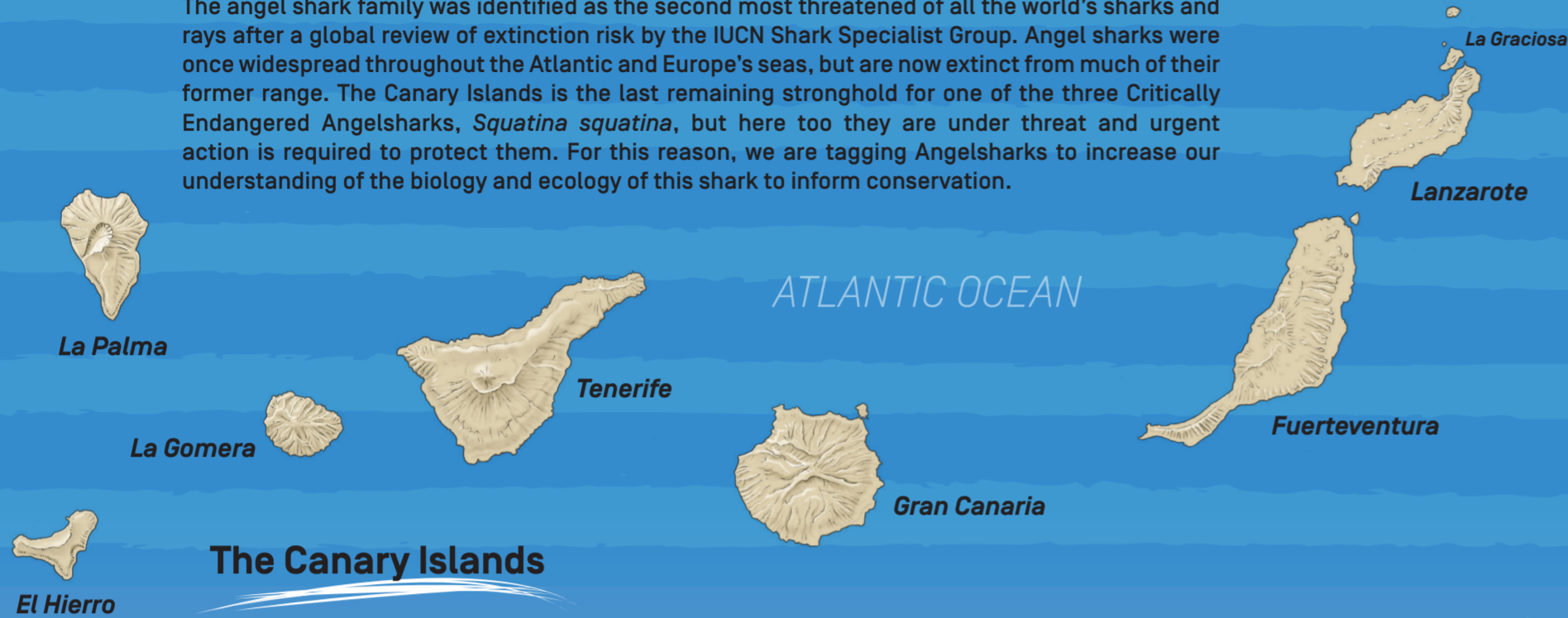


# ANGELSHARK TAGGING IN THE CANARY ISLANDS



The angel shark family was identified as the second most threatened of all the world's sharks and rays after a global review of extinction risk by the IUCN Shark Specialist Group. Angel sharks were once widespread throughout the Atlantic and Europe's seas, but are now extinct from much of their former range. The Canary Islands is the last remaining stronghold for one of the three Critically Endangered Angelsharks, *Squatina squatina*, but here too they are under threat and urgent action is required to protect them. For this reason, we are tagging Angelsharks to increase our understanding of the biology and ecology of this shark to inform conservation.

