

THE CYCLONE

ISSUE 1 - APR 2025

THE MANTA TRUST





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EDITOR'S LETTER

Welcome to the very first issue of the Cyclone Magazine! We are beyond excited to share this inaugural edition with you, our incredible Cyclone community. This magazine marks a new chapter in our journey to bring you closer to the world of manta and devil rays, showcasing the passion, dedication, and groundbreaking work that drives the Manta Trust forward.

In this debut edition, you'll find exclusive behind-the-scenes updates from our research teams worldwide. From tracking manta migration patterns to developing new conservation strategies, we're thrilled to share the latest findings from the cutting-edge science that supports our efforts.

You'll also enjoy Manta Moments, capturing the beauty of these ocean giants, and Species Spotlight, where we explore the behaviours, habitats, and conservation needs of different species. We hope these stories inspire you as much as they inspire us.

As a special thank you to our valued members, each issue includes a range of exclusive benefits and discounts. From special offers on Manta Trust merchandise to buy-one-get-one-free manta ray adoptions, these perks are our way of showing appreciation for your continued support and dedication to our mission.

This magazine is more than just a publication—it's a way for us to connect with you, our supporters, as we work together to protect these incredible creatures. Thank you for being part of this exciting new chapter!

With warm regards,

Jasmine Corbett

Media & Communications Manager, Manta Trust





Species Spotlight

In each issue, we spotlight a different species of manta or devil ray, exploring fascinating facts and the latest research that reveals their unique behaviours, habitats, and conservation challenges. Each feature offers fresh insights into the remarkable diversity within this family of ocean giants. Through these in-depth explorations, we aim to enhance understanding, celebrate the extraordinary traits of these species, and highlight the crucial efforts dedicated to their protection. Join us as we uncover the wonders of manta and devil rays and the vital research that drives their conservation forward.



The Atlantic pygmy devil ray (*Mobula hypostoma*) is one of the smallest members of the mobulid family, typically found in the coastal waters of the western Atlantic. For years, its eastern Atlantic counterpart, *Mobula rochebrunei*, was thought to be a separate species due to limited data.

In our latest study, we used genomic and morphometric analysis to confirm that these two populations are, in fact, the same species. The discovery of three pygmy devil rays in Cameroon provided crucial evidence that *Mobula hypostoma* still persists in West Africa, despite concerns that it had disappeared from the region. This finding not only enhances our understanding of the species' distribution but also raises important conservation concerns.

With increasing threats from fisheries and habitat degradation, urgent action is needed to ensure the species' survival. By shedding light on its presence in West Africa, we hope to drive stronger conservation efforts and prevent *Mobula hypostoma* from facing local extinction. For key findings from the publication, please see the infographic on the following page.

Atlantic Pygmy Devil Ray *Mobula Hypostoma*



Genetic and morphometric su

Mobula hypostoma (Bancroft

Emily Humble, Atlantine Boggio-Pasqua,
Marc-Alexander Gose, Simon Hilbourne
Biankeu, Guy M



Previously classified as
**West Atlantic Pygmy
Devil Ray**
(*Mobula hypostoma*)

<EN>



56
individuals
examined

Manta and devil rays are a diverse group of globally endan
rochebrunei, a pygmy devil ray from the eastern Atlantic, was recent
Atlantic. However, due to decades of no sightings in West and Central Afr
study. Recent monitoring in Cameroon led to the rare discovery of three pygmy
Using MinION sequencing and morphometric analysis, we confirm that pygmy de

Now classified as
Atlantic Pygmy Devil Ray
(*Mobula hypostoma*)

<EN>



FLORIDA
(USA)



The mitochondrial genome of the Came
assembled, with a total of **18,006 bp** and



The maximum likelihood
sequences showed the
hypostoma, sharing **99.9%**
coding regions—the high



Three pygmy devil rays accidentally captured
in Cameroon (2021–2022) were compared to
56 individuals examined in Florida (2013–2015).

Morphometric analysis used three proportional
measurements with linear models and NMDS to
assess group differences. DNA from one Cameroon specimen was
sequenced using MinION for mitogenomic assembly and phylogenetic
analysis, comparing its mitochondrial genome to other mobulid species.



