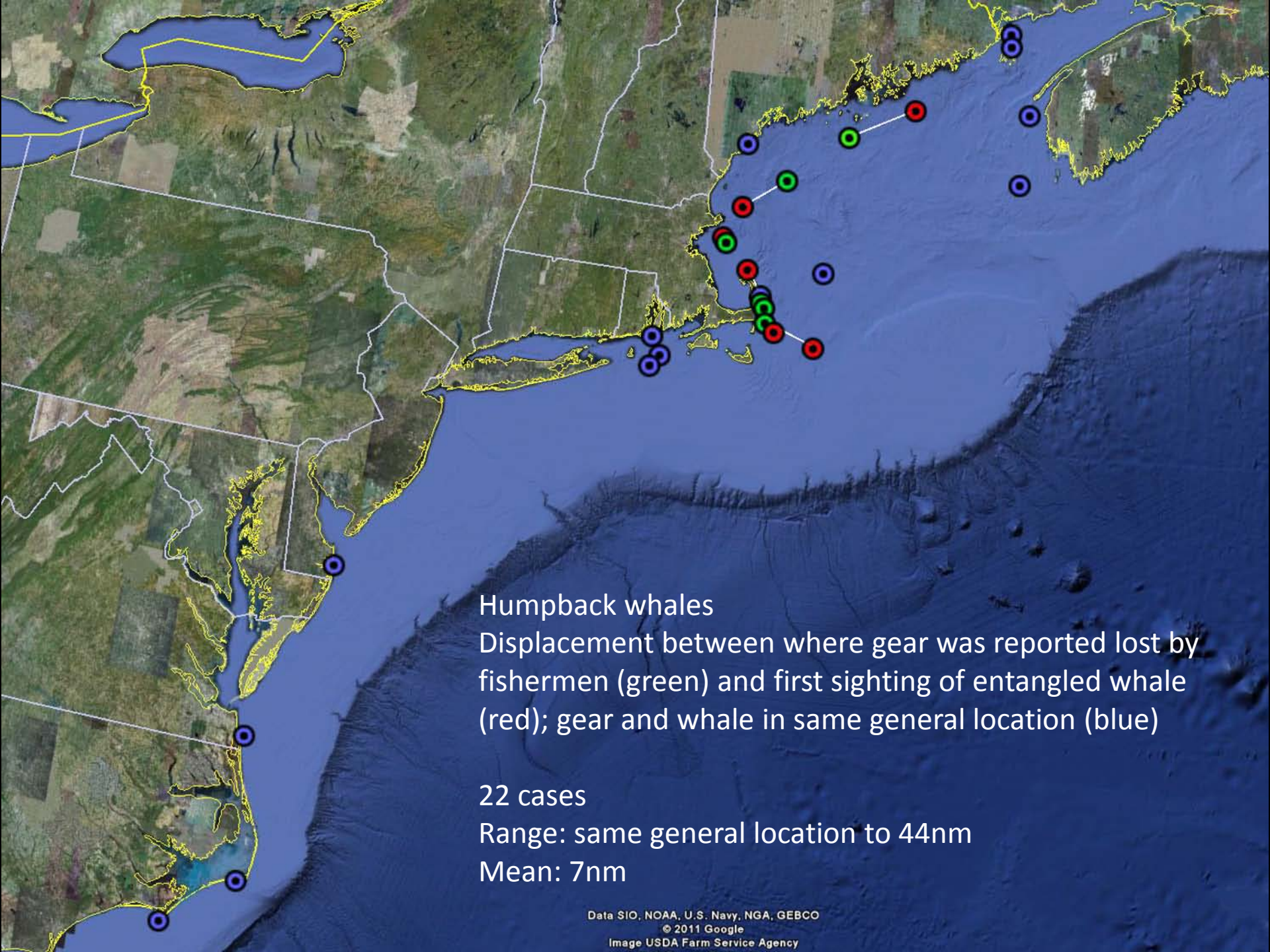
Displacement between where gear was reported lost by fishermen (green) and first sighting of entangled whale (red); gear and whale in same general location (blue)