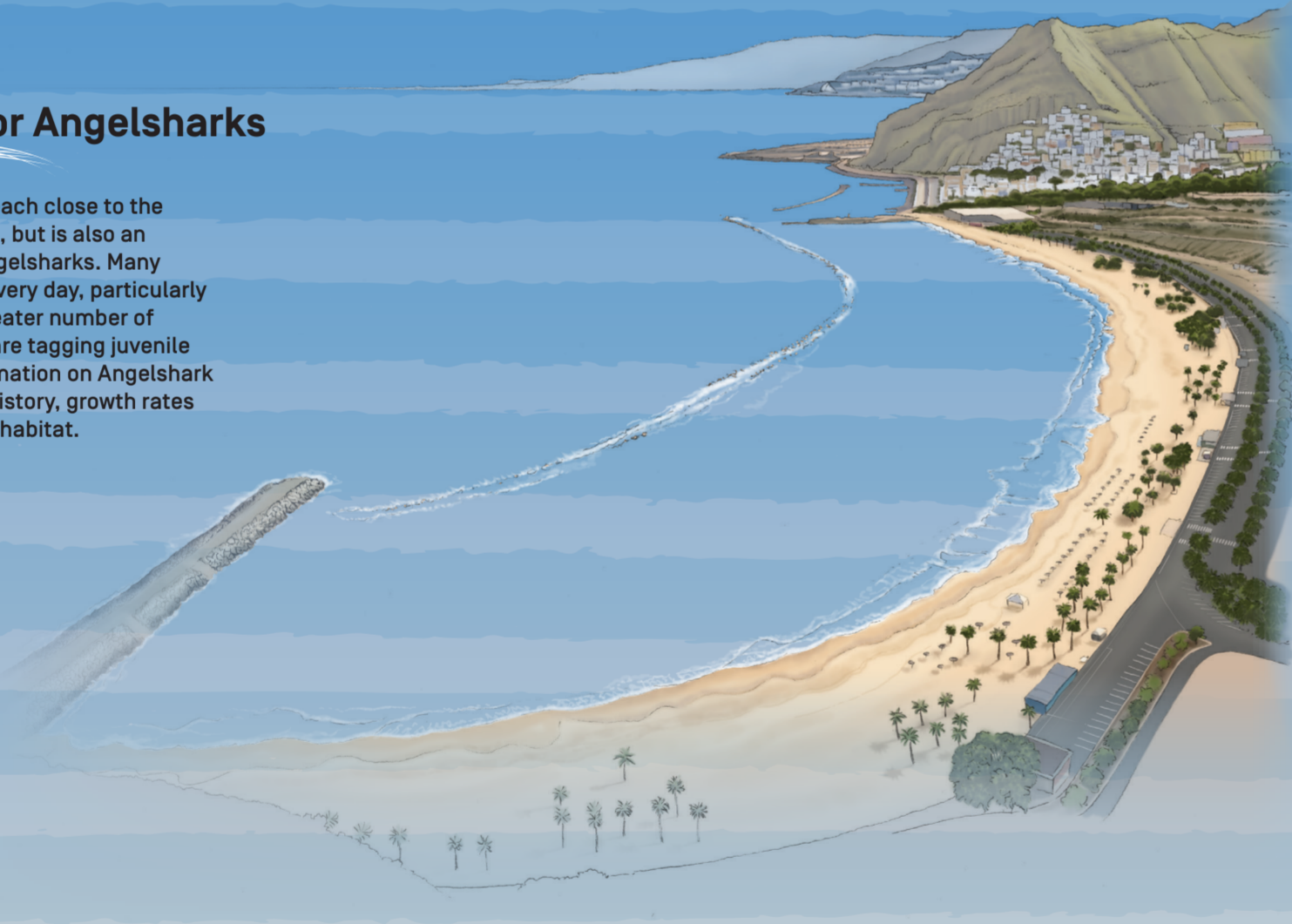


## The Canary Islands

The Canary Island archipelago comprises eight islands that have emerged after successive volcanic events from the ocean basin. Our tagging project covers the entire archipelago, however, we are focusing on the central and eastern islands [Tenerife, Gran Canaria, Fuerteventura, Lanzarote and La Graciosa], where Angelsharks seem to be more abundant.

## Las Teresitas, a nursery area for Angelsharks

Las Teresitas is an artificial beach close to the capital of Tenerife, Santa Cruz, but is also an important nursery area for Angelsharks. Many beach users visit this beach every day, particularly in summer months when a greater number of Angelsharks are present. We are tagging juvenile Angelsharks here to get information on Angelshark abundance, seasonality, life history, growth rates and to monitor this important habitat.



## Now you see me now you don't

Angelsharks are masters of camouflage. They bury their bodies entirely into the sand, leaving only their eyes uncovered. Here they rest or wait patiently to ambush prey that swim overhead.

**Acknowledgments**  
We thank Marc Dando for his artwork and illustrations and Michael Sealey and Carlos Suarez for their photographs. We also thank all the people involved in this tagging project and the Ministerio de Agricultura, Alimentación y Medio Ambiente for the necessary permits.



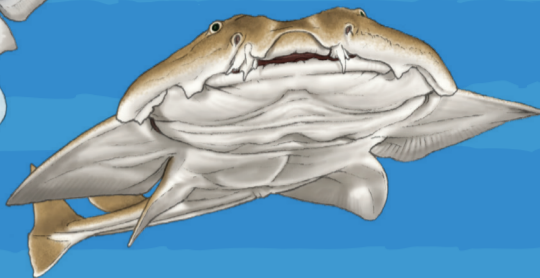
Once they are caught, they are placed in a tray filled with water and brought to the tagging station on the beach for their work-up.



Juvenile Angelsharks are caught while snorkeling or diving using a small net.



