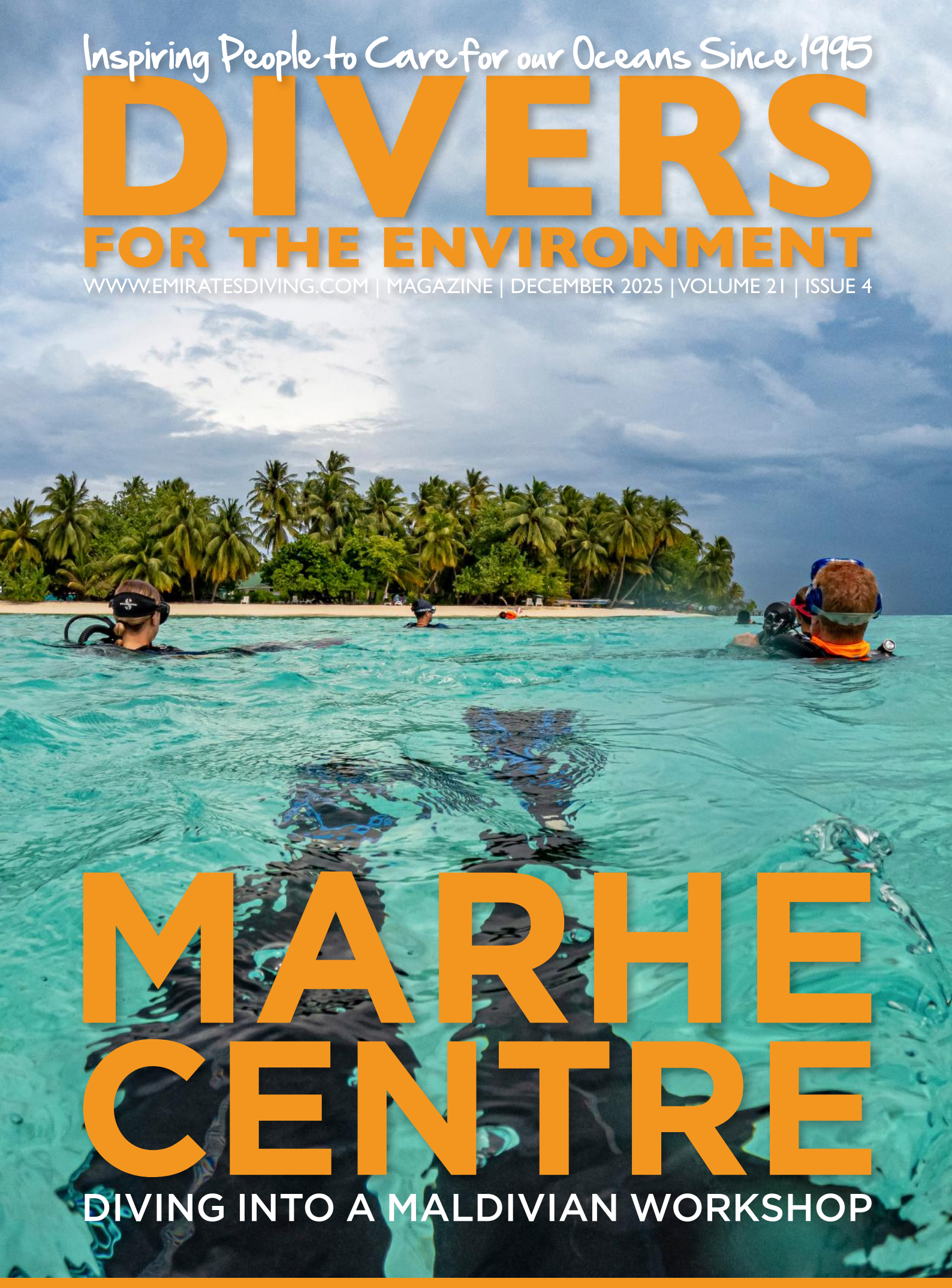
Inspiring People to Care for our Oceans Since 1995

DIVERS FOR THE ENVIRONMENT

WWW.EMIRATESDIVING.COM | MAGAZINE | DECEMBER 2025 | VOLUME 21 | ISSUE 4



MARHE CENTRE

DIVING INTO A MALDIVIAN WORKSHOP

• GUINNESS WORLD RECORD • **REEF CHECK** • THE STREAMPACK BULLET • **PROJECT REEFRAME**
• DIBBA BAY'S OYSTER REEF PROJECT • **GREEN FINS** • DIVING DESTINATIONS • UPCOMING EVENTS

Reef Check
UNITED ARAB EMIRATES

Join the Reef Check
ECODIVER CERTIFICATION COURSE

LEARN TO CONDUCT REEF CHECK SURVEYS TO COLLECT DATA ON REEF HEALTH, AND HELP ASSESS CLIMATE CHANGE IMPACTS

When you join a Reef Check EcoDiver Training Course, you will learn about our local ecosystems and you will be able to participate in our regular survey dives which will help us to understand the threats our corals are facing by providing important data.

EDA
جمعية الإمارات للغوص
Emirates Diving Association

EMAIL: reefcheck@emiratesdiving.com **WEBSITE:** www.emiratesdiving.com/events/reef-check

EDA IS A NON-PROFIT NGO ACCREDITED BY UNEP AS AN INTERNATIONAL ENVIRONMENTAL ORGANISATION

EDA
جمعية الإمارات للغوص
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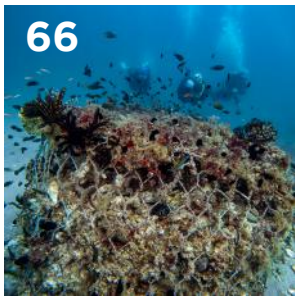
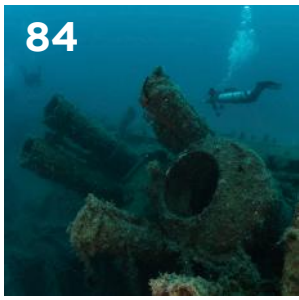




REGULARS

NEWS

REEF CHECK

YOUTHS CORNER

PRODUCT REVIEWS

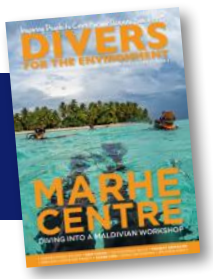
FEATURES

DIVERS FOR THE ENVIRONMENT

Please note that EDA's magazine, 'Divers for the Environment' includes articles written by individuals whose opinions', whilst valid, may or may not represent that of EDA's. The magazine is a platform for individuals to voice their opinion on marine and diving related issues. You are welcome to suggest an article for the next issue to be released in March 2026. Send your articles, feedback or comments to: **magazine@emiratesdiving.com**

COVER

PHOTO BY ALLY LANDES
MaRHE Centre: Diving into a Maldivian Workshop



UNDERWATER PHOTOGRAPHY

DIVING DESTINATIONS

HEALTH & SAFETY

EDITOR & GRAPHIC DESIGNER

ALLY LANDES
Ally is EDA's Project Director, Event Planner, Graphic Designer, Editor, and Photographer. She created and introduced 'Divers for the Environment' back in December 2004 as a free educational tool to share information by scientists, conservationists, underwater photographers, and other like-minded individuals from all over the world with a passion to conserve and protect our delicate marine life and underwater world.

THE CONTRIBUTORS

Meet the quarterly contributors who share their passions and stories with our readers. Want to contribute?
Email: **magazine@emiratesdiving.com**

JESPER KJØLLER
Professionally involved in the diving industry since he started diving in the early nineties, Jesper ran a successful Scandinavian divers magazine for many years. His articles and photos have appeared in books, magazines and websites all over the world. Today he lives in Dubai, involved in marketing but finds time to teach diving for Global Underwater Explorers.
www.instagram.com/jesperkjoller

PATRICK VAN HOESERLANDE
Diving opens up a whole new world. Being a writer-diver and co-editor of the Flemish divers magazine, Hippocampus, Patrick personally explores our underwater world and shares his experiences through his articles. You'll find a collection of them on **www.webdiver.be**.

TONY SIDGWICK
Tony is a communications professional, writer and diver based in the UAE. He began his diving journey in 2016, and is now passionate about ocean conservation, with a Reef Check certification and several ocean clean-ups under his belt.

