

# UV-filters from insular ocean-cities. Impact on the marine sustainability.



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ABSTRACT

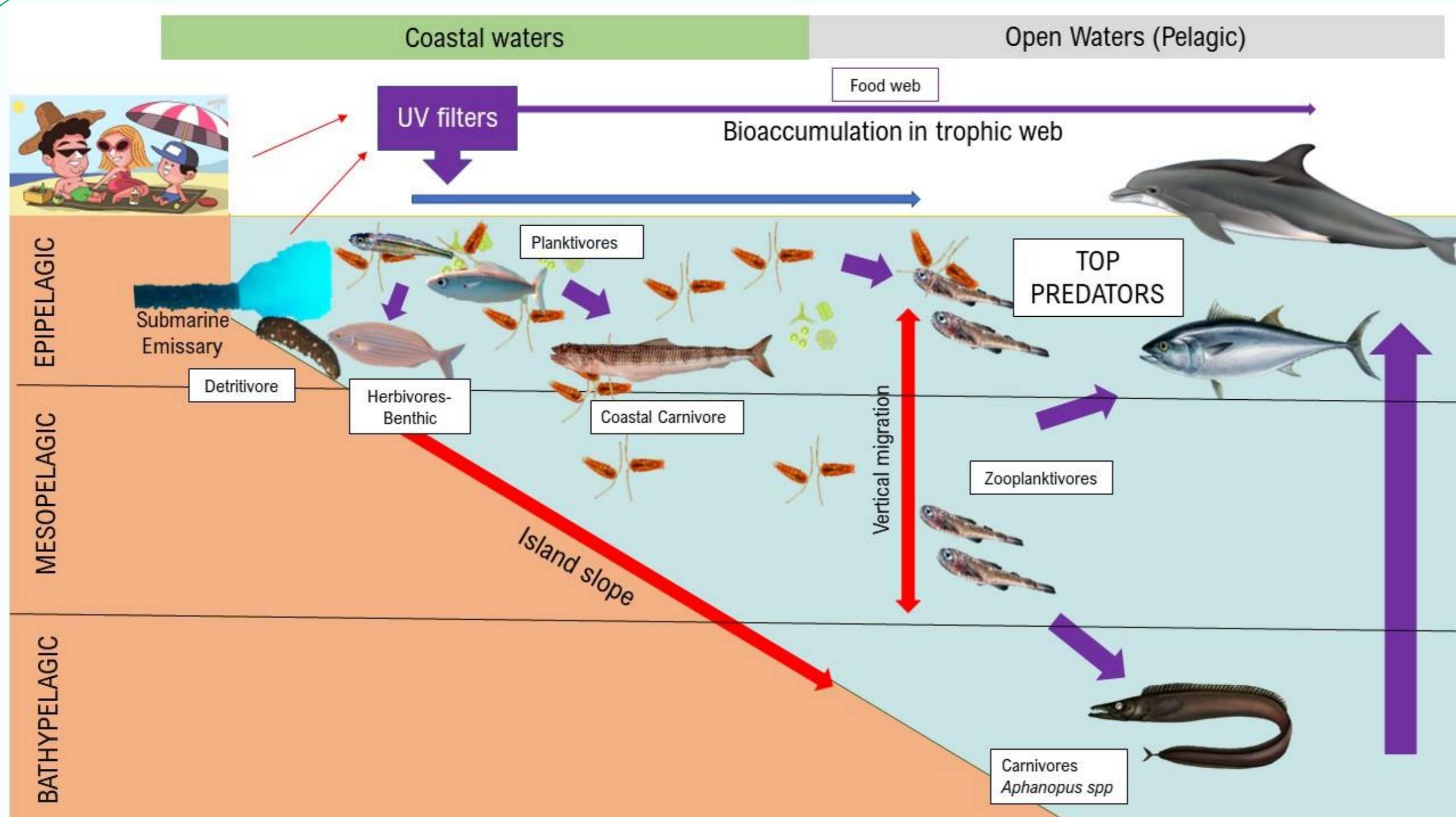
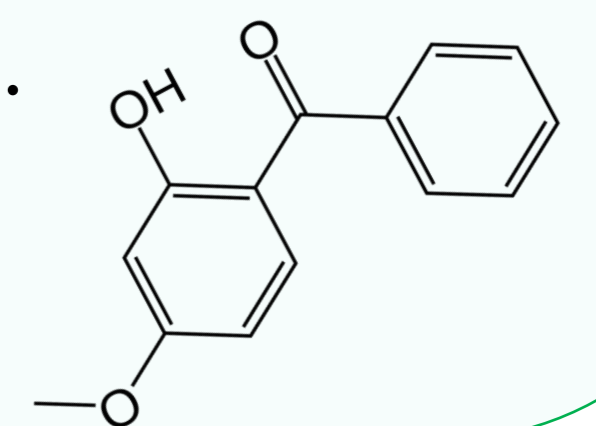


Fig 1. Summary draft of the Project.

## WHAT ARE UV-FILTERS?

UV filters are mainly organic chemicals that occur in personal care products (PCPs) as sunscreens. They are considered emerging pollutants and they are released into the environment directly through human activities and indirectly through domestic and industrial wastewater discharges. Little is known about their behavior in the environment and their effect on wild biota. Therefore, this project aims to investigate the presence of these pollutants on an oceanic island whose main economic activity is tourism (Fig. 1).



OBJETIVES

- I. Screening the distribution of UV-Filters in the marine environment of an oceanic island.
- II. Determine the UV-Filters transfer through the trophic chain in coastal and pelagic habitats (including species with commercial interest) (Fig.2).
- III. Determine the environmental risk of UV-Filters in correlation with human activities.