For t
and
such



Support for the Atlantic pygmy devil ray, (t, 1831), in the eastern Atlantic Ocean

Aristide Takoukam Kamla, Kim Bassos-Hull, Stephen Bergacker,
e, Betty Laglbauer, Ana Martinez-Lopez, Cedrick Fogwan, Cedric I.
M. W. Stevens, Giuseppe Notarbartolo di Sciara

Infographic by Jasmine Corbett
Illustrations by Marc Dando
DOI: 10.1002/aqc.70030



Angered elasmobranchs with complex taxonomy. *Mobula*
ly synonymised with *Mobula hypostoma* from the western
ica, this revision relied on limited data, warranting further
devil rays, providing an opportunity to expand on prior work.
devil rays on both sides of the Atlantic are the same species.



eroon pygmy devil ray was successfully
d a mean coverage of 93X.

nd phylogenetic analysis of mitogenome
Cameroon sample clustering closely with *M.*
6 similarity across 15,723 bp of aligned protein-
st similarity among all pairwise species comparisons.

he widely used barcoding genes COI, cyt-B, and ND4, there were 0, 1,
1 base pair differences, respectively—higher similarity than sister species
as *M. alfredi* and *M. birostris* (99.4%) or *M. eregoodoo* and *M. kuhlii* (99.5%).



The morphometric comparison of Cameroon versus Florida
pygmy devil rays revealed no distinguishing features.

Given the coastal nature of *M. hypostoma* and the absence of observations around oceanic islands, we
suspect the western and eastern Atlantic groups are separate populations and recommend treating them as
two management units. Crucially, our work highlights the persistence of pygmy devil rays in West Africa despite
concerns of disappearance and underscores the urgent need for conservation to prevent local extinction.



Previously classified as
**East Atlantic Pygmy
Devil Ray**
(*Mobula rochebrunei*)

<EN>

SIREN
APP



3
individuals accidentally caught, were
reported by fishers on the SIREN wildlife
reporting app, and examined

CAMEROON



Tracking Chagos Mobulids

Identifying and Tracking Mobulid Rays: Conservation
Efforts in the Chagos Archipelago

Between October and December 2024, I embarked on a remarkable journey to the Chagos Archipelago, joining project leader Dr Joanna L. Harris as part of the Chagos Manta Ray Project (CMRP) team. As CMRP's Media and Research Officer, I documented our work while actively engaging in research and outreach. Our expedition had two primary objectives: to conduct workshops training Mobulid Ambassadors to improve species identification and illegal catch and live sightings data collection and to satellite tag reef manta rays (*Mobula alfredi*).

The Chagos Archipelago, a remote chain of islands in the Indian Ocean, is home to one of the world's largest no-take Marine Protected Areas (MPA), covering over 600,000 km². This area provides a crucial refuge for manta and devil rays (collectively known as mobulids). However, despite the MPA's protections, illegal fishing threatens all mobulid species in the region.

A recent reassessment of illegal catch photos revealed that illegal fishing of at least three mobulid species - the sicklefin devil ray, bentfin devil ray and spintail devil ray - had gone undocumented due to limited

resources and a lack of taxonomic knowledge among data recorders (Harris et al., 2024; Harris & Stevens, 2024). To address this, CMRP launched the Mobulid Ambassador Scheme, funded by Darwin Plus Local, to train personnel on Diego Garcia, the archipelago's only inhabited island and a UK-U.S. military base, in identifying mobulid species illegal fishing catches and collect live sighting data.

We organised outreach events attended by over 160 participants, 36 of whom attended our Mobulid Identification Training Workshops on accurately identifying mobulid species and reporting illegal catches and live sightings. These workshops were met with amazing enthusiasm, engagement, thoughtful questions, and curiosity. Of the 36 participants, 12 Mobulid Ambassadors were selected from diverse sectors, including enforcement personnel, long-term contractors from the Philippines and India, and short-term residents from the UK and US military, FCDO, and UK police.

Since completion, the ambassador network has provided vital data to support illegal fisheries enforcement and help identify new mobulid habitats. We're excited to continue collaborating with our new ambassadors to help inform mobulid conservation!