ESTHER RODRIGUEZ
Esther is a passionate diver, experienced trip organiser and event manager who turned her love for the ocean into a business. The Big Blue is more than just a name – it's a reflection of her lifelong connection to the sea, inspired by her favourite film and the incredible underwater world that continues to captivate her.
www.instagram.com/thebigbluediving

SAMER HALWANY
Born in Lebanon, a country that connects the mountains to the sea, I grew up with a great passion for nature. After doing my photography studies at the New York Film Academy, my lens was the perfect medium for me to document the interaction of mother earth. Underwater photography was a perfect fit for me since I'm passionate about both photography and the ocean, being a scuba diver myself. As a CMAS visual committee member, I lend my lens to present wonders of the sea to the world.
www.samerhalwany.co
www.instagram.com/samerhalwanyphotography

CELEBRATING
ANOTHER VICTORIOUS YEAR

IBRAHIM AL-ZU'BI
Co-Founder

We will be ending 2025 with a bang! We couldn't be prouder of our ocean community. This year we have so far removed a total of 1,716.63kg of waste from all our coastal and underwater clean-ups! A huge thank you as always to our Strategic Partner, DP World for sponsoring our Cleanup Arabia events. We have one last underwater clean-up to complete on the 6th of December when we will update you on the final annual result.

We are thrilled to share so many new great ocean stories in this issue from so many of our passionate contributors. There's something for everyone.

We are very grateful to the MaRHE Centre for having offered our members such a unique event through their customised workshop in the Maldives in October. We know not everyone can take part in these limited educational opportunities, but we will look to share other experiences so more members can take part in these meaningful experiences when available.

Please make sure to check out Freestyle Divers' Project REEFrame article on page 54 as we want to give EDA members the chance to get involved in this local coral restoration project. A discount will be available when a group of EDA members register to take one or all of the REEFrame educational courses which will then allow you to volunteer to take part in the project. This special deal is only available until the 31st of March 2026, so make sure you check out all the details. With Christmas just around the corner, this could be a great gift idea for loved ones looking to take part in more ocean conservation activities.

I would like to wish everyone a Happy 54th Eid Al Etihad! The United Arab Emirates was founded through the unification of seven emirates on the 2nd of December 1971, marking this historical moment. The name emphasises the theme of "Union" (Etihad), which is central to the country's identity, symbolising heritage, unity, strength, and national pride.

I also want to wish those who celebrate, a Merry Christmas, and a Happy New Year to all. We look forward to seeing you in the new year at the next EDA events and activities. Enjoy your new diving adventures within the UAE and around the world. Keep sharing your stories, they inspire all our travels.

Happy reading and safe diving,

Ibrahim Al-Zu'bi

Ibrahim Al-Zu'bi

AN EDA MOVIE SCREENING **PATRICK AND THE WHALE**

PHOTOGRAPHY BY **ALLY LANDES**

Thank you to everyone who came to our November EDA Movie Screening on the 6th to watch Patrick and the Whale with us! It was lovely catching up with all of our members.

Thank you to Deep Dive Dubai for the continued support to make these events happen. We also want to thank Terra Mater Studios for making this beautiful film available to us.

SYNOPSIS

An inspiring and engaging tale of Patrick Dykstra and a sperm whale "Dolores."

For years, Patrick Dykstra has dedicated his life to travelling the globe, following and diving with whales. Over the years, Patrick has learned how whales see and hear, how they perceive other creatures in the water and how they behave at close quarters. He has a finely tuned sense and knows how to act when within touching distance of a whale – what to do, what not to do and when. This allows him to consistently get closer than anyone else alive – a truly unique skill.

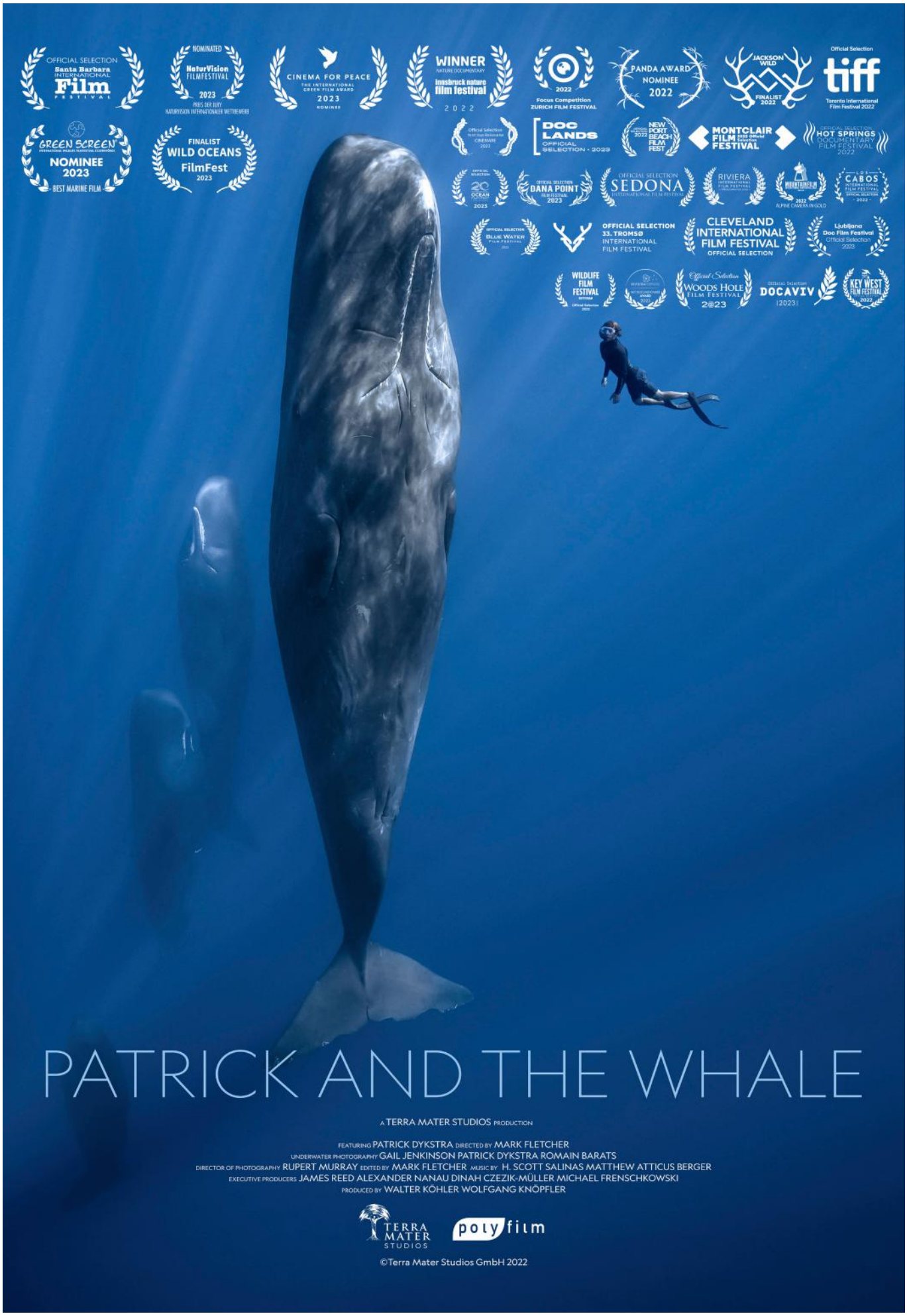
Patrick recently experienced a life-changing event. In Dominica, he had a close encounter with a female sperm whale. She seemed to be curious about him, coming within touching distance, pulsing him with her sonar. She studied him as he studied her. Patrick felt an overwhelming sense that she was genuinely trying to communicate.

We follow Patrick as he travels to Dominica again to find this special whale he named "Dolores" so she can help him show us the hidden world of her species. Using stunning underwater footage, Patrick explores the fascinating nature of the sperm whale, attempting to shine a light on its intelligence and complexity, as well as highlighting its current and past relationship with humankind. The film follows his personal journey and explores the psychology of a man who has sacrificed everything in his single-minded quest to connect with and understand one of the biggest creatures in the ocean.

WANT TO JOIN OUR EVENTS?

Our quarterly EDA Movie Screenings are only accessible to EDA members. Members must register by email to join our social events, or to receive the special link (subject to availability) to view the films online.

