

BRUV Work In The Dutch Caribbean

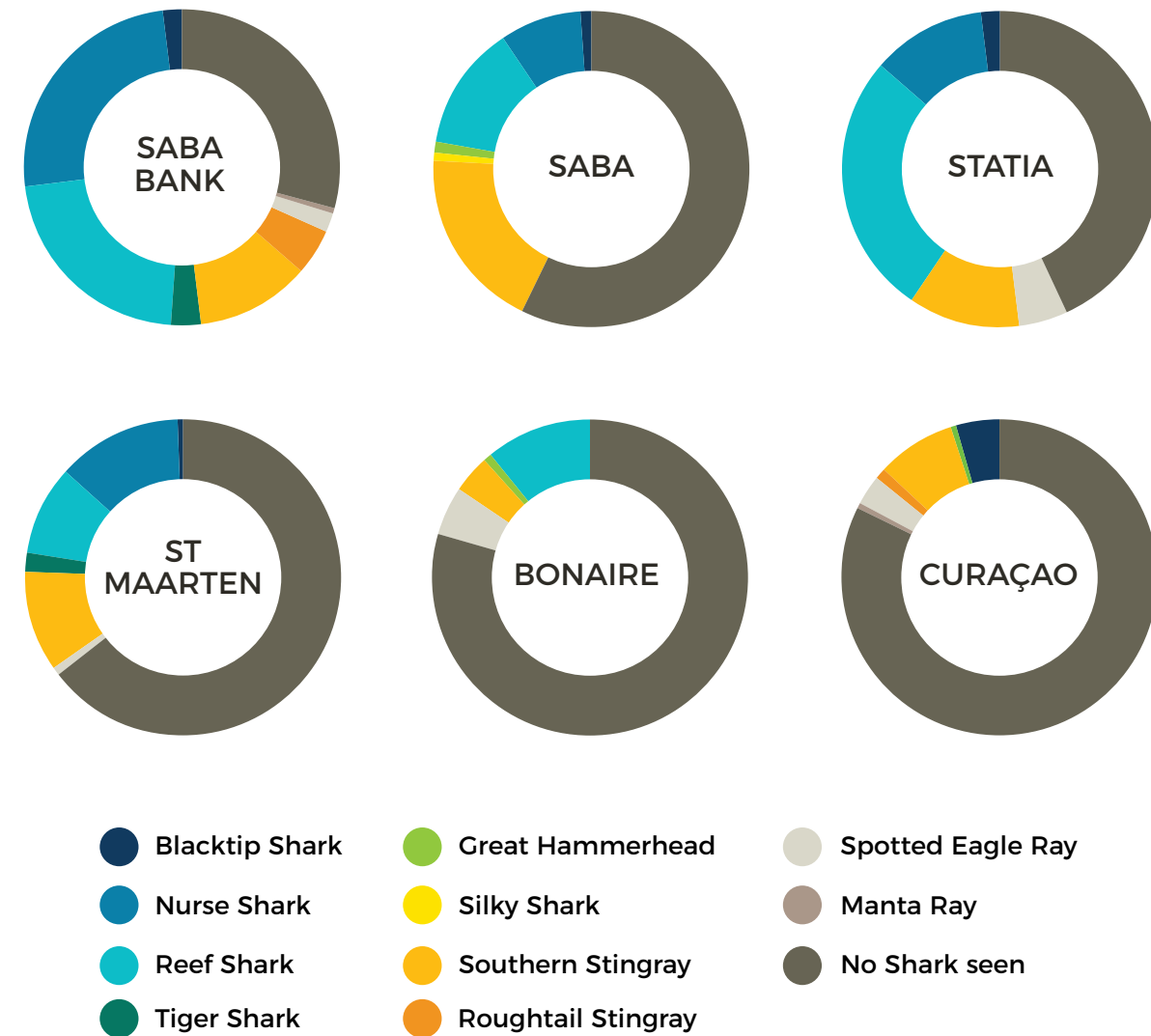


Figure 1: Percentage of seeing a shark on a BRUV deployment.

Data collection with stereo Baited Remote Underwater Videos (sBRUV) deployed throughout the islands of the Dutch Caribbean over the past few years is almost completed, with only parts of Bonaire left as final sampling locations. The collected data already gives great insight into the status of shark populations in the waters around Saba, St. Eustatius, St. Maarten, Bonaire, Curaçao and on the Saba Bank (Figure 1). Since 2012 researchers from Wageningen Marine Research with project leader Dr. Martin de Graaf, in partnership with local partners, have used simple, non-invasive stereo Baited Remote Underwater Videos (sBRUV) to gather important information on the size, diversity, species composition and abundance and of shark populations across different management zones in the Dutch Caribbean. To this date, over 800 sBRUV videos have been deployed across the Dutch Caribbean, including 103 around Bonaire (and continuing), 164 around Curacao, 108 around Saba, 164 on the Saba Bank, 104 around St. Eustatius and 214 around St. Maarten.

A first look to the data (Figure 1), shows that the Saba Bank has the highest abundance of sharks.

The two most common species are the nurse shark (*Ginglymostoma cirratum*) and the Caribbean reef shark (*Carcharhinus perezi*). Researchers on early expeditions to the Saba Bank recorded seeing sharks on every dive and on average, BRUV deployments recorded 0.23 reef shark sightings per hour, which is higher than sightings at study sites on Belize and the Bahamas and 50% higher than around the adjacent island of Saba (BioNews 1-2017). The other northern Dutch Caribbean islands (Saba, St. Eustatius and St. Maarten) also appear to have relatively healthy shark populations, with the two most common shark species also the Caribbean reef shark and nurse shark (Figure 1). This aligns with early findings that suggested that that northern Dutch Caribbean islands provide ample suitable habitat for sharks (BioNews 30). While data is so far only available for Bonaire and Curaçao - sBRUVs were also deployed around Aruba, however the data has not yet been processed yet but will be soonest – it appears that the Bonaire and Curacao are home to fewer shark species than the Windward islands, with the Caribbean shark by far the most common.

Another interesting finding from this study is that the Dutch Caribbean is home to several threatened shark species, and while these may be incidental it suggests that our islands could play an important role in the conservation of sharks. The silky shark (*Carcharhinus falciformis*) which is listed as Near Threatened in the IUCN Red List, and the great hammerhead (*Sphyrna mokarran*), which is listed as Endangered, were both observed around Saba and Bonaire. The Near Threatened tiger shark (*Galeocerdo cuvier*) was frequently observed around St. Maarten and the Saba Bank.

The information on sharks gathered by the BRUV is incredibly important as prior to this study no data on shark populations in the Dutch Caribbean was available and studies that have taken place worldwide point to a drastic decline in elasmobranch populations over the last few decades (Ruijs & Hogeschool, 2017). While this study is the first of its kind, and therefore no trends can be found, initial results can be compared to others in the Caribbean and the rest of the world. Repeating the study in a few years will enable comparison and will highlight whether the many conservation measures taken in the Dutch Caribbean to protect sharks - such as the declaration of the Yarari marine mammal and shark sanctuary - are being successful.

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BRUV deployment on Bonaire.
Credit: Nijs Ruijs,
Hogeschool Zeeland, WUR



Sharks and Rays of the Caribbean
Credit: Jens Odinga
IMARES Wageningen UR

Stereo-BRUV surveys

Sint Maarten:

<https://vimeo.com/131461221>

<https://vimeo.com/125898375>

<https://www.youtube.com/watch?v=GozFScMDyQE>

Bonaire

<https://vimeo.com/190565371>

<https://www.youtube.com/watch?v=UorQUYFvuoU>

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