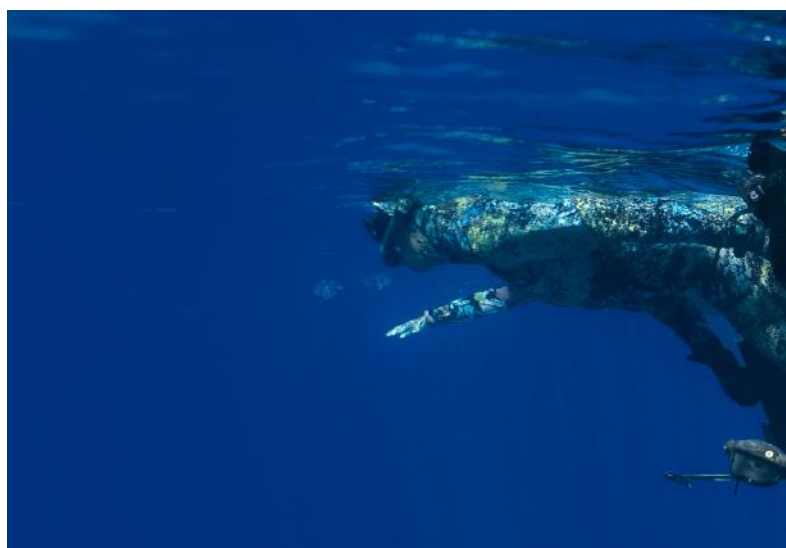
A REEF MANTA RAY ON A
CLEANING STATION IN CHAGOS

© Leila Scheltema

Ref manta rays are one of the most conspicuous mobulid species in the Chagos Archipelago, so it is vital that we identify high-risk areas where they are most vulnerable to illegal fishing. Therefore, one of our goals was deploying state-of-the-art Fastloc-GPS Argos satellite tags on the species (funded by the Bertarelli Foundation). These devices capture location data, dive behaviour, and movement patterns, helping us understand how mantas use their habitat and migration routes. By sharing these insights with marine spatial planners, we can identify key habitats and highlight areas needing of greater protection. So far, satellite tag data has revealed seven previously unknown feeding hotspots and various migration routes across the archipelago, while dive data suggests reef mantas have a strong preference for mesopelagic ecosystems (Harris et al., in prep). Fisheries are increasingly targeting these ecosystems, emphasising the urgent need to include these areas in spatial management plans. Additionally, CMRP has photographed and identified 217 reef manta rayas through in-water photography and camera traps, bringing the total documented population to 328. These data are already enhancing our understanding of reef manta ray behaviour and informing conservation strategies locally and across their range.



Words and photographs by
Leila Scheltema
Chagos Manta Ray Project
Media and Research Officer



AN OCEANIC MANTA RAY SPOTTED
DURING AN AERIAL SURVEY WITH
MANTA WATCH NEW ZEALAND.

© Lydia Green

Manta Moments

In every issue, we showcase a hand-picked collection of our favourite manta encounters from around the world, brought to life through breathtaking photography by our dedicated team. This edition shines a spotlight on some of our most memorable recent moments with the majestic oceanic manta rays.

Each image tells a powerful story—capturing not only the beauty and grace of these gentle giants but also the urgency of protecting them. Through these evocative visuals, we hope to spark curiosity, inspire awe, and deepen understanding of the challenges manta and devil rays face. Let these extraordinary encounters renew your connection to the ocean and fuel a shared commitment to safeguarding manta rays for generations to come.



AN OCEANIC MANTA RAY GLIDES GRACEFULLY OVER A
CLEANING STATION IN ROTE, INDONESIA—ONE OF THE KEY
STUDY SITES WHERE THE INDONESIA MANTA PROJECT HAS
BEEN CONDUCTING VITAL RESEARCH SINCE 2021.

© *Indonesia Manta Project*









AN OCEANIC MANTA RAY STOPS BY A CLEANING
STATION FOR A SPA TREATMENT DURING AN
EXPEDITION IN RAJA AMPAT, INDONESIA.