Visit our website to acquire or renew EDA membership here:
www.emiratesdiving.com/membership


OFFICIAL SELECTION
Santa Barbara INTERNATIONAL Film FESTIVAL
NOMINATED
NaturVision FILMFESTIVAL 2023
CINEMA FOR PEACE
THE INTERNATIONAL GREEN FILM AWARD 2023
WINNER
NATURE DOCUMENTARY
innsbruck nature film festival
2022
2022
Focus Competition
ZURICH FILM FESTIVAL
PANDA AWARD
NOMINEE
2022
JACKSON WILD
FINALIST
2022
Official Selection
tiff
Toronto International Film Festival 2022
GREEN SCREEN
NOMINEE
2023
BEST MARINE FILM
FINALIST
WILD OCEANS FilmFest
2023
DOC LANDS
OFFICIAL SELECTION · 2023
NEW PORT BEACH FILM FEST
MONTCLAIR FILM FESTIVAL
HOT SPRINGS DOCUMENTARY FILM FESTIVAL
2022
DANA POINT FILM FESTIVAL
2023
SEDONA
INTERNATIONAL FILM FESTIVAL
RIVIERA
MOUNTAINFILM
2022
ALPINE CAMERA IN GOLD
CABOS
INTERNATIONAL FILM FESTIVAL
BLUE WATER FILM FESTIVAL
OFFICIAL SELECTION
33. TROMSØ
INTERNATIONAL
FILM FESTIVAL
CLEVELAND INTERNATIONAL FILM FESTIVAL
OFFICIAL SELECTION
Ljubljana Doc Film Festival
Official Selection
2023
WILDLIFE FILM FESTIVAL
WOODS HOLE FILM FESTIVAL
2023
DOCAVIV
2023
KEY WEST FILM FESTIVAL
2022
PATRICK AND THE WHALE
A TERRA MATER STUDIOS PRODUCTION
FEATURING PATRICK DYKSTRA DIRECTED BY MARK FLETCHER
UNDERWATER PHOTOGRAPHY GAIL JENKINSON PATRICK DYKSTRA ROMAIN BARATS
DIRECTOR OF PHOTOGRAPHY RUPERT MURRAY EDITED BY MARK FLETCHER MUSIC BY H. SCOTT SALINAS MATTHEW ATTICUS BERGER
EXECUTIVE PRODUCERS JAMES REED ALEXANDER NANAU DINAH CZEZIK-MÜLLER MICHAEL FRENSCHKOWSKI
PRODUCED BY WALTER KÖHLER WOLFGANG KNÖPFLER
TERRA MATER STUDIOS
polyfilm
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A CLEANUP ARABIA EVENT

AN UNDERWATER CLEAN-UP IN THE PALM JUMEIRAH EAST MARINA

PHOTOGRAPHY BY **ALLY LANDES**

We had another fantastic morning on Saturday the 15th of November during another successful underwater clean-up, this time at the Palm Jumeirah Marina East with 37 divers!

Members started to arrive at 7:15am to get themselves kitted-up for their dive starting at 8am. They helped themselves to viennoiseries and coffees, while we waited for everyone to be ready before giving the briefing.

Within the hour's clean-up, our divers collected 176kg of underwater waste. Thank you to all our surface support team for the dedication in volunteering to assist them and for helping to count and weigh everything at the end of the activity.

We want to thank our event partner, Palm Jumeirah Marina for hosting this clean-up in their East marina and for their team's support. Thank you especially to Bronwyn Fray for facilitating every step of the way.

Thank you Imdaad LLC, our waste management partner for retrieving the collection; the Dubai Voluntary Diving Team for all of their support lifting out some of the heavier items with their lift kits such as a sail and a boat battery. To our Strategic Partner, DP World we cannot thank you enough for enabling us to hold all of these events throughout the year. We are now commencing our third year together!

We're so proud of our community!

BECOME AN EDA MEMBER

If you would like to join EDA and get involved in our upcoming events and activities, please Subscribe to our Newsletter to receive all our news and updates straight in your inbox:
www.emiratesdiving.com

Membership is just AED100/year and you are able to register to all our activities that interest you:
www.emiratesdiving.com/membership

Check out the membership benefits available to you here:
www.emiratesdiving.com/membership-benefits

DIVE CLEAN-UP | DUBAI	
Palm Jumeirah Marina East	
37 **Divers** | **10 Surface Support** Volunteers	
MOST LIKELY TO FIND ITEMS	**TOTAL**
Grocery Bags (plastic)	20
Other Bags (plastic)	20
Beverage Bottles (glass)	27
Beverage Bottles (plastic)	14
Beverage Cans	17
Bottle Caps (metal)	2
Bottle Caps (plastic)	12
Cups, Plates (plastic)	3
Food Containers (plastic)	13
Food Wrappers (candy, chips, etc)	7
Lids (plastic)	13
Utensils (plastic)	3
FISHING & BOATING	
Line, Nets, Traps, Rope, etc	43
Foam Dock Pieces	1
PACKAGING MATERIAL	
6-Pack Holders	5
Strapping Bands	10
ILLEGAL DUMPING	
Appliances	8
Construction Materials	17
OTHER ITEMS/DEBRIS	
Clothing	1
E-cigarettes	4
Electronic Waste (phones, batteries)	6
Paper Bags	2
Tobacco Products (lighters, wrap)	5
Other Plastic Waste	37
Other Waste (metal, paper, etc)	27
OTHER ITEMS NOT LISTED	
Sunglasses	2
Boat Battery	1
Carpets	3
Towels	2
Knife	1
Fishing Rod	1
Boat Shade	1
Sail	1
Kids Scooter	1
GRAND TOTAL OF ITEMS	**330**
TOTAL BAGS COLLECTED	**10**
TOTAL WEIGHT (KG)	**176**

BENEATH THE BLUE – ABU DHABI SETS A NEW GUINNESS WORLD RECORD

BY **KATHLEEN RUSSELL – AL MAHARA DIVING CENTER**

As someone who has spent more than three decades underwater as a dive pro and among the UAE's diving community, I've seen many incredible moments beneath the surface. But few compare to what we experienced during Beneath the Blue Abu Dhabi, organised by the Sustainable Futures Initiative under the inspiring leadership of Sheikh Zayed bin Ahmed Al Nahyan. With the support of Ma'an Abu Dhabi, and PADI AWARE, we finally came together for an underwater clean-up effort that didn't just make an impact on the ocean – it made history.

On the 8th of November 2025 across two locations – Taweelah and Al Reem Island – 307 divers descended at the same time, setting a new Guinness World Record for the most divers entering the water simultaneously at multiple sites and removing over 1,188kg of marine debris from the sea. It was a powerful and amazing sight: hundreds of divers moving with purpose, united by a shared love for our ocean coastline.

MA'AN ABU DHABI'S HEART FOR COMMUNITY

I want to take a moment to acknowledge Ma'an Abu Dhabi, who made this event possible through their sponsorship and unwavering belief in community-powered impact. Ma'an isn't just a supporter – they are a catalyst. Their mission has always been to bring people together, to inspire volunteers, and to solve environmental and social challenges by giving the community a chance to step forward and for that we are so grateful for their huge support.

And during Beneath the Blue, that's exactly what happened. Ma'an helped create a space where every diver, volunteer, and partner felt part of something bigger. Their role went far beyond financial sponsorship – they helped shape the spirit of the day and future.

A DAY OF REAL CAMARADERIE

From the moment divers arrived, you could feel the energy and excitement. There was laughter between old friends meeting again, dive teams swapping stories and catching up, new divers looking both excited and nervous, and dive pros from all over the UAE working together as if we'd trained as one team for years.

As a strategic partner, Al Mahara Diving Center, was proud to support the operational side of the event and seeing hundreds of people take instructions so seriously, while still keeping smiles and excitement on their faces. It truly gave me hope and inspiration. I was proud of our diving community coming together again and again with passion for the ocean. We welcomed very enthusiastic divers from diving groups such as EDA members, the Dubai Voluntary Diving Team, Filippino Scuba Diving Club, ZHO POD divers, Search and Rescue Volunteers, Extreme Watersports dive centre, The National Aquarium of Abu Dhabi divers, divers who came from Oman and Bahrain, and so many other various diving communities. We thank each and everyone of you!

It's days like this that remind me why I fell in love with diving in the first place: the ocean brings people together.

ECO EXHIBITORS WHO STRENGTHENED THE MISSION

The clean-up wasn't just about the dive – it was also about education, long-term impact and community effort. Having several committed eco exhibitors onsite added so much to our mission. Their presence helped create a full-circle conservation experience – from awareness to action:

- Yas SeaWorld Research & Rescue Center shared their remarkable work in marine animal rescue and rehabilitation, reminding us of the bigger picture behind every piece of debris we removed.
- Nardi Compressori, trusted worldwide for their diving compressors, helped highlight safer and more sustainable diving operations.
- Paltic Solutions showcased practical, eco-friendly equipment that supports environmentally responsible marine practices.

A RECORD, YES WE DID IT!

This Guinness World Record is something the UAE can be proud of, not just because of the number, but because of the unity behind it. What happened beneath the blue that day is proof of what's possible when passion, community, and purpose come together

For me personally, it was a reminder that every diver can make a difference – and when hundreds of us act together, the impact is extraordinary.

Here's to more clean-ups, more collaborations, and more moments where we come together for the ocean we all love.

