

## **Sharklogger Network 2021 Report**

### Project background

This citizen science programme is part of the Department of Environment (DoE) and Marine Conservation International's<sup>1</sup> shark research and conservation efforts. As sharks are vital to the marine environment by keeping coral reefs and reef fish communities in balance and healthy, all sharks are protected in the Cayman Islands through Marine Parks (since 1986) and a nationwide Shark Sanctuary (since 2015)<sup>2</sup>. The programme was designed and established by DoE's Shark Project Officer, Johanna Kohler in 2016. The Sharklogger Network involves the local diving community (local private divers/snorkelers, dive staff and dive operators) to help with the monitoring of the local shark population in Cayman all year around.

Residents who dive regularly and have committed to logging every single dive and whether they saw a shark - or not - all in the name of science. This is different from just reporting when you've seen a shark because in order for the data to have any meaning we must be able to calculate the "sharks per dive" which can only be done by knowing how many times you were there and didn't see a shark. Sharkloggers are also taught how to ID, size and sex the sharks they see. Monitoring where the sharks are helps us infer what might drive them to be abundant in certain areas over others and how these patterns might change over time. This data helps inform conservation management, particularly if shark abundance overlaps with high fishing activity thus making the sharks more vulnerable in certain areas and/or times of the year.

### Project Funding

DoE's shark research is continuously supported by the White Tip Fund from the Cayman Islands' Brewery. In 2008 the White tip beer was designed and created by the DoE, MCI and the brewery to generate funds for local shark research. Since then CayBrew are the main sponsor of DoE's shark research and conservation efforts which includes acoustic tags, underwater camera traps, photo-identification, and diving surveys to better our understanding and ultimately conserve our local shark population.

This report summarizes the results from the data collected in 2021 and discusses some of the implications.

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<sup>1</sup> Scottish NGO and partner of DoE's shark research

<sup>2</sup> When section 33 of the National Conservation Act, 2013, came into force providing complete protection for all sharks at all times in all Cayman waters.

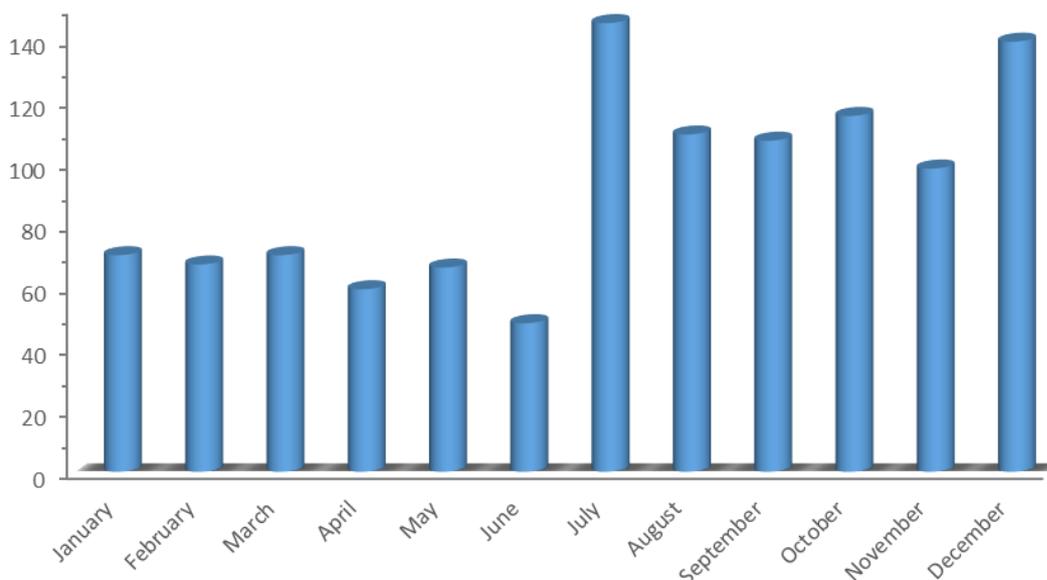
### Re-launch of the programme in July 2021