© Jasmine Corbett

Ocean Ambassadors

CELEBRATING THE FIRST
YEAR OF MANTA TRUST
OCEAN AMBASSADORS!

Words by
Jen Spacagna
Manta Trust Education Manager
Images by the 2024 Ocean Ambassadors



The start of 2024 marked an exciting milestone, as we launched our new Ocean Ambassadors Programme! A year-long educational initiative, designed for teenagers passionate about ocean science, the programme aimed to improve their knowledge of marine science and conservation, connect them with like-minded peers and professionals, and develop skills in project management. Selecting our 2024 cohort was no easy task, but we were delighted to take on board 17 exceptional teenagers, representing 15 different countries.

Throughout the year, the Ambassadors met online each month, where they were often joined by Manta Trust scientists and conservation professionals. The Ambassadors attended insightful talks on manta ray research from affiliate projects such as Manta Watch New Zealand, Manta Project Fiji, and the Maldives Manta Conservation Programme (MMCP). Additionally, they explored broader topics like fisheries policy, conservation education, and careers in marine science.

A fascinating aspect of the programme was the opportunity to exchange cultural perspectives. With Ambassadors joining from a range of countries, the monthly meetings gave everyone an opportunity to share information about their own culture and traditions, particularly in relation to the ocean.

A key feature of the Ocean Ambassador Programme was the development of individual projects, aimed at raising awareness and engagement in marine science and conservation. The dedication and creativity of the Ambassadors were truly inspiring. Collectively, their projects reached over 2,000 people and raised an impressive £2,714.58 for marine conservation organisations.

The range of projects was incredibly diverse. While space doesn't allow us to highlight them all, here are just a few examples of the incredible work achieved:

PROJECTS

SAMOA

Elei partnered with NGO Artificial Reefs Samoa to organise a coral gardening workshop, taking a group of school students into the ocean to learn how to harvest and plant coral.



INDIA

Tarun created a group within his school to engage the school population and local community in ocean-related events and activities. The group have been extremely busy, organising and carrying out fundraising activities, beach clean-ups and marine art competitions, amongst many other activities.



PHILIPPINES

Kinjo worked on improving ocean literacy and plastic waste disposal. Kinjo's project resulted in the collection and recycling of over 2,000 discarded plastic bottles and engaged more than 1,500 children in ocean literacy activities.

© Simon Hilbourne



“

HAVING GUESTS WHO WORK
IN THE FIELD HELPED ME
UNDERSTAND HOW MANY
OPPORTUNITIES THERE ARE
WORKING IN THE FIELD.

”



Collaboration with other organisations played a crucial role in many projects and was an important part of the programme generally. Coco (USA), one of our youngest Ambassadors at just 14, organised a webinar with Jessica Pate, research scientist at Marine Megafauna Foundation, to highlight manta ray research and conservation efforts in Florida.

Zaara (Maldives) had the unique opportunity to join the MMCP's RahVeshi Programme in the field, joining the research boat and learning first-hand about data collection and specialist tagging equipment.

One of the most rewarding aspects of the programme was the chance for the Ambassadors to meet other young people with shared interests. With the creation of an alumni platform, we hope that the Ambassadors will stay in touch long into the future.

As the first year of the Ocean Ambassador programme comes to a close, we are immensely proud of what these young people have achieved. Their dedication and enthusiasm have been truly inspiring, we can't wait to see what the future holds for each of them.

“

I LOVED MEETING AND MAKING FRIENDS WITH YOUNG PEOPLE FROM AROUND THE WORLD WHO SHARE THE SAME INTERESTS AS ME AND IT WAS GREAT LEARNING ABOUT HOW THEY ARE CONTRIBUTING TO THE MARINE ENVIRONMENT AS WELL.

”

“

I LOVED THE CULTURAL INTRODUCTIONS AS IT GAVE US A PEEK INTO DIFFERENT LIFESTYLES ALL OVER THE WORLD AND HOW THEY VIEW AND/OR CHERISH THE OCEAN.