NEW YEAR RESOLUTION:

WILL 13 FREE MARINE COURSES MAKE IT TO YOUR LIST?

BY **ARWA MOHAMMED**

A new year always brings new resolutions. It's your chance to decide whether this year will be different and if you're anything like me, you probably have several topics you've wanted to learn for years but never took the first step. Maybe you've been considering a degree, a diploma, or even simple online courses in marine science or other fields.

Let's be honest, the real obstacles are usually time and budget. But here's the good news – in 2025, both problems are finally solvable. We live in a time where knowledge is literally one search bar away.

Throughout my professional journey, I've learned a valuable truth: The person with more knowledge always wins. "Wins" can mean landing a job, contributing more effectively to a project, or confidently debating technical concepts with senior experts. Today, success isn't about what you already know – it's about your ability to quickly acquire new knowledge and use it correctly, even in fields you're unfamiliar with.

I know someone who mastered this. He comes from a military and engineering background and holds a high-ranking position in a government entity, not because of his education or experience only, but because of his ability to learn about any topic at lightning speed. I could call him today with a question he knows nothing about, and within hours, he would return with technical insights, practical solutions, and potential challenges – as if he'd worked in that industry for years.

That's when I understood why multiple departments compete to have him on their team. General knowledge is standard – but acquiring new knowledge in an unfamiliar industry, and applying that knowledge correctly, turns you into a superhero in your circle. So what's his secret? Reading about anything and everything, and implementing the knowledge acquired across multiple diverse industries or areas of life.

And here's where you realise how lucky we truly are: in 2025, you can access education from Harvard, Stanford, MIT, global NGOs, and leading marine institutions without spending a single dirham.

I created a simple file listing the most useful online courses, and because this is a marine-focused magazine, I've selected 13 free marine science courses (see page 6). They take between 1 to 10 hours each, and several offer free certificates of completion – a wonderful addition to your CV, LinkedIn, or even your sense of personal achievement. And if certificates don't motivate you… what about better brain health?

Learning, whether through online courses, reading, or hands-on practice, literally rewires your brain. It strengthens neural pathways, improves memory, enhances focus, and slows cognitive aging. This process, called neuroplasticity, is the foundation of lifelong mental growth.

So let's make 2026 different. Put Netflix on pause, and invest some free time in exploring topics that spark your curiosity.

I wish you a productive, inspiring, and growth-filled new year. If you complete any course, or discover a new one worth adding, DM me on Instagram. I'd love to hear about your experiences.

Happy New Year!

13 FREE ONLINE COURSES

1. Coral Reef Ecology Curriculum – KSLOF
2. Coral Reef Alliance – E-Learning
3. NOAA Coral Reef Education
4. NOAA Sanctuaries Webinars
5. Introduction to Coral Reef Management – ICRI/NOAA/RRN (Free certificate)
6. Reef Resilience Network – Coral Reef Resilience (Free certificate)
7. Reef Resilience Network – Coral Reef Restoration (Free certificate)
8. Reef Resilience Network – Remote Sensing & Mapping (Free certificate)
9. Reef Resilience Network – Resilience-Based Management (RBM) (Free certificate)
10. GBRMPA Reef Discovery Course (Free certificate)
11. Eyes of the Reef Hawai'i – Online Training
12. Coral Restoration Foundation – Activity Packs
13. Allen Coral Atlas Tutorials

WHERE TO FIND THEM

The list of free courses is updated on my Linktree: **https://linktr.ee/xphotodxb** (I try to keep it updated, but universities release changes faster than I can keep up – still, it's a great starting point).

USING ADVANCED ENVIRONMENTAL ENGINEERING SOLUTIONS, EAD PARTNERS WITH ARCHIREEF TO ADVANCE MARINE ECOSYSTEM RESTORATION EFFORTS IN THE EMIRATE

The Environment Agency – Abu Dhabi (EAD) has signed a Memorandum of Understanding (MoU) with Archireef to collaborate on cutting-edge research and projects aimed at restoring coral reef habitats and protecting marine biodiversity in the Emirate of Abu Dhabi. The partnership was announced during the International Union for the Conservation of Nature (IUCN) World Conservation Congress Abu Dhabi.

The MoU establishes a framework for cooperation between EAD and Archireef in the restoration and rehabilitation of coral reefs and coastal ecosystems using advanced eco-engineering solutions, including the development of artificial coral reef pieces designed from natural elements using 3D-printed technology. The partnership seeks to strengthen the resilience of marine ecosystems, advance sustainable development, and contribute to the achievement of the United Nations Sustainable Development Goals (SDGs).

Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of EAD, said, "Our partnership with Archireef marks a strategic step in pioneering innovative, science-driven solutions to safeguard our marine ecosystems. By integrating cutting-edge 3D-printed technology with EAD's extensive expertise in coral restoration, we are significantly enhancing the resilience and sustainability of our coral habitats. Building on one of the world's most extensive and successful coral reef restoration programmes, this collaboration embodies Abu Dhabi's commitment to supporting global efforts to preserve ocean health, address climate change challenges and ensure a sustainable future rich in biodiversity."

Vriko Yu, Co-Founder and CEO of Archireef, said, "We are honoured to partner with the Environment Agency – Abu Dhabi in our shared mission to protect and restore marine ecosystems for a net-positive future. Combining Archireef's innovative technologies with EAD's local expertise and leadership in environmental protection creates a powerful synergy that can deliver meaningful impact for Abu Dhabi's marine ecosystems and set a model for the wider UAE and region."

This partnership sets a new benchmark for marine restoration in Abu Dhabi and demonstrates how Nature-based Solutions and public-private collaboration can deliver real environmental impact regionally and globally.

HAMDAN BIN ZAYED ISSUES RESOLUTION ON THE POLICY OF BIODIVERSITY IN THE EMIRATE OF ABU DHABI DURING THE IUCN WORLD CONSERVATION CONGRESS

His Highness Sheikh Hamdan bin Zayed Al Nahyan, Ruler's Representative in the Al Dhafra Region, in his capacity as Chairman of the Environment Agency – Abu Dhabi (EAD), has issued Decree No. 6 of 2025 regarding the issuance of a biodiversity policy in Abu Dhabi, in a strategic step that confirms the emirate's unwavering commitment to preserving its natural resources and the sustainability of its ecosystems. The decision coincides with the IUCN World Conservation Congress, which is being held in the emirate until 15 October, reflecting Abu Dhabi's leading global role in environmental protection.

The decree stipulates that EAD, in coordination with the concerned entities, will follow up on the instruments contained in the policy and implement them according to the stated timeframe. The agency will also oversee the analysis of the impacts resulting from the policy's implementation, utilising systematic and organised procedures that will contribute to the achievement of the policy's objectives.

The policy aims to ensure the sustainability of biodiversity in the emirate and address the major challenges and threats by protecting and restoring natural ecosystems and conserving terrestrial and marine habitats essential for the survival of local plant and animal species. The policy also seeks to strengthen legislative and regulatory frameworks, implement nature-based solutions and raise environmental awareness in the community about the importance of biodiversity and the role of ecosystems in supporting human health, community well-being and resource sustainability in Abu Dhabi.

The agency, in close cooperation with Abu Dhabi Government agencies, a number of private sector institutions, and segments of the local community, developed this policy to ensure it is fully aligned with national policies.

The policy takes into account the current status and challenges facing the emirate's biodiversity sector, including the loss and degradation of natural habitats, climate change and unsustainable resource use, in addition to social and economic factors. It also outlines the measures required to protect marine, coastal and terrestrial ecosystems related to the policy.

Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of the Environment Agency – Abu Dhabi, said, "This policy is an important step towards achieving the general framework of the National Biodiversity Strategy 2031. It also strengthens Abu Dhabi's position as a leading entity in the field of protecting and sustaining ecosystems. The policy represents a strategic tool that aligns with the UAE's directives and international commitments and contributes to achieving the emirate's Environmental Centennial 2071 goals by protecting natural habitats, preserving local species and enhancing the sustainability of ecosystems.

"Preserving biodiversity is a fundamental pillar for achieving food and water security, mitigating the effects of climate change and preserving quality of life. Through this policy, we aim to stimulate joint action and integrate efforts among relevant stakeholders to rehabilitate affected habitats, conserve endangered species and enhance the database and scientific knowledge related to local biodiversity, to build a sustainable environmental future."

Abu Dhabi is home to a diverse array of rich ecosystems, such as plains and sand dunes, coasts and islands, coral reefs, mangrove forests and mountainous areas, which support unique terrestrial and marine species. However, these ecosystems face increasing challenges that require thoughtful and sustainable interventions. Through this policy, a set of measures will be implemented to enhance the resilience of ecosystems, activate partnerships across various sectors and employ modern technologies to support efforts to protect and rehabilitate these ecosystems.

