Effects of Human Interaction on Animal Strandings on Long Island

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INTRODUCTION

Marine strandings occur when marine mammals & sea turtles are washed ashore sick, injured, or dead. On long island, the Atlantic Marine Conservation Society (AMSEAS) has gathered information on where marine mammals and sea turtles are harmed by human interaction such as vessel strikes, entanglement, ingestion of debris and gear, and hooking. Since human impact is one of the causes of mammals and sea turtles washing up on shore, we are researching how prevalent vessel strikes are in comparison to other types of human interaction. With this research, our goal is to spread awareness on marine mammals and turtles that are struck by vessels on Long Island.

METHODS

- Analyzed data that was provided by AMSEAS
- Created pie charts of to determine which human interaction is the most prevalent to marine mammals and sea turtles on the Long Island.
- Plotted locations of the stranded animals on Google Earth Pro to observe the exact location of each stranding.
- Broke down the data points into categories of human interaction to compare the locations of marine mammal and sea turtle strandings.

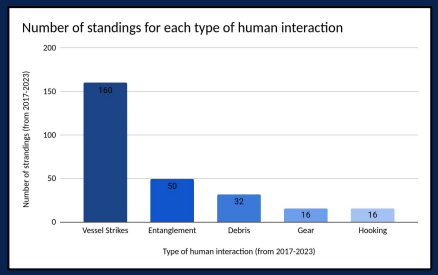

Fig 1. All types of human interaction strandings from years 2017-2023

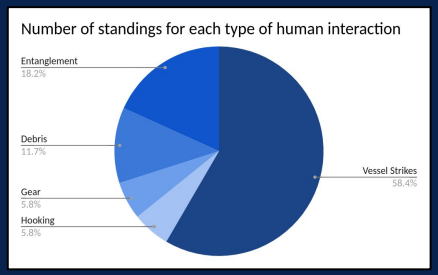

Fig 2. Strandings caused by vessel strikes vs other forms of human interaction data from years 2017-2023

Fig 3. Vessel Strike Stranding Locations

Fig 4. All Human Interaction Stranding Locations

RESULTS

We found that vessel strikes were the most prevalent to sea mammal and sea turtle strandings.

CONCLUSION

- Human interactions with marine mammal and sea turtle habitats have resulted in many strandings and potential threats to their populations.
- One potential solution to prevent vessel strikes could be changing vessel routes for major cargo carriers so that they are not crossing areas where habitats are present. Many ship routes are crossing paths of migration for these animals, which causes interference and possible collision with that marine life.
- Additionally, tagging stranded marine mammals and sea turtles with satellite and acoustic tags can help us understand where they are highly present and how their strandings relate to the commonly used ship routes.

Peltier, Hélène, et al. "Monitoring of Marine Mammal Strandings Along French Coasts Reveals the Importance of Ship Strikes on Large Cetaceans: A Challenge for the European Marine Strategy Framework Directive." Frontiers in Marine Science, vol. 6, July 20 https://doi.org/10.3389/fmars.2019.00486.

Rockwood, R. C., Calambokidis, J., & Jahncke, J. (2017). High mortality of blue, humpback and fin whales from modeling of vessel collisions on the U.S. West Coast suggests population impacts and insufficient protection. PLOS ONE, 12(8), e0183052. https://doi.org/10.1371/journal.pone.0183052