”

© Elei Clarke



Manta Expeditions

At the heart of Manta Trust's citizen science research is our partnership with Manta Expeditions. This dedicated expedition company supports the Manta Trust through its profits while offering unforgettable adventures with a purpose. Their growing Volunteer Time Off (VTO) expeditions provide businesses and individuals with a unique chance to dive deeper—both underwater and into the world of marine conservation. We caught up with Niv Froman, Manta Trust researcher and Director of Manta Expeditions, to learn how these trips are making waves in manta ray research and inspiring teams and travellers to become ocean advocates.





Can you introduce yourself and your role at Manta Expeditions? Can you explain how Volunteer Time Off (VTO) expeditions work?

I'm Niv Froman, a Manta Trust researcher and Director of Manta Expeditions. My role involves planning and overseeing the operations of our citizen science expeditions, including our Volunteer Time Off (VTO) expeditions. These expeditions offer participants a unique opportunity to contribute to marine conservation while experiencing the beauty of our oceans. The VTO programme is designed for businesses and individuals looking to make a tangible impact by combining volunteer work with meaningful travel experiences.

How do these expeditions contribute to manta ray conservation, and what kind of research do participants get involved in?

Our expeditions play a vital role in manta ray conservation by supporting critical research and data collection. Participants assist our marine biologists with tasks such as photo identification of manta rays, monitoring their behaviour, and recording environmental data. This hands-on involvement not only contributes to our understanding of manta ray populations and their habitats but also aids in shaping conservation strategies to protect these magnificent creatures. Participants' contribution goes beyond manta ray conservation as they often participate in community outreach events and island clean ups.

What makes the VTO expeditions unique compared to other corporate team-building experiences?

What sets our VTO expeditions apart is the blend of adventure, education, and impact. Unlike traditional corporate team-building experiences, our programme immerses participants in real-world conservation efforts. It fosters team cohesion through shared purpose and hands-on work in the field, creating lasting connections and a profound sense of achievement. Plus, the natural beauty of

our locations provides an inspiring backdrop for reflection and growth.

Since launching the programme, what has been the most memorable or impactful moment for you?

It's hard to pinpoint a single event because every expedition brings its own unique and memorable experiences. What stands out most is the general feedback we receive from participants—the sense of fulfilment and connection they feel after contributing to real conservation efforts. Many share how the experience shifted their perspective, not only on marine conservation but also on their own roles as global citizens. Seeing that transformation and knowing our work leaves a lasting impact both on participants, the marine ecosystems and the local communities is incredibly rewarding.

How can businesses and individuals get involved in VTO expeditions, and what do you hope participants take away from the experience?

Businesses and individuals interested in joining a VTO expedition can reach out directly by emailing me at info@mantaexpeditions.com or contacting Eithne Tynan, the Manta Trust's Development Manager, at eithne.tynan@mantatrust.org. We offer tailored experiences for corporate groups and individuals, aligning conservation work with personal or team-building goals. My hope is that participants leave not only with unforgettable memories but also with a deeper understanding of marine conservation and a renewed commitment to protecting our oceans.

Niv Froman
Manta Expeditions
Director



Member



Benefits

APPLY CODE **10-CYCLONEMEMBER**
AT CHECKOUT

SHOPMANTATRUST.ORG



Enjoy Your Exclusive Cyclone Member Perks!

As a valued member of The Cyclone, you're already making a huge difference for manta rays—and we want to thank you with some exclusive perks you're now entitled to!

You can enjoy a Buy One, Get One Free offer on our Maldives Manta Adoption Packs. Adopt a manta for yourself and receive a second Digital Adoption Pack free (worth £25)—a perfect gift for a friend or loved one! Each pack includes a personalised adoption certificate, fascinating facts about your manta, and updates on their latest sightings.

You also receive an exclusive 10% discount on everything in the Manta Trust Clothing Store, including our eco-friendly t-shirts, tote bags, and more. Every purchase helps support our vital conservation work and spreads the word about protecting manta rays.