RAZAN KHALIFA AL MUBARAK IS RE-ELECTED PRESIDENT OF THE INTERNATIONAL UNION FOR CONSERVATION OF NATURE

Razan Khalifa Al Mubarak, President of the International Union for Conservation of Nature (IUCN), has been re-elected for a second term at the IUCN World Conservation Congress in Abu Dhabi, United Arab Emirates.

Ms Al Mubarak is the first president from West Asia and the second woman to lead IUCN in its 77-year history.

Ms Al Mubarak's re-election was announced at the IUCN Members' Assembly, following a four-year term marked by strengthened governance, renewed trust, and the elevation of nature within global climate and biodiversity agendas. A majority of IUCN's more than 1,400 member organisations, representing 160 countries, confirmed their confidence in Ms Al Mubarak to continue leading the Union through this decisive decade for nature.

The world's oldest and largest global environmental network, the IUCN is a democratic membership union that harnesses the world's most influential organisations and experts to conserve nature and accelerate a global transition to sustainable use of natural resources. Composed of more than 19,000 conservation experts and 1,400 Member organisations, including States, government agencies, subnational governments, NGOs, and Indigenous Peoples' organisations, the IUCN is considered the global authority on the state of the natural world and the actions needed to safeguard the planet.

Her re-election comes as the IUCN launches a new four-year Programme of Work – the final one before the global biodiversity, climate, and land restoration targets are due in 2030. Under Ms Al Mubarak's leadership, the Union will work to deliver on its 20-year Vision, turning ambition into measurable outcomes and ensuring that the IUCN continues to guide collective action for nature, climate, and people worldwide.

"Thanks to her passionate, innovative, and decisive leadership, the Mohamed bin Zayed Species Conservation Fund has become a global model, showing that small but focused interventions on the ground can make a big difference in saving species. We know that she will continue to bring this same sense of commitment, creativity, and collaboration to the IUCN as it sets the global agenda for this crucial decade for conservation," said His Excellency Mohamed Al Bowardi, Deputy Chairman of the MBZ Fund.

Ms Al Mubarak said of her re-election as President of the IUCN, "I am truly honoured to have been re-elected President of the IUCN, especially at a moment when nature, climate, and people must be brought together in action. Over the past four years, I have witnessed the extraordinary strength of our Union – our Members, Commissions, and partners – working together across boundaries and disciplines. I remain profoundly grateful for the support of the UAE leadership and its institutions, whose belief in conservation has inspired my own. This new mandate is both a privilege and a responsibility – to continue turning ambition into action for nature and for humanity."

Ms Al Mubarak began her career in conservation in 2001 when she helped to establish Emirates Nature – WWF, an NGO associated with the World Wide Fund for Nature. At Emirates Nature – WWF, she spearheaded initiatives to protect the UAE's coral, conducted research leading to the establishment of the country's first mountain national park, and created the framework to protect nesting and migrating sea turtles.

In 2010, Ms Al Mubarak became the youngest person to lead an Abu Dhabi government entity with her appointment as Secretary-General of the Environment Agency – Abu Dhabi (EAD), an organisation for which she now serves as Managing Director. In her role leading a government agency of over 1,000 employees, EAD was instrumental in the successful reintroductions of the Arabian Oryx in the UAE and the Scimitar-horned Oryx in Chad.

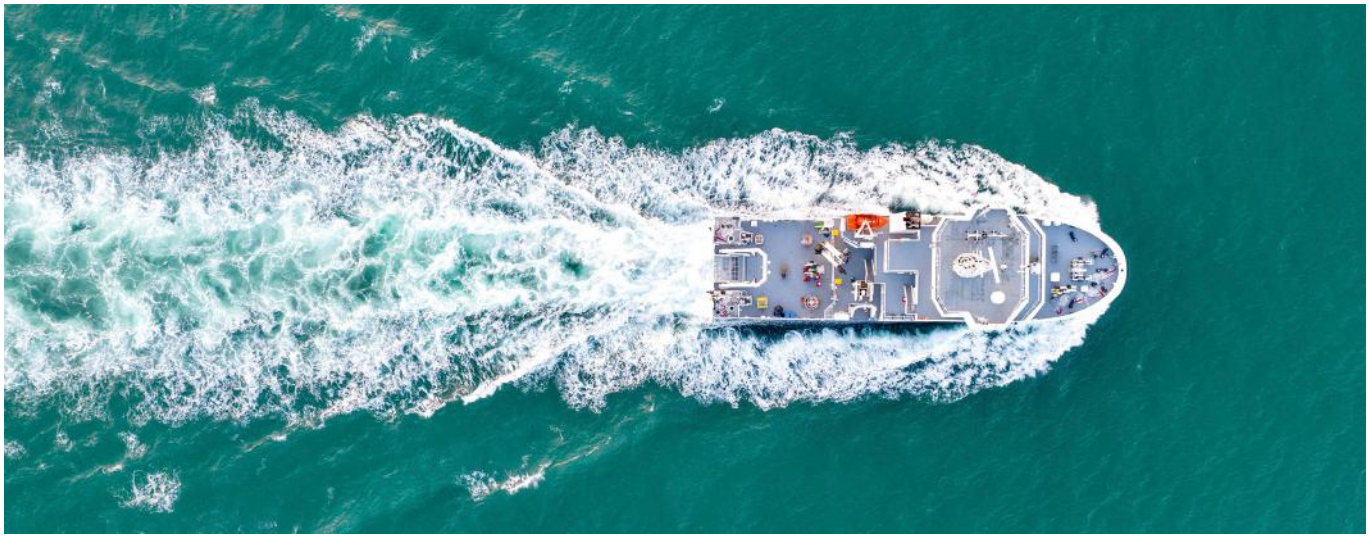
Ms Al Mubarak has helped build the Mohamed bin Zayed Species Conservation Fund (MBZ Fund) into one of the world's largest philanthropic endowments supporting direct species conservation. Since its inception in 2009, the Fund has supported more than 3,100 projects worldwide, contributing to the rediscovery, reintroduction, and protection of over 1,900 species. Under her leadership, it has evolved from a small grants programme into a platform advancing broader conservation initiatives that link biodiversity, sustainability, and human well-being.

In addition to her national roles, Ms Al Mubarak serves as the UAE Sherpa to the High-Level Panel for a Sustainable Ocean Economy, Co-Chair of the Taskforce on Nature-related Financial Disclosures (TNFD), and Nature Champion at the World Economic Forum. She also previously served as UN Climate Change High-Level Champion for COP28 UAE, where she played a key role in elevating nature's role in global climate action.

Ms Al Mubarak holds an MSc in Public Understanding of Environmental Change from the University College London (UCL) and a BA (Hons) in Environmental Studies and International Relations from Tufts University, USA. She also serves on the boards of Panthera, Re:wild, and the Tropical Forests Forever Facility.

AS PART OF EAD'S AND NEW YORK UNIVERSITY ABU DHABI'S JOINT MARINE RESEARCH MISSION

"JAYWUN" RESEARCH REVEALS THE STRONG RESILIENCE OF THE ARABIAN GULF ECOSYSTEM AND ITS ABILITY TO ADAPT TO CLIMATE CHANGE



The Environment Agency – Abu Dhabi (EAD) and New York University Abu Dhabi (NYUAD) conducted studies aboard EAD's advanced oceanographic research vessel Jaywun. This research focused on understanding the complex interactions between microbes in marine ecosystems and assessing their capacity to adapt and remain productive amid growing climate change and environmental pressures. Preliminary findings have revealed promising indicators of resilience within the Arabian Gulf's marine environment, offering valuable insights into its ability to withstand and respond to changing conditions.

The collaborative research covered a total of 2,674 nautical miles (NM) over 46 days at sea, with a team of 10 scientists onboard. To date, over 2,500 water samples have been collected and analysed from 34 designated locations across UAE territorial waters, focusing on three key areas that reflect the health of the marine ecosystem: nutrient distribution, oxygen levels and phytoplankton productivity.

One of the encouraging outcomes was that all sampling stations showed consistently stable and low nutrient concentrations in surface waters – a natural trait of the southern Arabian Gulf's low-nutrient (oligotrophic) character. This pattern is largely shaped by natural factors such as low annual rainfall and weak ocean currents that restrict nutrient inflow to coastal waters. Despite these challenging conditions, the data revealed the presence of a remarkably efficient ecosystem that compensates for this nutrient scarcity. At the heart of this ecosystem are specialised microorganisms adapted to the harsh marine environment, capable of breaking down dissolved organic matter and converting it into usable nutrients. This process enables phytoplankton to quickly absorb these nutrients, supporting primary productivity and sustaining marine life in an ecosystem largely devoid of external nutrient inputs.

