



# Bridging NASTNet and Adopt-a-Beach Databases for North African Sea Turtle Conservation

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## Abstract

The Mediterranean Sea is one of the most crowded and impacted seas by human activities in the world. Maritime traffic, oil and gas extraction and climate change are some of the main impacts threatening the Mediterranean biodiversity. Most of the species living in the Mediterranean and their habitats extend beyond national borders. In this regard, regional collaboration is essential, especially given the disparities between Northern and Southern shores in conservation efforts. The North African Sea Turtles Network (NASTNet) is an example of a successful network. It aims at strengthening the coordination of sea turtle conservation efforts among North African countries, develop a network strategy to exchange experiences, support and strengthen the capabilities of partners. Through financial support, technical expertise, and network facilitation, WWF North Africa has been instrumental in nurturing the growth of NASTNet. The organization's dedication extends beyond mere sponsorship, actively participating in the development of standardized protocols, ensuring the quality and reliability of the collected data. Another database of interest hosted by WWF is the Adopt a Beach initiative. Since its initiation in 2022, the project has yielded a provisional, yet very important data on plastic pollution's composition, distribution and characteristics. The aim of WWF-NA is to link the two databases in the future to correlate the presence, distribution and stranded sea turtles with the identified hotspots of plastic pollution leading to actions of conservation.

## Introduction

The Mediterranean Sea is a semi-closed body of water, surrounded by 20+ coasting countries and approximately 160 million inhabitants. The basin is producing approximately 760 kg per year solid waste per capita (Alessi and Carlo, 2018) in which Tourism being the main contributors to this increasing phenomena (Galgani et al., 2014). Country wise, Spain (126 tons/day), Turkey (144 tons/day), Italy (90 tons/day), France (66 tons/day), and Egypt (77 tons/day) are the most producers of plastic pollution (UNEP/MAP, 2015). This is combined by the fact that The Mediterranean basin collects water from different highly populated (hence polluted) rivers such as the Nile, Rhone, and the Po.

This type of pollution has sever impacts on marine species. Plastics can cause injuries, lesions and deformities (including during growth), and prevent animals from being able to move in order to escape predators, swim and feed, with almost always fatal consequences: the animals die from hunger, drowning or because they become easy prey (Law, 2017). In the Mediterranean, plastic has sever impacts on birds (35%), fish (27%), invertebrates (20%), marine mammals (13%) and sea turtles (UNEP/MAP, 2015).

In order to understand this issue thoroughly and identify suitable mitigation measures, the three layers of: extensive knowledge on plastic presence, species presence, and the interaction type between the two should be available. This aspect should be understood along the entire basin but the lack of data on plastic (and its impacts on marine organisms) from the southern North African side is one of the hinders to have any basin-wide initiatives for conservation and plastic reduction.

Here is where databases such as the North African Sea Turtles Network (NASTNet) and the Adopt-a-Beach initiatives should be an example of a link between two data sources that are **1**). Provides data from the south Mediterranean region, and **2**). Link the data from plastic occurrence to Sea turtles presence and mortality.

