

Citizen science as a basis for the Biological Monitoring of Elasmobranchs: The case of RedPROMAR in canary islands.

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INTRODUCTION



About 80 species of elasmobranchs are distributed in the Canary Islands, however, there is very little information about their sightings. In this context, obtaining information on habitat use and seasonality, distribution zones and aggregation areas, as well as other ecological aspects is fundamental to facilitate efficient management.

In this way, Marine citizen science presents a promising avenue. Based on this, The Canary Islands Marine Life Observers Network (RedPROMAR) has been promoting a biological monitoring program for elasmobranchs since 2021.

METHODOLOGY

Sightings of elasmobranchs in the Canary Islands have been compiled, between 2015 and 2023, through the RedPROMAR citizen science platform (www.redpromar.org) and its project "Biological Monitoring Program for Elasmobranchs in the Canary Islands".

In addition, all sightings include, at least, one in situ photograph or video, as well as the correct date and location of the record. And have undergone a rigorous validation process

in which all information has been verified by multiple taxonomic specialists.

Furthermore, the Biological Monitoring Program provides more specific information on the sightings observed by the participating entities.

Objectives

- ▶ Develop, from a citizen science base, collaborative actions to strengthen knowledge on elasmobranchs.
- ▶ Identify and characterize species, seasonality and distribution zones and aggregation areas.
- ▶ Generate training and outreach workshops, change of public perception and biological monitoring.



Sightings of elasmobranchs species reported in the RedPROMAR Biological Monitoring Program

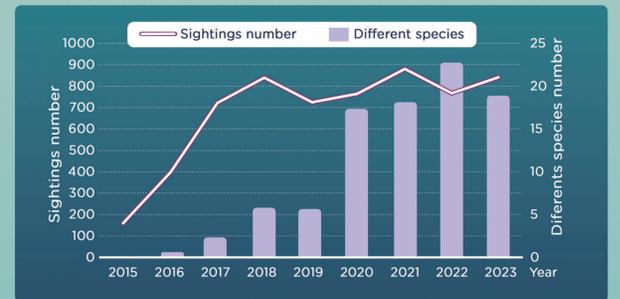
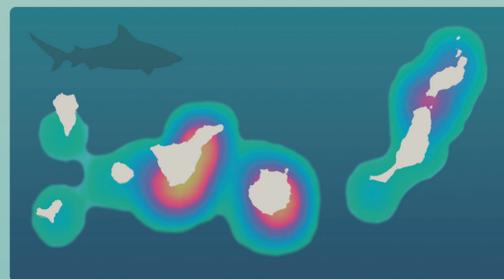


Figure 1. Sightings of elasmobranch species reported on the RedPROMAR platform.

Figure 2. Total sightings of elasmobranch species and different species reported on the RedPROMAR platform.

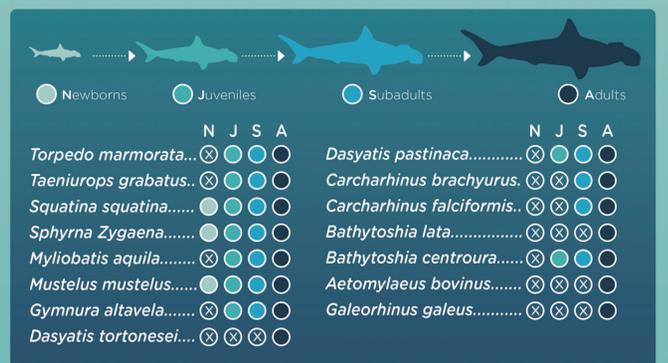
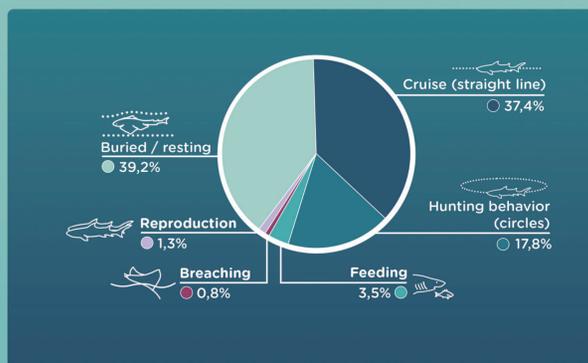


Figure 3. Diversity of species associated with each island and sex proportion observed.

Figure 4. Observed behaviors reported on the Biological Monitoring program.

Figure 5. Life stages observed for species.



Foto 1-4. Examples of elasmobranchs sightings reported on RedPROMAR.

CONCLUSIONS

- ▶ The capacity of marine citizen science to make a significant contribution to understanding and monitoring marine biodiversity is reaffirmed. In this case, the focus has been on elasmobranch species, but it could be extrapolated to other groups.
- ▶ Citizen science remains capable of providing novel and highly valuable data that can be used for public policy and decision-making. Also, can reveal gaps in knowledge within certain taxonomic groups, sometimes even advancing beyond current scientific understanding.
- ▶ To strengthen citizen science, it must involve scientists and have strict validation processes.
- ▶ Outreach efforts to educate citizen scientists increases their knowledge and awareness of local marine ecosystems, and facilitates the detection of relevant information and reveals new research gaps to be explored.
- ▶ If you have spotted any elasmobranch species in the Canary Islands, we encourage you to report it through the RedPROMAR platform!



- ### How to participate
1. **Join to our workshops.** Take a look at the RedPROMAR social networks, where we will propose new free and accessible workshops.
 2. **Go Dive, enjoy and take pictures.** In which the organism can be properly appreciated.
 3. **Record your observations.** Upload the information of your dives to the RedPROMAR APP, indicating date, location and photograph.
 4. **Become a Citizen Scientist.** Contribute and learn about the marine biodiversity of the Canary Islands.



ACKNOWLEDGMENTS

We extend our gratitude to all users who have actively reported and/or are currently reporting on the platform, thereby promoting knowledge and conservation of our marine ecosystems. Your engagement serves as a fundamental pillar of RedPROMAR. This project is co-financed by the European Union under the Canary Islands FEDER Program 2021-2027.