Despite the scarcity of nutrients, phytoplankton levels in UAE waters are surprisingly high. Concentrations of chlorophyll, a measure of phytoplankton abundance, ranged from 5-20 micrograms per litre – significantly surpassing values recorded in both the Red Sea and Mediterranean environments, which typically do not exceed 0.05-1 micrograms per litre. One of the sites showed phytoplankton densities up to 692,000 cells per litre; on average, phytoplankton density was approximately 219,000 cells per litre, indicating high biological productivity in an environment typically known for its nutrient scarcity.

However, occasional hypoxia (low oxygen) zones were detected at deeper offshore locations during extreme summer conditions, underscoring the need for ongoing monitoring and research to fully understand potential impacts of climate change on the UAE's marine systems.

Mohamed Hasan Almarzooqi, Director of Marine Biodiversity Division at EAD, said, "These findings reaffirm the Gulf's incredible ecological adaptability and the value of long-term scientific collaboration with universities and renowned institutions such as New York University Abu Dhabi. At EAD, we are proud to lead research that deepens our understanding of marine ecosystem productivity in arid and oligotrophic environments. The initial results of the Jaywun mission showcase how nature has evolved efficient internal systems to sustain life, even in nutrient-scarce waters. Insights like these are essential as we work to safeguard marine ecosystems against the growing pressures of climate change, and ensure science continues to guide our conservation and policy decisions."

Shady Amin, Co-principal Investigator at the Mubadala ACCESS Centre and NYUAD Associate Professor said, "Together with the Environment Agency – Abu Dhabi, we are rewriting the narrative of the Arabian Gulf. Once considered one of the least studied seas, our collaboration is changing this by building a new scientific baseline that reveals the resilience of these ecosystems and ensures they become some of the best understood in the world. This knowledge will be critical for guiding conservation, policy and strengthening climate resilience in the region."

The Jaywun expeditions are part of EAD's broader efforts to deepen scientific understanding of the Arabian Gulf and strengthen climate resilience. These research missions serve as a cornerstone for shaping effective environmental policies, strengthening marine conservation efforts and steering the nation toward more sustainable development pathways.

Jaywun also stands as a distinguished model of scientific collaboration between EAD and leading academic institutions. As a state-of-the-art research platform, the vessel enables scientists and researchers from both local and international universities to conduct advanced field studies and develop qualitative research. These efforts contribute to deepening environmental knowledge and supporting evidence-based policymaking rooted in robust scientific methodologies.

AS PART OF THE ABU DHABI CLIMATE CHANGE STRATEGY

EAD PARTNERS WITH TOTALENERGIES TO LAUNCH THE SEAGRASS RESTORATION PROGRAMME

As part of the Abu Dhabi Climate Change Strategy, the Environment Agency – Abu Dhabi (EAD), in partnership with TotalEnergies, has launched a groundbreaking seagrass restoration programme, marking a pivotal step in preserving Abu Dhabi's marine ecosystems and reinforcing its global role in promoting nature-based solutions to address the challenges of climate change.

This year-long project underscores the Environment Agency – Abu Dhabi's commitment to developing best practices for restoring seagrass habitats, contributing to the conservation and development of blue carbon systems. Seagrass meadows are among the most effective coastal ecosystems for absorbing and storing blue carbon in their tissues, roots and soil. In addition to their role in mitigating the effects of climate change, seagrasses play a vital role in enhancing biodiversity. They are important natural habitats for a wide range of marine species, contribute to sustainable fisheries, improving water quality and supporting ecotourism.

Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of EAD, said, "Our seagrass restoration embodies Abu Dhabi's commitment to conserving its natural heritage and addressing global environmental challenges. Through innovation, collaboration and science-based action, this project is restoring habitats and strengthening our ability to protect and sustain the emirate's rich marine resources for future generations. Our collaboration with TotalEnergies is an important step towards strengthening joint efforts and harnessing the potential of the public and private sectors, and combining efforts to achieve the resilience of our coastal ecosystems, ensuring a sustainable future for our planet."

Abu Dhabi is home to three types of seagrass meadows, which cover an area of 3,000 square kilometres, supporting more than 3,500 dugongs and 4,000 green sea turtles, among other marine life. Abu Dhabi is home to the world's second-largest dugong population after Australia, which feeds exclusively on seagrass. This makes protecting, conserving, and developing seagrass meadows vital for their survival.

The project has successfully planted 10,000 square metres of seaweed, capable of storing 52 tonnes of carbon, equivalent to 23 flights from Abu Dhabi to London, in alignment with the "2030 Seagrass Breakthrough of the UN Ocean Decade of Ocean Science". It relies on the use of the most widespread seagrass species in the emirate, *Halodule uninervis*, and incorporates the latest technology and innovations for post-cropping monitoring and follow-up.

Since 1999, TotalEnergies has partnered with EAD to protect Abu Dhabi's ecosystems – supporting dugong conservation, protecting flamingo habitats, conducting research on coastal resilience to climate change, and promoting biodiversity research at Al Wathba. Their work promotes initiatives focused on nature-based solutions, improving soil and air quality in mangrove forests, seagrass and salt marshes. A key outcome is the dugong and Seagrass Research Toolkit, now used in over 40 dugong and 80 seagrass range states.

Samir Oumer, President TotalEnergies EP UAE and TotalEnergies Country Chair, said, "Our collaboration with the Environment Agency – Abu Dhabi (EAD) reflects our deep commitment to marine biodiversity and ecosystem restoration. The dugong and seagrass restoration project is a cornerstone of this partnership, aiming to rehabilitate vital coastal habitats and ensure the long-term survival of dugong populations. Through targeted conservation efforts, habitat restoration, and community engagement, we are working to reverse the decline of these critical ecosystems. This initiative not only supports biodiversity but also strengthens the resilience of coastal communities that depend on healthy marine environments."

The Environment Agency – Abu Dhabi will also host, for the first time in the Middle East, the 16th International Seagrass Biology Workshop (ISBW) and the World Seagrass Congress in 2026.

The announcement was made by the World Seagrass Association (WSA) and the International Union for Conservation of Nature (IUCN) at the end of August 2024. This event will serve as a platform that brings together governments, scientists, researchers, and specialists in coastal and marine environments, highlighting global seagrass issues, enhancing our knowledge about them, while also developing support and protection networks.

ART4SEA
A MEDITERRANEAN UNDERWATER MUSEUM ON THREE ISLANDS

WORDS BY **SARA RONCATI, DAN EUROPE FOUNDATION**

L-R: Aetas by Micol Cornali in Alonissos, Greece; The Queen of the Corals by Davide Galbiati in Ustica, Italy; and Trajectories by Giacomo Rizzo in Xwejni Bay, Malta.

The Mediterranean has new underwater attractions to discover thanks to ART4SEA, which has transformed the seabeds of three islands that are symbols of diving (Gozo in Malta, Alonissos in Greece and Ustica in Italy) into veritable open-air marine museums with 12 permanent works of art, including striking underwater sculptures.

ART4SEA was created to help people learn about the oceans and be more careful about the environment. The project, which is co-funded by the European Union and recognised as part of the United Nations Decade of Ocean Science for Sustainable Development (Ocean Decade 2021-2030), launched an international call for applications, selecting 24 artists from around the world.

During their residencies on three Mediterranean islands, the artists explored the seabed, coastline and urban spaces, drawing inspiration from local culture, history and myths. They transformed scientific data and environmental observations into physical and digital artworks. Murals, underwater sculptures, digital installations and immersive films came to life from the project, capable of informing, exciting and engaging visitors and divers, creating a deeper connection with the ocean and inspiring conservation actions.

Three installations transform the seabed into meeting places between art and the sea, offering visitors a unique and immersive experience that combines creativity and nature. Located at shallow depths, they are accessible to both divers and snorkellers.

Trajectories: Giacomo Rizzo (Italy) – placed underwater in Xwejni Bay, Gozo, Malta. A sculpture in the shape of a symbolic vessel, preserving the memory of the Earth while welcoming new life.

Aetas: Micol Cornali (Italy). Placed underwater in Agios Dimitrios Bay, Alonissos, Greece. A work that lies between myth and waste, denouncing ocean pollution and inviting us to rethink our relationship with the sea.

The Queen of the Corals: Davide Galbiati (Italy). Placed underwater in Cala Giacone, Ustica, Italy. A reclining female figure among the corals is an allegory of the fusion between humans and nature, and an invitation to listen to and care for the ocean again.

These works not only enhance the diving experience, but also become significant landmarks for diving and snorkelling itineraries, offering opportunities for exploration, reflection and ecological awareness.