In March 2020 the programme came to stop because of local COVID health regulations implemented by the Cayman Islands Government. After these restrictions were lifted in July 2020, a small amount of participants resumed logging their dives and shark sightings for the programme. However most dive operations remained closed due to the lack of tourism until the opening of Cayman to outside visitors in 2021. Minimal guidance and management was provided to the programme by the DOE during this time. The programme was officially re-launched in June 2021 after the opening of Cayman to tourism and the opening of most dive operators. The re-launch was announced island-wide and local residents were encouraged to participate. DoE volunteer, Anne Veeder, accomplished the re-launch of the network after a hiatus due to COVID and also managed the Sharklogger Network after that for 2021/2022. Former and new participants were recruited.

### 2021 results

From January to December 2021 a total of 1093 dives were logged by 38 resident divers and snorkelers with a minimum of 48 dives in June 2021 and a maximum of 145 dives in July 2021. This shows that the relaunch of the citizen science programme in June 2021 has significantly increased the data collection thereafter. Across all three islands, diver and snorkelers spent a total of 913 hrs to survey 295 dive sites.

**Number of dives logged each month**

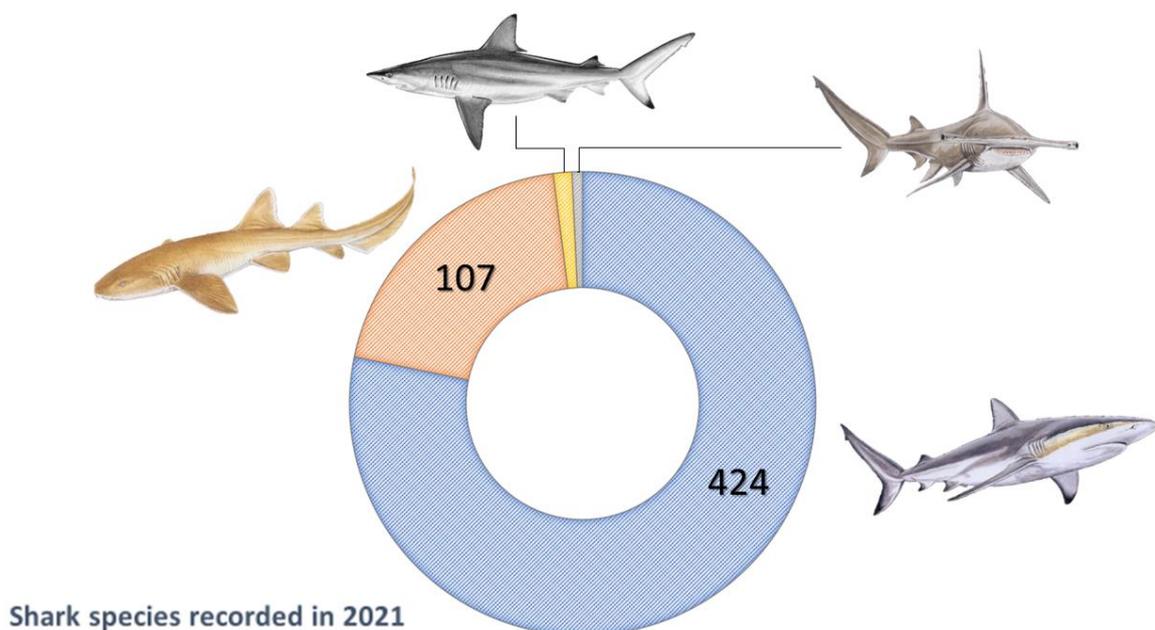


**Figure 1:** Monthly numbers of dives recorded by 38 participants (SCUBA divers & snorkelers) in the Sharklogger Network during 2021.

### Shark species sighted on dives

In 2021 participants recorded 555 sharks from four of Cayman's coastal shark species namely Caribbean reef, nurse, great hammerhead, and blacktip shark. Previous surveys have shown that tiger and lemon sharks also inhabit Cayman's coastal shelf however these were not seen on dives logged by participants in 2021.

Caribbean reef shark was the most commonly recorded shark with a total of 424 sightings followed by nurse sharks with 107 sightings. Participants recorded only four hammerhead and 7 blacktip sharks throughout the entire year.

