Beyond The Reef Cetacean Research 2023 -2024 Report

1st January 2023 - 1st March 2024





Overview

Beyond The Reef is a non-profit organisation based in the British Virgin Islands. We undertake several different marine conservation projects, the newest being our Cetacean Research project, which began at the beginning 2023.

Very little is known about cetaceans in the BVI, and studies in the Caribbean have focused elsewhere. The aim of this project is therefore to collect data on cetaceans in the BVI in order to protect them and their habitats in the region.

We are focusing on establishing the following ecological factors:

Richness - How many different species there are. Abundance - How many of each species there is. Distribution - Where the species groups are found. Group size - How many individuals are in the species group.

We also take photos of the flukes of individuals observed, and upload them onto Flukebook and Happy Whale - two online programmes that use AI software to identify and match cetacean sightings from around the world. With this data we hope to better understand our cetacean populations in the BVI, helping us to advocate for their protection and conservation in the region.







Background

The largest and best-known humpback breeding and calving area in the North Atlantic to date is north of the Dominican Republic. The occurrence of humpback whales near Puerto Rico, the Virgin Islands, the Turks and Caicos, and throughout the southeastern Caribbean have been less frequently observed and in lower numbers. From the existing cetacean studies conducted in the British Virgin Islands and vicinity, most of them have been concentrated on the US Virgin Islands and Puerto Rico.

Figure x. A comparative list of species sighted by Mignucci-Gianonni (1998) in Puerto Rico and Virgin Islands, and Caribbean Cetacean Society (CCS, 2022) in all the islands of the Lesser Antilles between Granada and Anguilla. In green are the species in common.

Species 1998 (Mignucci-Giannoni)	Species 2022 (CCS)
Atlantic spotted dolphin	Atlantic spotted dolphin
Balaenoptera spp.	Clymene dolphin
Common bottlenose dolphin	Common bottlenose dolphin
Common mink whale	Common dolphin
Cuvier's beaked whale	Cuvier's beaked whale
Delphinus spp.	Dwarf sperm whale
False killer whale	False killer whale
Fin whale	Frasser's dolphin
Humpback whale	Gervais's beaked whale
Killer whale	Humpback whale
Pygmy sperm whale	Killer whale
Risso's dolphin	Melon-headed whale
Rough-toothed dolphin	Pantropical spotted dolphin
Sei whale	Pygmy killer whale
Short-finned pilot whale	Pygmy sperm whale
Sperm whale	Risso's dolphin
Spinner dolphin	Rough-toothed dolphin
Striped dolphin	Short-finned pilot whale
	Sperm whale
	Spinner dolphin
	Striped dolphin



Some studies highlight that sparse data has been collected east of the Virgin Islands, including the BVI. The shortage of cetacean research carried out in the BVI may explain the low numbers and the uncertainty about whale and dolphin populations in the area.

The Matilla & Clapham (1998) study, using photographic matches, demonstrate that the Virgin Bank is used by whales from all the major known western North Atlantic feeding grounds. Their data suggest that the Virgin Bank (between Tortola and Anegada) may be more important as a mating and calving ground than the Mona Passage, Puerto Rico. The species recorded by Matilla & Clapham include Humpback whales, Beaked whales, Atlantic spotted dolphin, Rough-toothed dolphin, and Common bottlenose dolphin.

In addition, Winn and Perkins (1976) documented two minke whales in the Anegada Passage.

Téllez et al. (2014) recorded 10 stranded short-finned pilot whales in the BVI. In July of 2022, over 50 short-fin pilot whales were tragically stranded, and many died on the East End coast of Anegada.

In NOAA's cetaceans survey report from 2001 (Swartz et al, 2001), they found high densities of whales on the coastal banks to the east and southeast of Anegada Island. This suggests that these areas are also utilized by humpback whales in densities similar to those found on Silver Bank.

Sightings of sperm whales have also been reported from Anegada (Mignucci-Giannoni, 1998).

Within the BVI, most of the published information about whale occurrences are the coastal banks to the east and southeast of Anegada Island. Very little is known about the north side of the island. From unpublished reports and personal observations by local Anegadians, whales are commonly seen in the north side of the Island during the winter season. Beyond The Reef's project is therefore focused on this area.



Our Work in 2023

In January 2023, during the early stages of our project design, we established a partnership with the Caribbean Cetacean Society (CCS). Two of their expedition leaders came to train our team in data collection methods. We decided to utilize the same methods as them in order to standardise the sampling methods and make it possible to compare our data with theirs. This will allow us to have a better understanding of the cetacean populations at a regional scale.

