

Characterization of garbage in the central part of Ajuruteua Beach – PA

Antonia Marta de Souza Coutinho, Bianca Silva Neto, Claudeth de Jesus Santos, Ana Caroline Araújo Silva, Karen Jakelyne Costa Carmo, Mara Camile Sousa Rodrigues, Iracely Rodrigues Silva.

ABSTRACT

The study carried out on Ajuruteua beach, in the northeast of Pará, reveals a concern about environmental pollution, highlighting the significant presence of various types of waste on the shore, such as plastic bags and bottles, glass, among other materials. This area, known for its natural beauty and tourist and fishing activities, faces serious challenges due to the inappropriate presence of waste. The research sought to quantify and classify these materials in a specific area of the beach, using transects along 170 meters after low tide. The main objective is to raise awareness about the negative impacts of this pollution on the coastal environment, emphasizing the urgent need for awareness and preservation measures to protect this essential ecosystem.

Keywords: Coastal environment, Pollution, Awareness, Ajuruteua Beach, Types of garbage.

INTRODUCTION

Garbage in the coastal environment, mainly frequented by bathers, usually appears as an aesthetic problem in the tourist issue (NETO and FONSECA, 2011). However, coastal and marine areas are formed by a diversity of species of living beings, of an environmental formation responsible for the maintenance of the life of these beings and even of human beings, as a source of resources and environmental balance (MMA, 2010). Therefore, the present study was carried out on the beach of Ajuruteua, located 36 km² from the municipality of Bragança in the northeast of Pará, in a region that houses a large territory of mangroves, fishing and tourist activities, a beach surrounded by natural beauty, but is a scene of environmental pollution, where materials such as glass, bottles and plastic bags are found. miscellaneous plastics, fishing equipment, and others.

OBJECTIVE

Register the amount of garbage improperly deposited on the beachfront, identify the most common types, and raise awareness about the seriousness of damage to the coastal environment

METHODOLOGY

In order to characterize and quantify the garbage on the shore of Ajuruteua beach, the transects were made in an area of approximately 170 x 6 meters, in one day, after low tide. The method used for the research base was the classification of the materials found, which were: plastic bags, plastic bottles, glass,

metal cans, paper, styrofoam, wood, construction material, footwear, lamps, fabrics, fishing material, various metals, various plastics.

RESULTS

A total of 394 items were found, of which glass gained prominence with almost 30% of all quantified waste. Plastic bags came in second with approximately 14.46%, followed by the following materials: plastic bottles (14.2%), miscellaneous plastics (12.6%), fishing equipment (10.9%), Styrofoam (5.8%), construction material (3.5%), wood (2.7%), metal cans (2.5%), miscellaneous metals (2.2%), paper (2.8%), footwear (0.7%), lamps (0.2%), cylinders (0.2%) and porcelain plates (0.2%).

Figure 1 – Solid Waste on Ajuruteua beach in 2024.

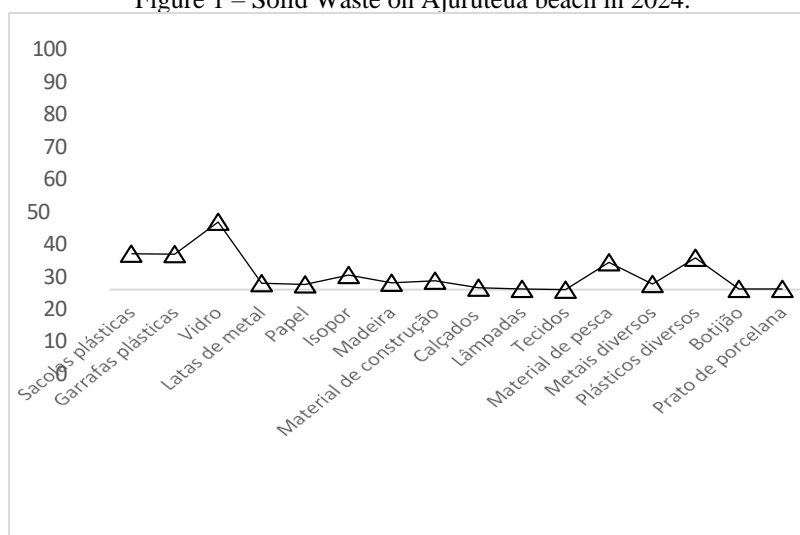


Figure 1 shows that glass appears in greater quantities, which is explained by the fact that the research site is close to bars, restaurants and leisure areas in the intertidal space. These glass residues can pose serious risks to bathers and marine and terrestrial fauna, causing injuries and the death of animals that come into contact with the broken pieces that when ingested can injure their organs. The second most common material was plastic, as in most studies on coastal and marine pollution, due to the excessive use of plastic in people's daily lives, its durability in the environment and buoyancy by wind and water, causing impacts on the marine ecosystem through the death of animals by entanglement, ingestion, and high contamination in the marine environment causing loss of habitats and reproduction areas (MASCARENHAS, 2008).

In this sense, the National Solid Waste Policy in Brazil addresses Law 12.305/2010, which promotes the implementation of guidelines for the proper management of solid waste in the environment. However, there was an inefficient treatment of garbage on the beach studied, because although there are



garbage collectors, there is no separation of garbage, no cleaning of scattered waste and awareness of the visitors.

FINAL THOUGHTS

The analysis carried out on Ajuruteua beach revealed not only the massive presence of waste, but also highlighted the significant impact of glass and plastic on the coastal ecosystem. The improper disposal of glass, especially in areas near bars and restaurants, underscores the need for more effective waste management. In addition, the dangers that these materials pose to marine and terrestrial fauna highlight the urgency of actions to mitigate this form of pollution. Therefore, it is crucial to implement effective environmental education strategies and waste management policies to preserve the natural beauty of Ajuruteua beach and ensure a sustainable future for future generations.



REFERENCES

- Brasil. (2010). Lei nº 12.305 de agosto de 2010. Institui a Política Nacional de Resíduos Sólidos. Brasília: Presidência da República. Retrieved from https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/lei/112305.htm. Accessed May 11, 2024.
- MMA. (2010). Zona Costeira e Marinha. Panorama da conservação dos ecossistemas costeiros e marinhos no Brasil (2nd ed.). Brasília: Secretaria de Biodiversidade e Florestas/Gerência de Biodiversidade Aquática e Recursos Pesqueiros. Retrieved from <https://www.gov.br/mma/pt-br/assuntos/biodiversidade-e-ecossistemas/ecossistemas/ecossistemas-costeiros-e-marinhos>. Accessed May 11, 2024.
- Mascarenhas, R., et al. (2008). Lixo marinho em área de reprodução de tartarugas marinhas no Estado da Paraíba (Nordeste do Brasil). *Revista da Gestão Costeira Integrada*, 8(2), 221–231. Retrieved from <http://www.redalyc.org/articulo.oa?id=388340124016>. Accessed May 12, 2024.
- Neto, A. B., & Fonseca, E. M. (2011). Variação sazonal, espacial e composicional de lixo ao longo das praias da margem oriental da Baía de Guanabara (Rio de Janeiro) no período de 1999-2008. *Revista Gestão Costeira Integrada*, 11(1), 31-39. Retrieved from <http://www.redalyc.org/articulo.oa?id=388340132004>. Accessed May 12, 2024.