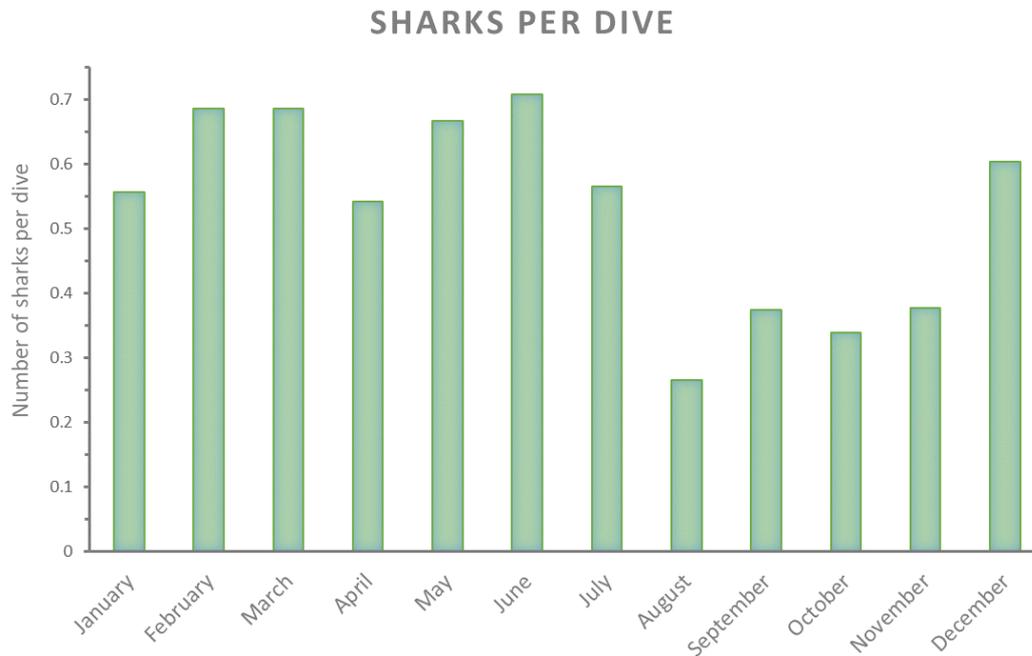


**Figure 2:** Shark species recorded by divers and snorkelers on their dives during 2021.

### Temporal trend of shark sightings

Every dive with shark sightings and those without shark sightings are recorded and 'Sharks per Dive' - the chance of seeing a shark on a dive is calculated. This gives an indication of the relative abundance of sharks in a particular month or area and is important information for the monitoring of our shark population throughout the year.

Sharks were encountered throughout the year with most sharks in February, March and June. A noticeable, temporal decrease of shark sightings was recorded on dives between August and November 2021. Previous surveys have shown that sharks are more mobile in summer than in winter making it less likely for divers to encounter individual sharks in their usual home range during the summer months.



**Figure 3:** The number of all sharks recorded per dive recorded by divers and snorkelers during 2021.

### Programme Participants

#### **Dive companies:**

- CCMI
- Divetech
- Lobster Pot Dive Centre
- Ocean Frontiers
- RedSail

#### **Individuals:**

- Amanda Brown
- David McGibbon
- Edward Belsey
- Enno Krebber
- Joy Mullholland
- Josephine Imparato
- Len de Vries
- Nina Baxa
- Anonymous Diver
- Patricio Rio
- Toby Buist



**DEPARTMENT OF  
ENVIRONMENT**  
CAYMAN ISLANDS GOVERNMENT



MARINE  
CONSERVATION  
INTERNATIONAL

### Contact Information

For more information please visit DOE's website ([www.doe.ky](http://www.doe.ky)) or email [sharkloggers@gmail.com](mailto:sharkloggers@gmail.com).

Divers, snorkelers, and even boaters who are on the water very regularly and are interested in becoming a citizen scientist for the Sharklogger Network can sign up by emailing [sharkloggers@gmail.com](mailto:sharkloggers@gmail.com).