In 2023 we carried out 9 field surveys with both staff members and volunteers. We also had a citizen science campaign to encourage the public to record and share their sightings. We spent a total of 44 hours 21 minutes surveying and covered a total distance of 166.7 miles. We have created an interactive map that allows you to visually see all our surveys completed, as well as all of our cetacean sightings.

During our 2023 scientific expeditions in the north of Anegada we were able to positively identify both humpback whales and bottlenose dolphins. We estimate to have observed a minimum of 11 bottlenose dolphins and 29 individual humpback whales. 12 of these humpbacks were photographically identified by their fluke pattern. Analysis of fluke photographs, through Happy Whale, revealed that 2 of the individuals recorded in our study had previously been sighted in other locations, including Norway and Guadeloupe. 9 have been considered new to science, as they have never been documented in any other location in the world, to the best of our knowledge. From citizen scientists, we have at least 20 animals reported, including humpback whales, bottlenose dolphins and rough-toothed dolphins.



Figure 1. Drone footage of mother and calf humpback whales on the north of Anegada, observed during Whale Wonders expedition.



Figure 2. Map of 2023 cetaceans survey tracks and sightings.

2023 Individual Humpback Matches

Humpback Whale ID: NA-6917	2009-04-13	Guadeloupe
Humpback Whale ID: NA-6917	2023-04-22	British Virgin Islands

Figure 3. Humpback NA-6917 was first spotted in Guadeloupe in 2009. This individual was then spotted by Beyond The Reef in April 2023.

Humpback Whale VI-King (BVI) ID: HW-MN0200052	2016-01-25	Nordland, Norway
Humpback Whale VI-King (BVI) ID: HW-MN0200052	2023-04-23	British Virgin Islands
Humpback Whale VI-King (BVI) ID: HW-MN0200052	2023-11-03	Troms, Norway
Humpback Whale VI-King (BVI)	2023-12-12	Troms, Norway

Figure 4. Humpback VI-KING (named by BTR) was first spotted in Norway in 2016. The individual was identified in the BVI in April 2023. It returned to Norway where it was identified again in December of 2023.





Figure 5. Humpback whale VI-KING matching map.



Figure 6. Fluke identification photographs by Rondel Smith.

Our Work in 2024



This year we have continued our research efforts with the same data collection methods to ensure our data remains aligned with that of our partners, Caribbean Cetacean Society (CCS).

In 2024 to date, we have carried out 9 field surveys. We have spent a total of 45 hours 3 minutes surveying and covered a total distance of 259 miles. We have again created an interactive map for 2024 that allows you to visually see all our surveys completed, as well as all of our cetacean sightings.

During our scientific expeditions this year, we have once again positively identified both humpback whales and bottlenose dolphins. We estimate a minimum of 13 bottlenose dolphins and 45 individual humpback whales observed. Analysis of fluke photographs revealed that 9 of the individual humpbacks recorded during our study have previously been sighted in other locations, including Norway, Guadeloupe, Puerto Rico, Svalbard, Iceland and Canada. 8 individual humpbacks have been considered new to science.



Figure 7. 2024 survey tracks & cetacean sighting on the north side of Anegada



Figure 8. 2024 survey tracks & cetacean sightings on the south side of Virgin Gorda and around Herman's Reef

2023 Individual Humpback Matches

Humpback Whale Gavina (Husavik) ID: HRC-MN1059	2018-06-23	Northeast, Iceland
Humpback Whale Gavina (Husavik) ID: HRC-MN1059	2021-07-19	Northeast, Iceland
Humpback Whale Gavina (Husavik)	2024-02-03	British Virgin Islands

Figure 9. Humpback Gavina was identified in Iceland in both 2018 & 2021. BTR identified Gavina in the BVI in 2024.

Humpback Whale ID: NA-9552	2009-03-01	Rincon, Puerto Rico
Humpback Whale ID: NA-9552	2024-02-15	British Virgin Islands

Figure 10. Humpback NA-9552 was first seen in Puerto Rico in 2009, and in BVI in February of

		Beyond The Reef
Humpback Whale Gohan (Husavik) ID: HRC-Mn395	2024-02-21	British Virgin Islands
Humpback Whale Gohan (Husavik) ID: HRC-Mn395	2021-06-23	Northeast, Iceland
Humpback Whale Gohan (Husavik) ID: HRC-Mn395	2021-06-21	Northeast, Iceland
Humpback Whale Gohan (Husavik) ID: HRC-Mn395	2014-08-21	Northeast, Iceland
Humpback Whale Gohan (Husavik)	2014-08-27	Northeast, Iceland

Figure 11. Humpback Gohan has been seen in Iceland in 2014 & 2021. Gohan was identified in BVI in February 2024.