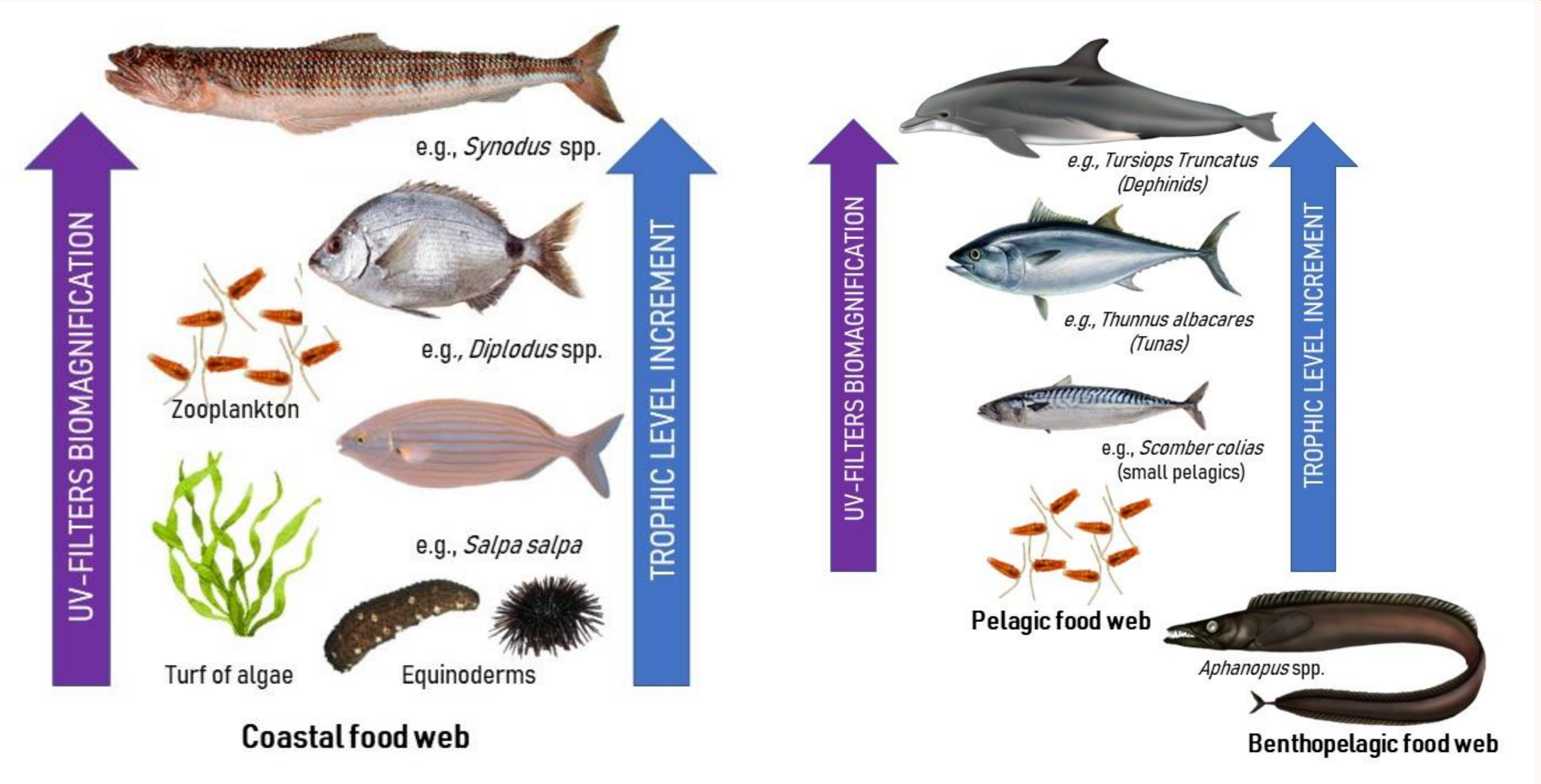


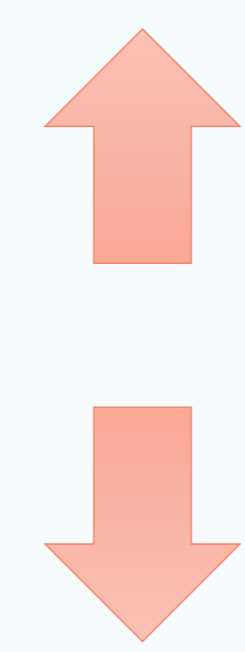
Fig 2. Targeted species to be sampled, in order to study the bioaccumulation and biomagnification through both trophic chains, coastal and pelagic. The study contains producers, first consumers, second consumers and top predators.



Fig 3 Madeira and Desertas Islands. Yellow circles indicate the low anthropized areas: Achadas da Cruz (Porto Moniz) and Desertas Islands (as control). In red, high anthropized areas: Funchal-Garajau (Marine reserve) and Quinta do Lorde.

MAR  
ABR  
MAY  
JUN  
JUL  
AUG  
SEP  
OCT  
NOV  
DEC  
JAN  
FEB

High-touristic season  
Low-touristic season



High anthropized areas

Low anthropized areas



CONTROL: Desertas Islands (Fig. 3)

The level of anthropized is based on more tourism intensity and accessibility to the places.

SAMPLES:

Sea Water – Sediments – Biota  
Seasonal sampling  
(each 2 months)



HPLC-MS/MS



METODOLOGY

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