

Since 2016 MarAlliance has been conducting standardized monitoring of the marine megafauna around the Bocas del Toro archipelago to assess the diversity, relative abundance and distribution, and identify important habitats of sharks, rays, marine turtles, and large finfish that inhabit the waters around the islands.



Our field teams of local artisanal fishers and Panamanian university students are trained by MarAlliance staff in data collection, species identification, and monitoring methods.



Summary of 2019 monitoring:



128

km of underwater visual censuses swum



44

hours of underwater video footage



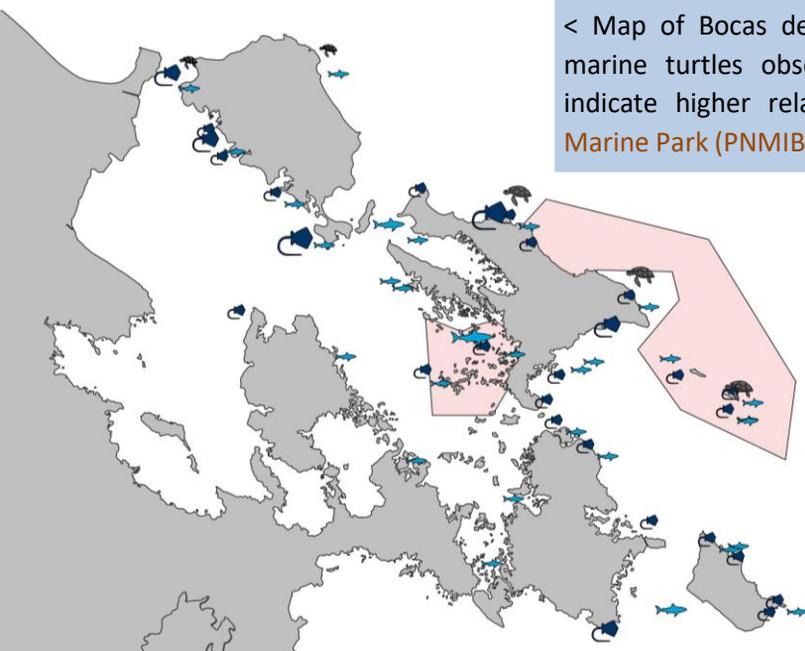
35

Sets of scientific longline



2

species of sharks and rays not previously recorded

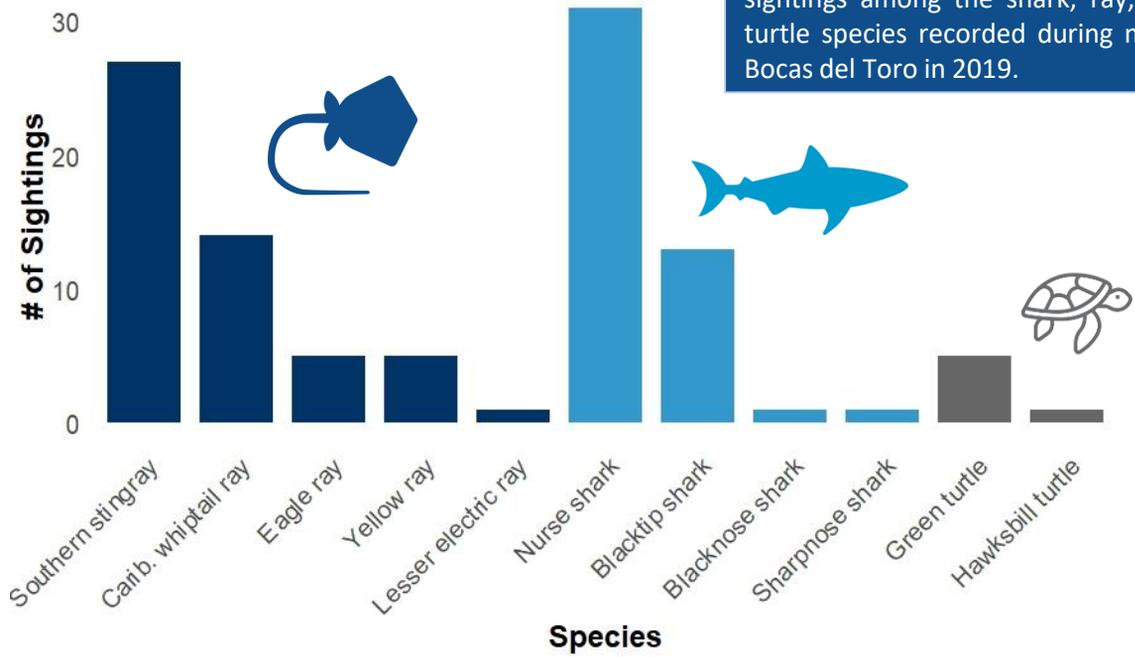


< Map of Bocas del Toro and the distribution of sharks, rays, and marine turtles observed during monitoring in 2019. Larger icons indicate higher relative abundance. The Isla Bastimentos National Marine Park (PNMIB) is in red.

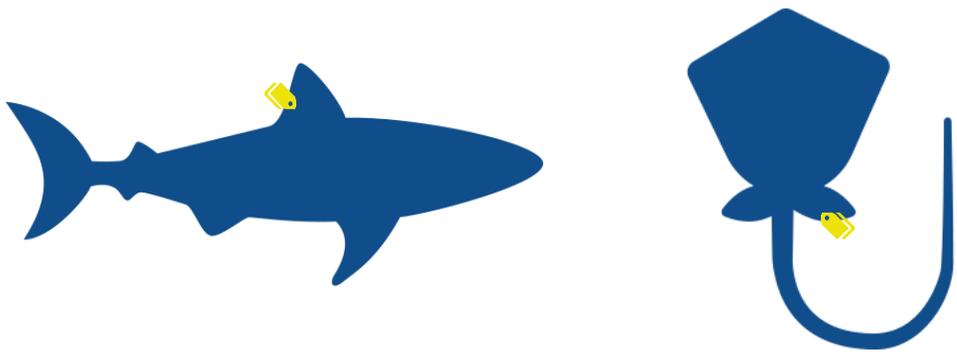
Snorkeling transects and Baited Remote Underwater Videos provide information on species and their relative abundance around the islands, while the use of scientific longline allows us to better understand the demographics, growth, and movements of the sharks and rays in Bocas.



< Graph showing the differences in number of sightings among the shark, ray, and marine turtle species recorded during monitoring in Bocas del Toro in 2019.



Observations of sharks were overall lower than previous years of monitoring, with only nurse sharks (*Ginglymostoma cirratum*) encountered during BRUVs. The use of scientific longline this year enabled significant insight into multiple species, especially blacktip sharks (*Carcharhinus limbatus*), which may be using certain sites around the islands as nursery sites. This year we encountered two species of elasmobranchs, the sharpnose shark (*Rhizoprionodon* sp.) and the lesser electric ray (*Narcine bancroftii*) (both pictured on Page 1), that we have not previously recorded during our monitoring in Bocas del Toro.



To be able to assess population size and demographics of sharks and rays, we use traditional tags to identify individuals. Tagged animals will have a unique ID number on their first dorsal fin (sharks) or pelvic fin (rays). If you see a tagged animal, you can help our monitoring efforts by sending us information on your sighting to info@maralliance.org : photo (if possible), ID number on the tag, color of tag, location (coordinates are best).



Icons from flaticon.com: Freepik, Eucalyp