Community Collected Marine Debris Data on Long Island and its Composition

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Introduction

- Marine debris is any manufactured or processed material that is disposed of, or abandoned in the marine and coastal environment.¹
- It is a threat to the survival of aquatic ecosystems and wildlife by causing:
  - Habitat loss
  - Degradation
  - Climate Change
  - Overexploitation
- Long Island beaches are becoming polluted by marine debris and are witnessing the harm and death of aquatic wildlife from pollution or ingestion of marine debris.²

Research Questions

1. What is the most populous type of marine debris found on Long Island beaches from 2017-2021?
2. Which Long Island shore has the most amount (weight in pounds) of marine debris?

Hypotheses

- I hypothesize that plastics will be the most populous type of marine debris found on Long Island Beaches.
- I hypothesize that the north shore will have the most amount of marine debris.

Materials and Methods

- At the cleanups, volunteers were given marine debris datasheets to record what objects they collected at the cleanup.
- The data were entered into an online datasheet. On the datasheet, the items found were categorized based on use.
- The cleanup data that met the established criteria (i.e., year, location, total weight of cleanup) were added to a master datasheet.
- a. Total of 68 entries, all with an itemized list of marine debris.
- Determined the 10 most prevalent marine debris items and which shore had the greatest amount of marine debris.

Results

- The final weight of marine debris collected on the North Shore was 936.8 lbs and on the South Shore 925.97 lbs (Fig. 2). The north shore of Long Island had more marine debris than the south shore.
- A majority (66%) of marine debris was from shoreline/recreational activity (Fig. 3). Over 20% of identifiable marine debris items are made of plastic and were found in debris such as bags, beverage bottles, and smaller fragments (Fig. 4).

Discussion

- Hypothesis: Plastics will be the most populous type of marine debris found on Long Island beaches.
  - The large percent of plastics recorded in this study is likely due to the growth of the plastics industry.
- Hypothesis: the north shore would have the most amount of marine debris.
  - Marine debris from Houastonic, Connecticut, and Thames Rivers are deposited into the waters of the north shore.³
- We should educate others about marine debris and its negative impact on the environment.¹
  - More than half of the identifiable marine debris items are related to the food industry or the food packaging industry (Fig. 4).
  - Conducting outreach to beachgoers about how to properly dispose of their trash will help minimize these types of marine debris.

Next Steps

- Take the framework of this project and expand it beyond Long Island.
- Possibly make it a national study.

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References