10 cases

Range: same general location to 1040nm

Mean: 290nm





## Humpback whales

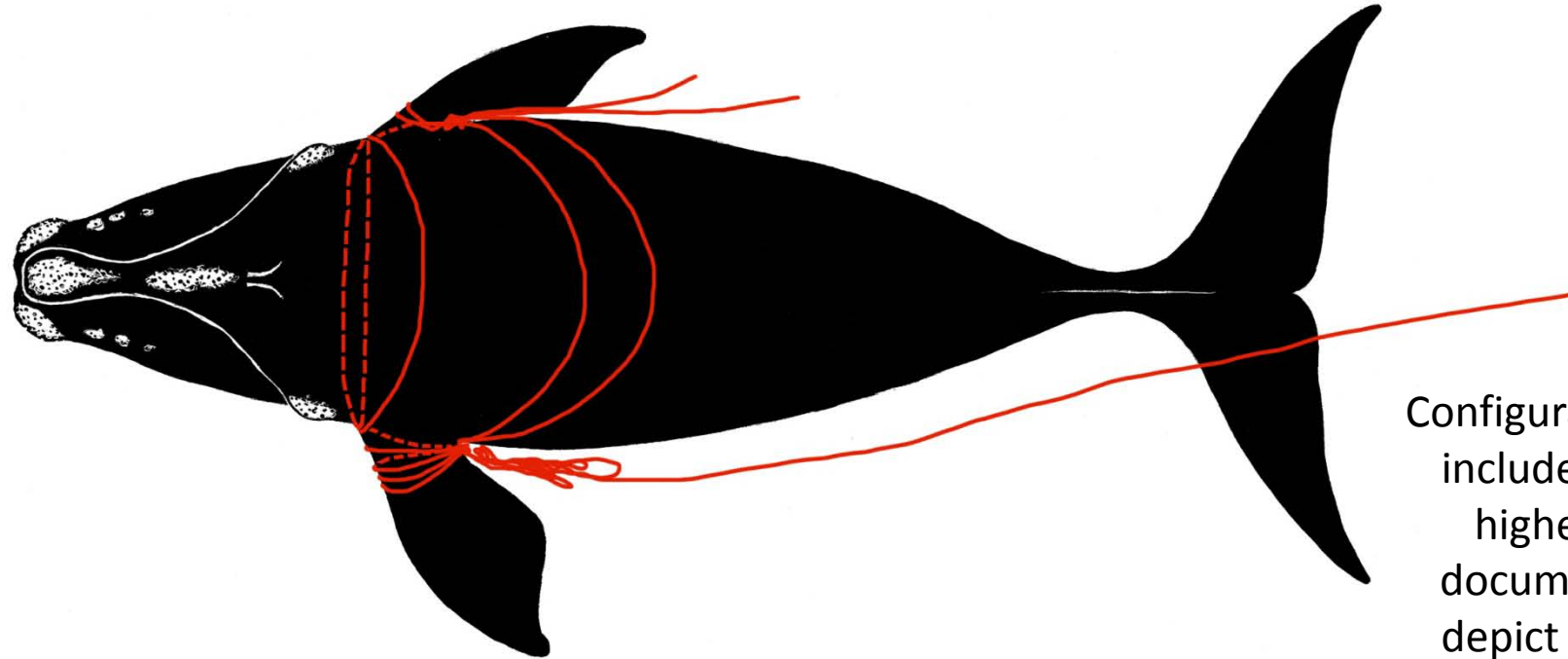
Displacement between where gear was reported lost by fishermen (green) and first sighting of entangled whale (red); gear and whale in same general location (blue)

22 cases

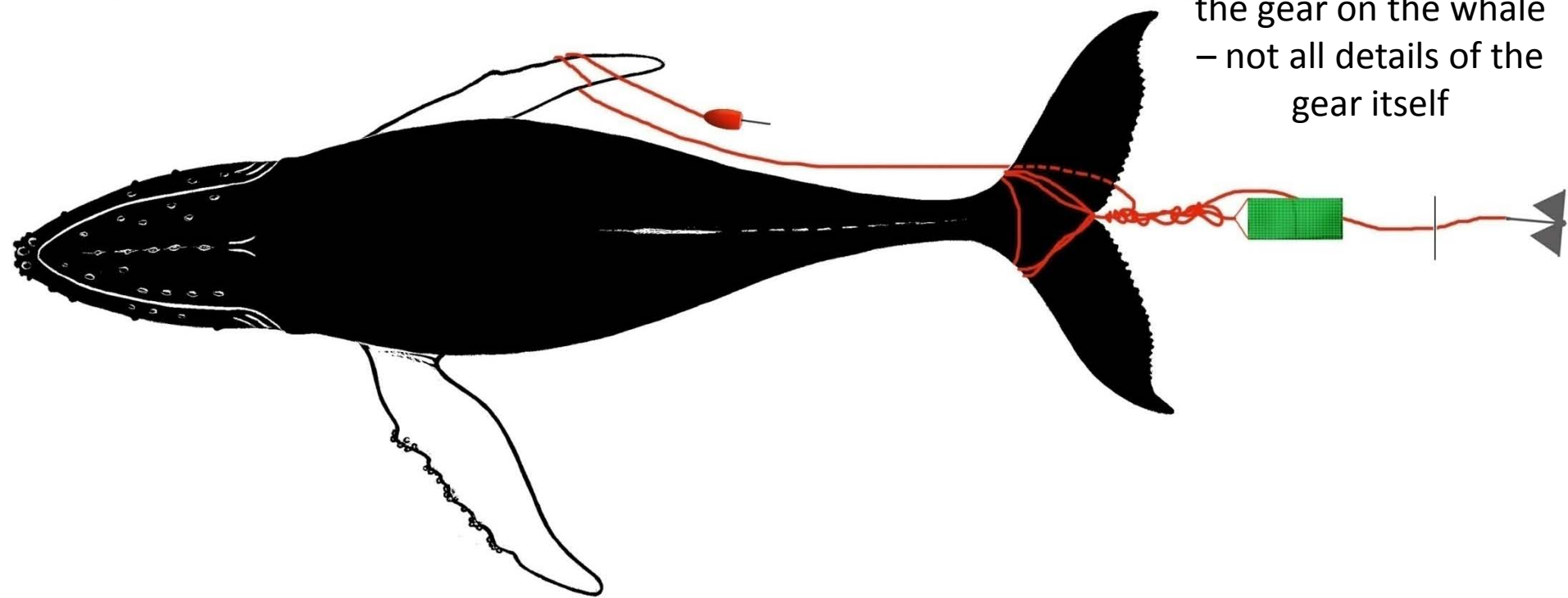
Range: same general location to 44nm

Mean: 7nm





Configuration diagrams  
included cases with  
highest possible  
documentation and  
depict the layout of  
the gear on the whale  
– not all details of the  
gear itself





Many thanks to the Atlantic Large Whale Disentanglement Network, National Marine Fisheries Service, Massachusetts Division of Marine Fisheries and PCCS supporters. Responses conducted under NOAA Marine Mammal Health and Stranding Response permits 932-1489 and 932-1905.

