

# Unusual Coastal Trash: The Danger and Solution

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## Introduction

Plastic debris is widely recognized as a major component of coastal trash, polluting the ocean and killing many sea animals. Extensive research has been conducted to identify the sources, environmental damage, and potential mitigation strategies for plastic pollution. However, through our lab's clean up activity in Cedar Key area, we discovered tremendous unusual coastal trash like furniture and gas tanks. The data from Ocean Conservancy also revealed the finding of tremendous unusual trash in coastal areas. The diversity of unusual coastal trash makes it a challenge to provide a general strategy to solve all of them. As a result, there is a lack of public awareness regarding the significant threat posed by non-plastic coastal debris, which can be just as harmful as plastic waste.



## Methodology

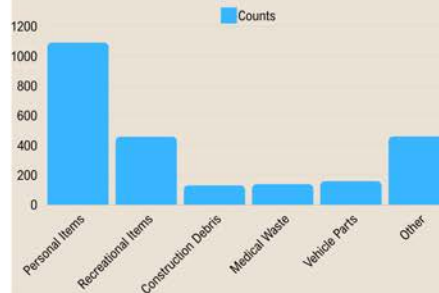
1. Data Collection: Data was gathered from Ocean Conservancy's annual clean-up activity reports in Florida over the past 10 years.
2. Data Categorization and Visualization: The collected data was organized into distinct categories. A bar chart was generated to visually represent the frequency of each type of debris.
3. Hazard Assessment: Research was conducted to identify the environmental and health risks associated with each category of trash.
4. Solution Identification: Research was conducted to find current solutions and potential strategies to mitigate the issue of unusual coastal trash.

## Potential Solution

- Encourage the use of biodegradable materials and New Technology Development.
- Organize community events to collect and recycle items.
- Enforce regulations on the disposal of medical waste and construction debris.
- Develop policies and regulations that promote the recycling and proper disposal of waste.
- Educate the public on the environmental impact of discarded clothing and personal items (Williams and Rangel-Buitrago).

## Data

From Ocean Conservancy



## Danger of Each Category

- Personal Items: Including shoes, clothes, socks, etc. contain non-biodegradable fibers that can release harmful chemicals and microplastics into the water, affecting marine ecosystems and wildlife (Williams and Rangel-Buitrago 658).
- Recreational Items: Including tennis ball, fishing rod, lures, and various toys. Fishing equipment and kites threaten marine animals through entanglement and ingestion, leading to injury or death.
- Construction Debris: Including wood pallets (pieces), concrete cinder blocks, metal pipes (pieces), and other types of pipes. They will alter habitats by smothering marine flora and fauna, changing the physical landscape of the ocean floor(Gokkon).
- Medical Waste: Including syringes, tubes of blood, diapers, and IV bags. They have a high potential to contain pathogens, which is detrimental for people who visit or live in coastal areas.
- Vehicle Parts: Including car bumpers, batteries, seats, tires, and boat parts. They usually contain toxic substances like fuel residues, lead, acid, etc. These components will pollute water quality and hurt marine life once they seep into the environment (Oil Spills).

## Reference

- Gokkon, Basten. "Plastic 'Frankenrocks' Pose New Pollution Threat to Coastal Environment." Mongabay Environmental News, 2 Aug. 2023, [news.mongabay.com/2023/08/plastics-waste-marine-ocean-beaches-pollution-plastiglomerate-pyroplastic-plasticrust/](https://news.mongabay.com/2023/08/plastics-waste-marine-ocean-beaches-pollution-plastiglomerate-pyroplastic-plasticrust/).
- "Oil Spills." National Oceanic and Atmospheric Administration, [www.noaa.gov/education/resource-collections/ocean-coasts/oil-spills](https://www.noaa.gov/education/resource-collections/ocean-coasts/oil-spills). Accessed 5 June 2024.
- "Ocean Conservancy Reports." Ocean Conservancy, [www.coastalcleanupdata.org/reports](https://www.coastalcleanupdata.org/reports). Accessed 7 July 2024.
- Williams, A.T., and Nelson Rangel-Buitrago. "Marine Litter: Solutions for a Major Environmental Problem." *Journal of Coastal Research*, vol. 35, no. 3, 2019, pp. 648-663.



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