Humpback Whale ID: HW-MN0102817	2024-02-21	British Virgin Islands
Humpback Whale ID: HW-MN0102817	2022-06-18	Westfjords, Iceland
Humpback Whale ID: HW-MN0102817	2022-06-18	Westfjords, Iceland
Humpback Whale ID: HW-MN0102817	2022-08-17	Westfjords, Iceland
Humpback Whale ID: HW-MN0102817	2022-09-05	Westfjords, Iceland

Figure 12. Humpback HW-MN0102817 was seen several times in Iceland in 2022. It was identified in BVI in February 2024.

Humpback Whale ID: HW-MN0200011	2024-02-21	British Virgin Islands
Humpback Whale	2017-04-18	Azores, Portugal

Figure 13. Humpback HW-MN0200011 was identified in Azores in 2017 before being identified in BVI in February, 2024.

Humpback Whale ID: OMMAG-Mn_699	2024-02-25	British Virgin Islands
Humpback Whale ID: OMMAG-Mn_699	2023-03-13	Guadeloupe
Humpback Whale	2019-06-12	Svalbard and Jan Mayen

Figure 14. Humpback OMMAG-Mn_699 was first spotted in Svalbard in 2019. In 2023 it was seen in Guadeloupe, and in 2024 in BVI.

Humpback Whale Mari (Iceland) aka Asclepius (Husavik)	2024-01-31	British Virgin Islands
ID: HW-MN0101715		
Humpback Whale	2020-07-31	Northeast, Iceland
ID: HW-MN0101715		
Humpback Whale Mari (iceland) aka Asclepius (Husavik)	2021-06-26	Northeast, Iceland
ID: HW-MN0101715		
Humphack Whale	2021-07-03	Northeast Iceland
Mari (Iceland) aka Asclepius (Husavik)	2021-01-00	rentieves, reenna
ID: HW-MN0101715		
Humpback Whale	2021-07-15	Northeast, Iceland
Mari (Iceland) aka Asclepius (Husavik)		
D: HW-MN0101715		
Humpback Whale	2022-08-19	Sermersooq, Greenland
Mari (Iceland) aka Asclepius (Husavik) ID: HW-MN0101715		
Humpback Whale	2019-06-21	Northeast, Iceland
Mari (Iceland) aka Asclepius (Husavik)		
ID: HW-MN0101715		
Humpback Whale	2019-06-24	Northeast, Iceland
Mari (Iceland) aka Asclepius (Husavik)		
Humpback Whale	2019-06-25	Northeast, Iceland
ID: HW-MN0101715		
Lives heads Milesia	2010 05 27	Northeast Josiand
Mari (Iceland) aka Asclepius (Husavik)	2013-06-27	Northeast, Iceland
ID: HW-MN0101715		
Humpback Whale	2019-07-18	Northeast, Iceland
Mari (Iceland) aka Asclepius (Husavik)		
ID: LINK MANOADATAE		

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Figure 15. Humpback Mari has been identified several times between 2019 and 2022 in Iceland and Greenland. Mari was identified in the BVI in January 2024.

Humpback Whale ID: HRC-MN317	2013-10-10	Northeast, Iceland
Humpback Whale ID: HRC-MN317	2014-10-07	Northeast, Iceland
Humpback Whale ID: HRC-MN317	2014-11-16	Northeast, Iceland
Humpback Whale ID: HRC-MN317	2024-02-03	British Virgin Islands

Figure 16. Humpback HRC-MN317 was seen three times in Iceland in 2014 before being identified in the BVI in 2024.

Humpback Whale ID: HW-MN0103051	2021-09-19	Quebec, Canada
Humpback Whale ID: HW-MN0103051	2023-09-25	Quebec, Canada
Humpback Whale	2024-02-03	British Virgin Islands

Figure 17. Humpback HW-MN0103051 was identified in 2021 and 2023 in Canada before being seen in BVI in 2024.

Summary



To date, we have carried out 16 expeditions; 1 brief survey off the north side of Jost Van Dyke, 2 off the south side of Virgin Gorda to Herman's Reef, and 13 off the north side of Anegada. We have spent a total of **89 hours and 24 minutes** on effort and covered a total of **425.7** miles.

We have observed an estimated minimum of 74 humpbacks and 24 bottlenose dolphins. 12 of these humpbacks have been sighted in other locations all around the world, and 17 have been considered to be new to science.

References

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