Marine sculptures, murals, mosaics and land-based sculptures are used to transform urban and coastal spaces. These sculptures celebrate biodiversity, Mediterranean myths and the sacred relationship between humans and the sea. Examples include Calypso and Symbiosis in Gozo, Life Synchrony and Blue Diver in Alonissos, and the murals Beneath the Surface and Guardians in Ustica.

The sculptures and installations have been designed to blend harmoniously with the seabed and coastal landscapes, without negatively impacting the ecosystem. They are made from eco-friendly and recycled materials. Steel, recycled glass and non-polluting debris are used as tools for artistic expression, symbolically representing the need for sustainable practices to protect the Mediterranean.

The journey is completed by 12 digital works that can be accessed on the official ART4SEA website: virtual reality experiences, sound art and immersive videos that allow the fragility of the Mediterranean to be explored through emotional and innovative languages by anyone, diver or not.

ART4SEA was developed by a consortium of seven international partners, bringing together cultural, scientific and technological organisations. These include DAN Europe, which helped to connect the project with the diving community, strengthening the role of divers as privileged witnesses to the health and safety of the sea.

"Every dive is a testament to the beauty and fragility of the sea," says Fabio Figurella, EU Project Coordinator for DAN Europe. 'With ART4SEA, divers are not just visitors: they become ambassadors for conservation, able to tell what is happening below the surface and inspire real change.'

ART4SEA's permanent works will be a key part of the landscapes of Ustica, Gozo and Alonissos for many years to come. Divers will love the experience these islands will offer, which will make them cultural and diving destinations like no other in the world.

OCEAN GAIA

Installed on the 14th of October 2025, Ocean Gaia is a monumental underwater sculpture resting 5 metres beneath the surface off the island of Tokunoshima, Japan. Weighing over 45 tonnes and spanning 5.5 metres in width, the work features a serene large-scale portrait of the renowned Japanese model Kiko Mizuhara. It is the first underwater sculpture ever installed in Japan.

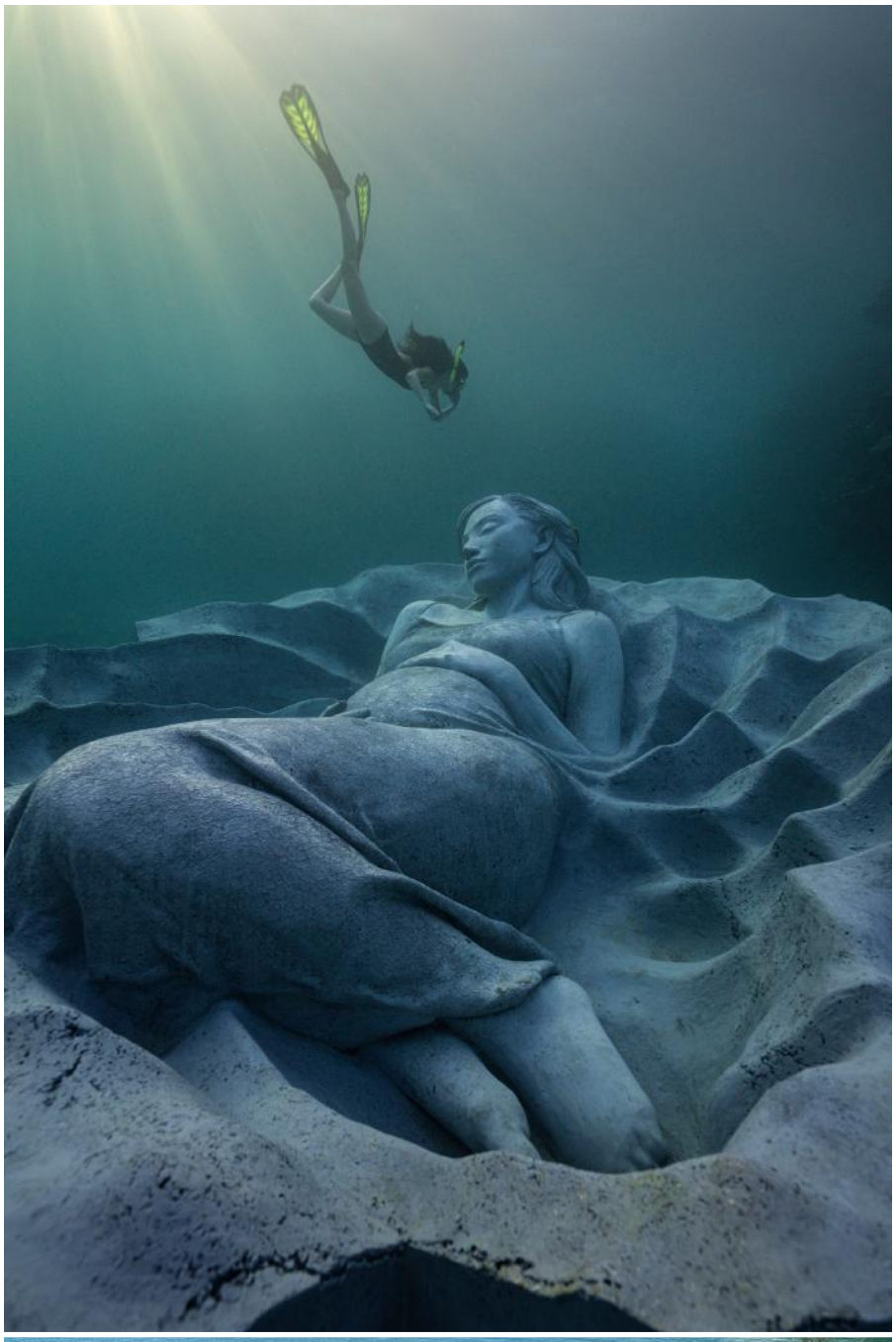
Set close to shore and embedded within the fringing reef, the sculpture is perforated with openings around its edges to invite marine life inside, transforming it into both artwork and habitat. Its gently swirling contours echo the intricate sand circles crafted by the Japanese white-spotted pufferfish (*Torquigener albomaculosus*), native to these waters and the rising peaks and valleys of the nearby mountain range.

Tokunoshima, known for its healthy lifestyle, high birthrate, and remarkable number of centenarians, forms a fitting setting. Along its spine, a mountain range rises in the silhouette of a pregnant woman. Ocean Gaia stands as both a symbol of renewal and a gesture toward reconnection between people, the sea, and the continuity of life itself.

In recent years, many of Japan's younger generations have left the islands for larger cities. This new work seeks to inspire renewed cultural interest and deeper connection among local youth – a new gateway to the sea.

Ocean Gaia envisions the sea as a vast maternal force that breathes, renews, and heals. Drawing from the myth of Gaia, the primordial mother, the work reflects on the ocean as origin and consciousness, the source from which all life emerged. It speaks to interconnection and reverence, a reminder that the ocean is not apart from us, but an entity on which we are entirely dependent.

It is hoped that when visited, the piece evokes a deep, instinctive memory of being held within water – a quiet meditation on creation, fertility, and the ocean as the original womb of life.



FAQS

Location: Kaminomine, Tokunoshima, Oshima District, Kagoshima.
Weight: 45,000kg
Materials: PH neutral cement, stainless steel.
Size: 5.5m diameter, 2m high
Depth: 5-7m (dependant on tides)

Accessibility: Short swim from shoreline or 5 min boat ride. Accessible to divers, snorkellers or glass bottom boats.

Commissioners: Tokunoshima Town Hall and local government

Construction Time: 2 years

Portrait: Kiko Mizuhara is a Japanese-American model, actress, and designer known for her distinctive style and international influence. Born in Dallas and raised in Japan, she has appeared in films such as Norwegian Wood and The Legend of the Blue Sea, and has collaborated with major global fashion and art brands.

Artist: Jason deCaires Taylor is a British sculptor, environmentalist, and underwater photographer renowned for creating the world's first underwater sculpture parks and museums. His large-scale installations, placed on the seabed across the globe, are designed to evolve with marine life, transforming into living reefs. Blending art, science, and conservation, his works explore themes of climate change, humanity's relationship with nature, and the regenerative power of the ocean.