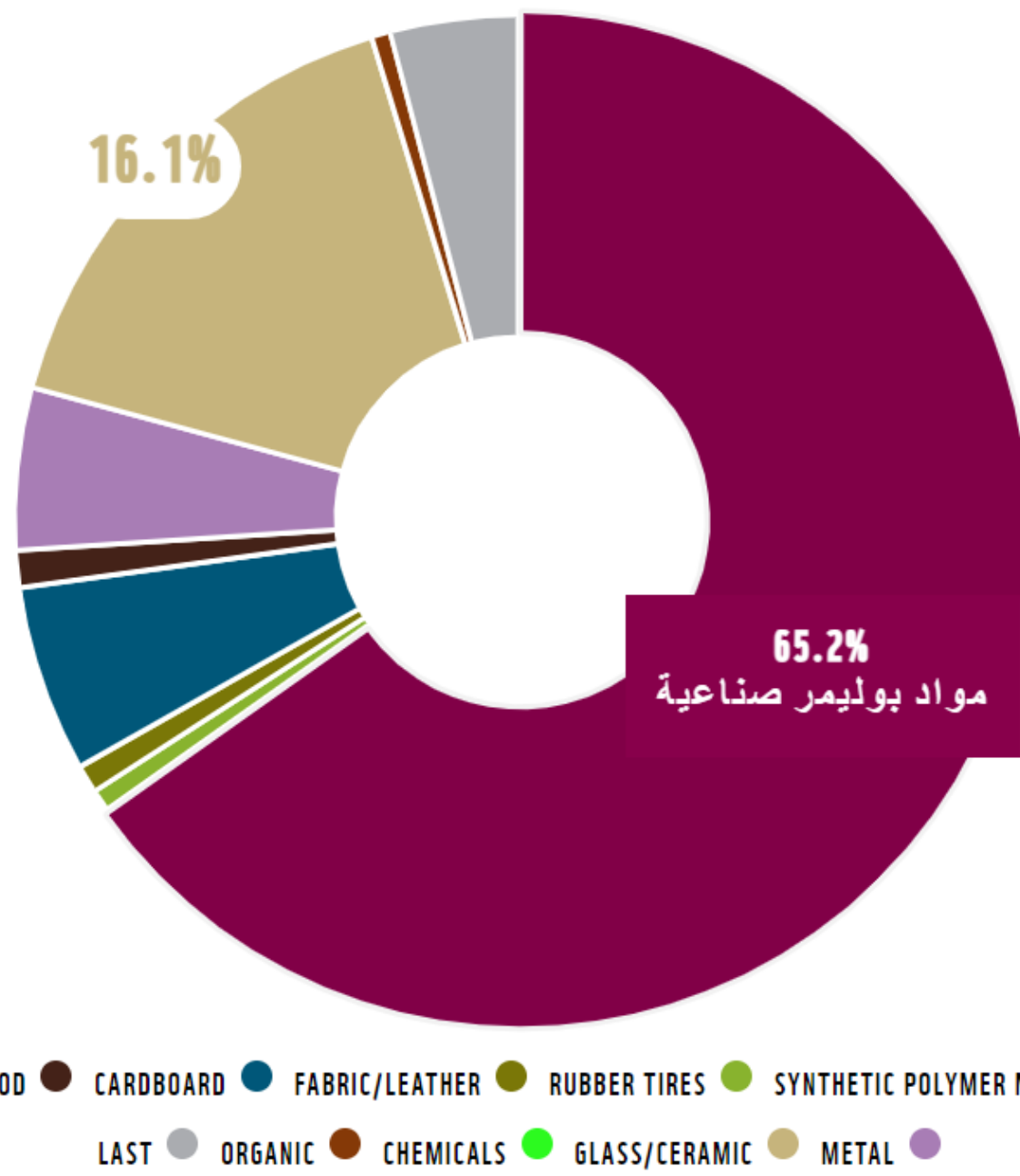
## Materials and Methods

Via standardized UNEP/MAP scientific protocols that are accessible on the project website, each team was briefed on the use of the protocol and the forms and was instructed on how to proceed in the beach. This was also combined with few presentations on the impact of plastic pollution and the special case of the Mediterranean. The teams (whom are from different groups e.g. NGOs, Schools, Scouts movements) were then transported to a particular beach witch was selected previously by GIS program for cleaning and inspection. They were provided with safety equipments (such as gloves and masks) and were set to work. Each beach was divided to 100m segments in which marine debris is collected and then separated in categories (plastic, wood, metal, glass and others). After that, each category was weighted and plastic is further inspected and categorized (e.g. water bottles, plastic bags, cigarettes butts .etc.) and weighed.



## Results

During 2023 season, 106 beaches were cleaned (adopted) in Tunisia. Yielding to more than 20,000 piece of debris, most of them are plastic.



REGISTRATIONS 20,110    PROCEDURES 15    TEAMS 85    BEACHES 106



### MOST COMMON ASSETS

6162	Tobacco products with filters (cigarette butts with filters)	●
1963	Glass bottles	●
1224	Plastic lids/caps for drinks	●
1084	Pieces of glass/ceramics (2.5cm pieces of glass or ceramic)	●
635	The remaining part of the cut plastic bags	●
598	Plastic drink bottles > 0.5 litres	●
591	Plastic juice straws	●

Synthetic polymer materials ● Glass/ceramic ● last ●

## Take Home Message

From the 100+ inspected beaches in Tunisia, we can already see that Plastic (both macro and micro) is a major pollutant issue in the country that require immediate mitigation action.

Also, since beaches are considered part of the habitat of many bird species including those which are highlighted in Annex II of the Barcelona convention, it is imperative to link this data with the presence and distribution of birds on those beaches to see the impacts on their population.

On the other hand, WWF-NA will link the data from the Adopt-a-beach with data of presence and distribution of sea turtles (including stranding) to see whether there is any correlation between the two.

## Acknowledgment