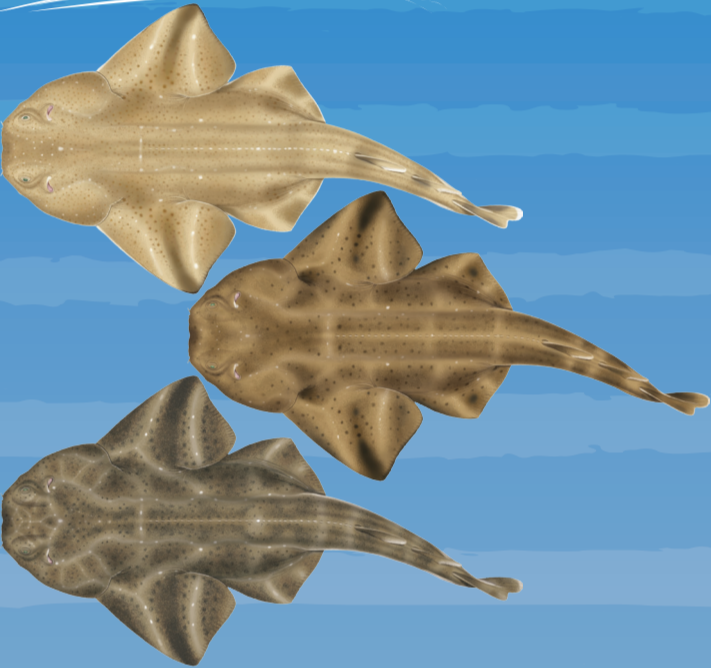
After the work-up, tagged sharks are released back into the water at the same place they were caught.



## The Tagging Station

A mobile tagging station on the beach is set up while the water team searches for Angelsharks. Once sharks are caught and brought to the tagging station, the beach team (two to three people) works up the sharks. This includes taking photographs, measuring, tagging, taking genetic samples, determining the sex and weighing the sharks.

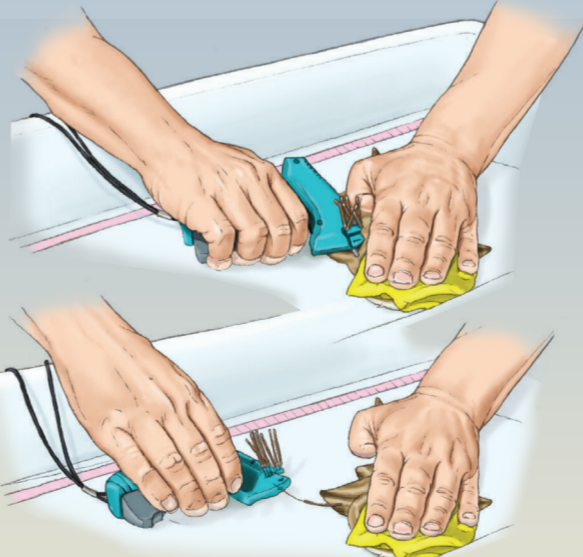
## Variations of juvenile colour patterns



## Tagging of young

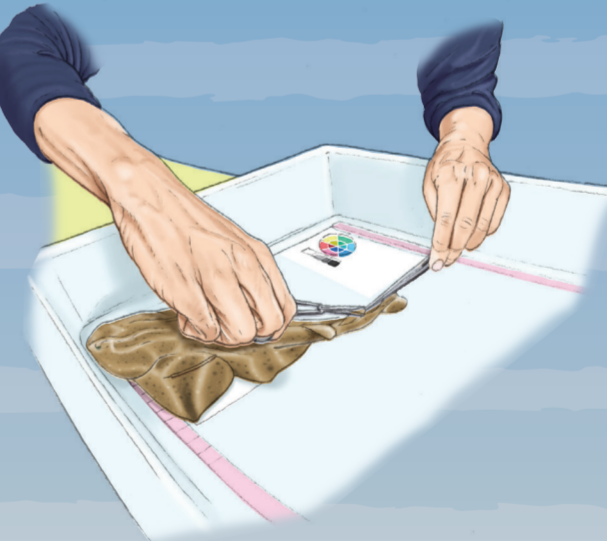


Neonate and juvenile Angelsharks are tagged with smaller versions of the T-bar anchor tag used to tag adult sharks. For Las Teresitas in particular, we chose a light brown colour that is not easy to spot. This was done intentionally to protect sharks from being discovered by beach users.



The location where the tag is placed is also different to adults. Juvenile sharks are tagged in the musculature of the pectoral fins, compared to adults that are tagged in musculature at the base of the dorsal fins.

## Genetic sampling



A fin clip is taken from back of the dorsal fin. Samples are then sent to the laboratory for analysis. Through the genetic analysis we hope to find out more about the reproductive strategy of Angelsharks and connectivity between the islands. For example we would like to know if females return to the same places to give birth.

## Growth rates



During the work-up, sharks are measured and weighed. This information will be useful to see how much they grow in time and until what size the sharks use this nursery area. Photos are taken of each individual to register the pattern and colour of the sharks. We want to find out whether this changes over time.

