

Clean Coast Bonaire: Year in Review



When one imagines the beaches of Bonaire, a small island located in the southern Caribbean, one would think of clean, soft sandy shores. Unfortunately, this is not always the case. It is becoming apparent to the world that the places where they go for vacation and to enjoy nature are feeling the impact of the global problem of marine litter.

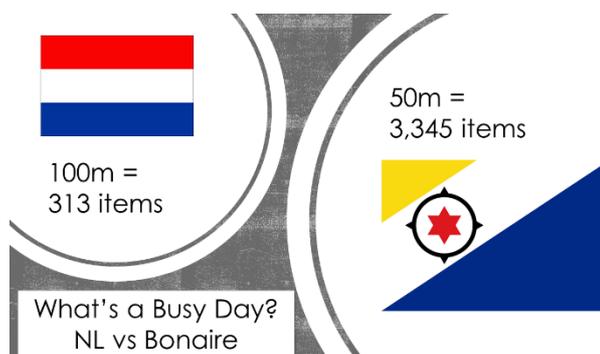
Clean Coast Bonaire was initiated in September 2018 by Boneiru Duradero and WNF-NL to address this problem. Volunteers use a scientific marine litter monitoring program to collect and share data regarding sources of waste. The goals of the project are to remove litter from the coastline, evaluate the amount and type present, identify sources and raise island-wide awareness.

THE ULTIMATE GOAL IS TO HAVE CLEANER COASTLINES IN BONAIRE AND IN THE REST OF THE CARIBBEAN REGION.



Marine Litter Monitoring Methodology

The monitoring protocol being used is the OSPAR Marine Litter Monitoring Program. The OSPAR program has been used successfully in the EU to monitor marine litter on beaches and assist with marine management decisions and policy development. The program was modified for Bonaire to accommodate for the heat and sun exposure for volunteers, in addition to time taken to conduct surveys due to the large amounts of marine litter. Therefore, the usual OSPAR sampling length was reduced from 100 meters to 50 meters. Three geographically separate locations were selected and designated as survey sites.





Two of the sites (Boka Onima and Piedra Pretu) are on the eastern, windward coast and the third site (Te Amo Beach) is on the western, leeward coast.

Surveys are scheduled once a month and conducted by a coordinator and both local and visiting volunteers. Each site is surveyed every three months in order to determine the accumulation rate. To date, each site has been cleaned 5 times including the first training survey for clearance as well as at the regularly scheduled intervals.

Clean Coast Bonaire Results

Over the past year, the team collected a total of **50,178** marine litter items. As in most parts of the world, plastic and polystyrene were the worst offenders. In fact, 55% of all items collected were **plastic/polystyrene pieces under 2.5cm**. Plastic breaks down into smaller pieces quite quickly in the marine environment, frequently fracturing during clean-up efforts.



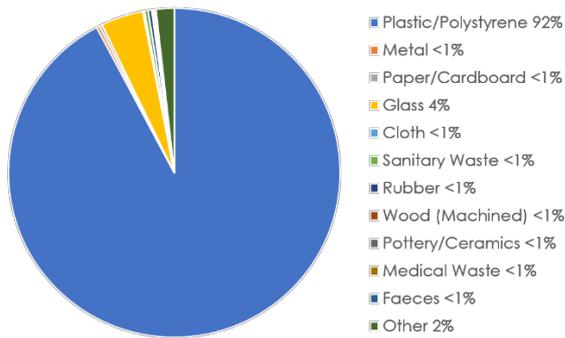
Top 15: Most Found Marine Litter Items

Total Collected in One Year

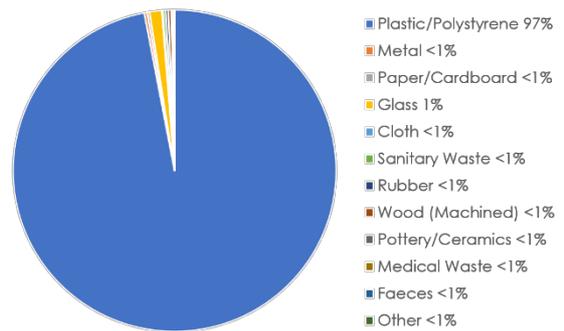
Top 15: Most Found Marine Litter Items	Total Collected in One Year
Plastic/polystyrene pieces (0 - 2,5 cm)	27,774
Cigarette butts	5,498
Plastic/polystyrene pieces (2,5 cm > < 50 cm)	4,732
Plastic caps/lids	3,174
Metal bottle caps	1,310
Glass pieces	939
Cutlery/trays/straws	624
Foam sponge	522
Glass bottles	494
Drinks (bottles, containers and drums) - Plastic	324
Plastic crisp/sweet packets and lolly sticks	321
Tar pieces	294
Paper pieces	246
String and cord (diameter less than 1 cm)	227
Cleaner (bottles, containers and drums)	185

There was a significant difference in the prevalence of items between the east and west coasts of the island. Plastic/polystyrene made up the overwhelming majority of the items found on the two eastern, windward sites.

Piedra Pretu: 19,945 Items
(92% plastic/polystyrene)

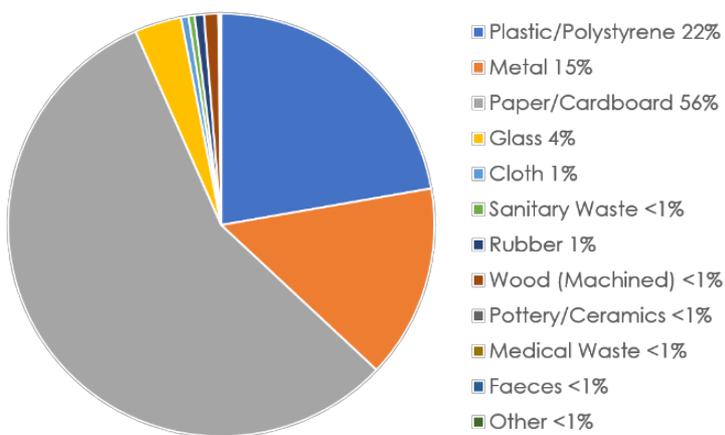


Boka Onima: 19,697 Items
(97% plastic/polystyrene)



The worst culprits on Te Amo Beach were cigarette butts, with **5,455** collected. They made up 51% of the total items left behind by people enjoying a beach that is an important sea turtle nesting site. Although butts are classified in the *Paper/Cardboard* category of the OSPAR protocol, most filters are actually made of plastic.

Te Amo Beach: 10,536 Items
(51% cigarette butts)





Working Towards Clean Coasts

It's apparent that the majority of marine litter found in Bonaire is plastic/polystyrene and that it is coming both from offshore sources as well as from beachgoers. Clean Coast Bonaire has been raising awareness and sharing data with the community, the local MBO school, visiting university researchers, the governments of Bonaire and the Netherlands, as well as regional marine litter monitoring programs.

The island of Bonaire is taking a step in the right direction and implementing a single use plastic ban. Additional monitoring and more work is needed to save the beautiful natural resources of the island of Bonaire.

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