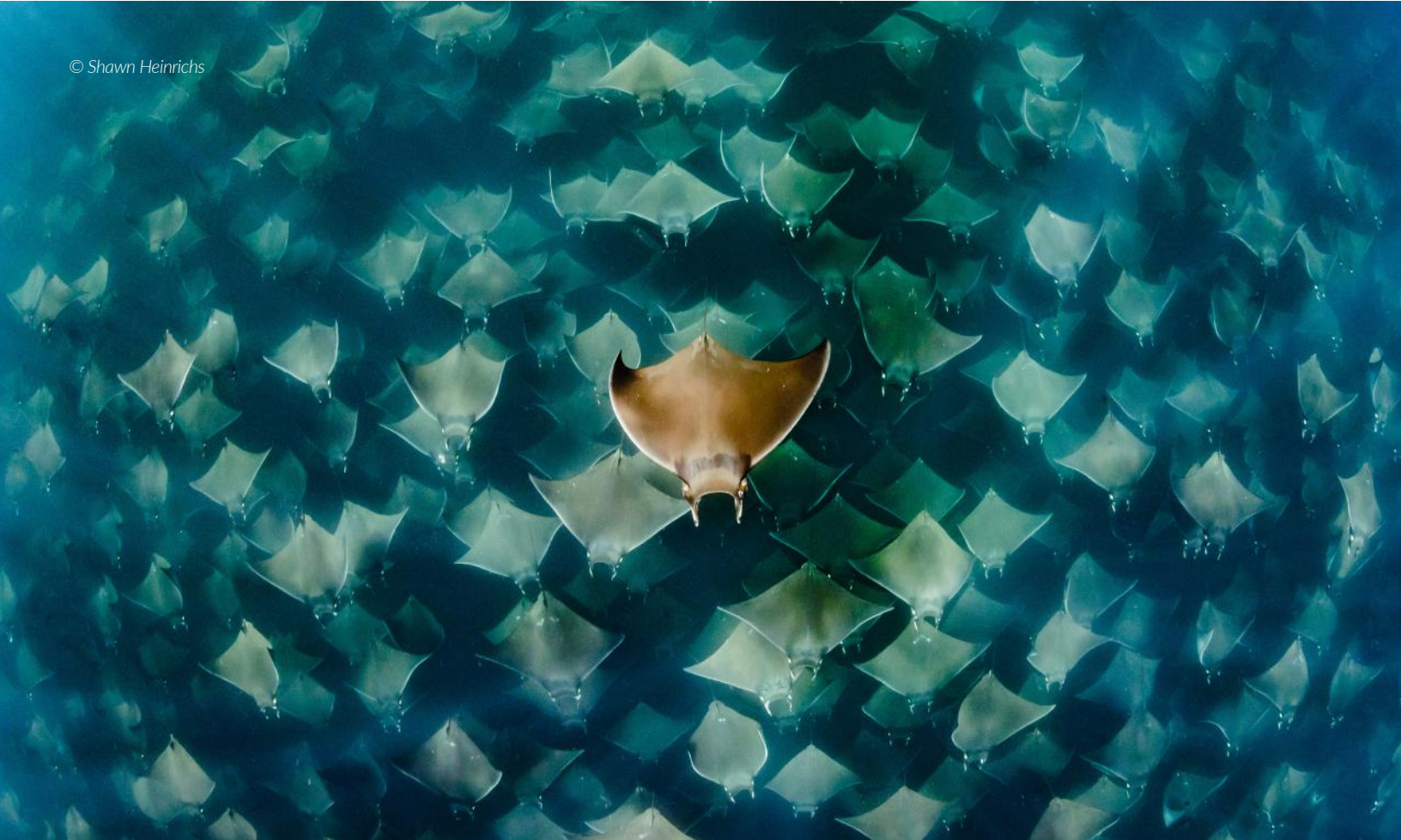
Thank you for being such an important part of The Cyclone. Together, we're creating a brighter future for manta rays and their ocean home!



APPLY CODE **CYCLONEB1G1**
AT CHECKOUT

MANTATRUST.ORG/ADOPT-A-MANTA

© Shawn Heinrichs



Thank you for your generous support! Your Cyclone Membership is helping us protect manta rays and preserve marine habitats. Every contribution fuels research, conservation, and education around the world. Together, we're making a difference for our oceans and future generations. Thank you for standing with us!