Trained in sculpture and diving, Taylor's projects – from the Museo Subacuático de Arte in Mexico to the Museum of Underwater Art in Australia – invite reflection on our impact on the planet while offering a vision of renewal beneath the waves.

https://underwatersculpture.com
www.facebook.com/jasondctaylor
www.instagram.com/jasondecairestaylor
www.youtube.com/@jasondecairestaylorstudio

WITHOUT DATA IT'S ALL JUST AN OPINION:
CITIZEN SCIENCE AND CONSERVATION IN BARBADOS

BY **KRAMER WIMBERLEY, FOUNDER OF DWP-CARES & REEF CHECK ECODIVER TRAINER**

The vibrant underwater world of Barbados' Carlisle Bay buzzed with purpose this past June, as a dedicated team of citizen scientists gathered for a week of intensive training in data collection efforts aimed at saving the coral reef ecosystem. This collaborative mission, a testament to the power of international partnership and shared environmental stewardship, brought together individuals from diverse backgrounds across the United States – California, New Jersey, Indiana, New York, Washington DC, and Miami – united by a common passion for ocean conservation.

At the heart of this vital project was a deep-rooted partnership between the visiting citizen scientists and Barbados Blue, a renowned local organisation led by Andre Miller and his skilled team of marine scientists. Barbados Blue plays a pivotal role in the protection and management of the marine protected area within Carlisle Bay, making their expertise and intimate knowledge of the local ecosystem indispensable to the monitoring mission. This alliance, spearheaded by CARES, began cultivating a relationship with Andre Miller and his team in 2024, sparked by the compelling words of Prime Minister Mia Mottley. Her powerful address on the profound and disproportionate impact of climate change on Caribbean islands resonated deeply, highlighting the urgent need for action and collaboration.

Over several intensive days, the citizen scientists, under the expert guidance of Barbados Blue's marine biologists, immersed themselves in the intricate process of coral reef assessment. The teaching methodology of Reef Check's protocol focuses on determining reef health by assessing the presence or absence of key indicator fish, invertebrate, substrate, and reef-building coral species. Equipped with specialised training and tools, the teams meticulously gathered data using precise survey techniques.

A significant component of this training involved conducting fish, invertebrate, substrate, and roving reef-building coral surveys, each offering critical data important to assessing overall reef health. Fish surveys are becoming increasingly challenging due to the pervasive loss of fish biomass resulting from overfishing and the disruptive introduction of the invasive lionfish. All invertebrates are important indicators in determining reef health, but because of the catastrophic loss of *Diadema antillarum* (sea urchin) that occurred in the late 1980s – an ecological event from which many reefs are still attempting to recover – their presence on the reefs in Barbados is particularly inspiring, suggesting a positive trend within these marine protected areas. These sea urchins are crucial grazers that help maintain algal balance on the reefs, and their absence has led to the current overabundance of algae proliferation seen throughout the Caribbean islands. The substrate survey further enhances understanding, as participants learn to classify the ocean floor into 10 distinct categories, each with an approximate ideal percentage of coverage. The overall coverage of substrate species and their percentages on the ocean floor are vital indicators of reef health. When these percentages are disrupted, the reef's balance is compromised, and its health declines; an overabundance of any particular organism signals cause for concern. This is substantially different from the waters of the Florida Keys, for instance, where Palythoa, an encrusting zoanthid, is in abundance, indicating a decline in reef health and actively replacing slower-growing reef-building hard corals due to its rapid proliferation.

Part of the profound beauty of the Reef Check protocol lies in the way it allows students to become intimately familiar with the specific area for which they are collecting data. As instructors, we impress upon them to consider their designated survey site as their "entire universe" for the week. With this mantra firmly in mind, they begin to truly grasp the importance of preserving their universe, diligently collecting data on its inhabitants, meticulously identifying all the organisms within it, and ultimately gaining a deeper understanding of its significance in the grand scheme of things. This intimate connection ensures that even after they emerge from the water, complete their surveys, and return to their respective homes, they will forever remember and champion their universe, carrying its importance with them.

Beyond the immediate data collection, a core goal of this mission was to inspire each participant to forge a deep, personal connection to the coral reef ecosystem. The hope is that this visceral experience will empower them to return home and become passionate advocates themselves, spreading the word about the urgent need for citizen science data collection to document the current state of reef health. Furthermore, this initiative aims to ignite a commitment to ongoing "ocean healing" – encouraging

engagement in hands-on efforts such as marine debris removal and, critically, participation in coral nursery maintenance and out-planting work, actively contributing to the restoration of these vital underwater gardens. This holistic approach underscores a broader vision for the dive industry as a whole: to train the next generation of dive professionals not just in technical skills, but to be true ocean advocates, capable of guiding divers on informative excursions that deepen understanding and foster environmental stewardship. CARES is actively working towards this goal by developing ocean advocates from within local Caribbean communities, teaching them the tangible benefits of data collection around their individual islands, and inspiring them to become marine scientists who will lead future conservation efforts.

Looking ahead, a significant objective of this ongoing collaborative effort is to build a dedicated cadre of youth divers from the US to partner with their Barbadian counterparts. This next generation of marine stewards will be rigorously trained in coral ecosystem monitoring, with their collected data providing crucial insights to policymakers both in Barbados and across the wider Caribbean region, fostering informed decisions for regional conservation.

The success of this monitoring effort in Barbados serves as a powerful reminder of what can be achieved when communities, organisations, and individuals transcend geographical boundaries to address pressing global issues. Our ultimate goal is to transform every scuba diver into a CARES ocean advocate, trained to collect data on the health of the coral reef so that we are all better informed about human impact on the ocean and what we can do to correct it. Anecdotal information isn't scientific data collection, and without data, it's all just an opinion. In the face of escalating climate change threats, the health of our coral reefs – vital ecosystems that support marine biodiversity, protect coastlines, and sustain livelihoods – is increasingly precarious.

Initiatives like this underscore the critical role of citizen science in collecting widespread data and raising awareness, while also highlighting the immense value of supporting local expertise and leadership in conservation.

As the citizen scientists returned to their homes, they carried with them not only data sheets and memories of Barbados' stunning reefs but also a profound understanding of their role in a larger global movement. The partnership between CARES, Barbados Blue, and these dedicated volunteers exemplifies a beacon of hope, demonstrating that through collaboration, education, and unwavering commitment, we can work towards a healthier, more resilient future for our oceans and the communities that depend on them.

REEF CHECK CONDUCTS FIRST-EVER KELP FOREST CROSSOVER COURSE IN HAWAI'I

BY **BRAD GILES, REEF CHECK HAWAI'I COORDINATOR**

Members of Reef Check's Kelp Forest Monitoring Programme ventured partway across the Pacific to Kailua Kona, Hawai'i to become EcoDivers and help support coral reef resiliency in the state of Hawai'i. The team completed their academics and field training and then conducted four surveys along the Kona coast. We capped off the week of diving with the world-famous Manta Ray Night Dive. A special thanks to the team at Kona Diving Company for providing vessel and crew support!

With the diving complete, the team had a dry day before flying back to the mainland. What better way to spend it than by heading to the 'Ākoʻako'a Coral Nursery. We learned about coral restoration efforts, toured the facility, and even got to feed coral! A special thank you to 'Ākoʻako'a and Arizona State University for sharing information about their restoration efforts.

To Amanda, Chao, Elizabeth, Mark, Jaimee, and Sean – congratulations on becoming Reef Check EcoDivers and thank you for attending the inaugural Kelp Forest Crossover Training Programme! When those Pacific Northwest and California waters get a little too refreshing, we look forward to you surveying with us again in our beautiful Hawaiian waters.

AQABA'S NEW ECODIVER TEAM
JOINS THE REEF CHECK NETWORK IN JORDAN

BY **DR MOHAMMED M. A. KOTB, REEF CHECK COORDINATOR & ECODIVER COURSE DIRECTOR**

Between the 24-28th of August 2025, Aqaba hosted a specialised training programme that marked a significant step in advancing marine conservation in Jordan. The five-day course, entitled "Reef Check EcoDiver", was carried out in cooperation with the United Nations Development Programme (UNDP) as part of the Global Fund for Coral Reefs (GFCR) initiative.

This training was not a conventional workshop; it represented the fusion of science, practice, and national commitment to safeguarding one of Jordan's most valuable natural assets: its coral reefs. Designed for divers from the Royal Jordanian Navy, the programme combined classroom learning with hands-on experience in the Aqaba Marine Reserve. Over three full days underwater, participants refined essential diving and monitoring techniques, from underwater communication and buoyancy control to safe movement practices and the systematic collection of scientific data. Complementing these field sessions were theoretical modules that focused on coral reef ecology, threats to marine biodiversity, and globally recognised monitoring protocols.

The rigor of the programme was underscored by comprehensive examinations – both written and practical – ensuring that participants not only acquired knowledge but also demonstrated their ability to apply it in real-world conditions. The training followed the Reef Check methodology and allows data collected in Aqaba to contribute directly to regional and global conservation efforts. The programme was led by Prof Dr Mohamed M. Kotb, Reef Check Course Director and Regional Coordinator for Red Sea Countries, with operational support from Mr Mohammad Al-Tawaha of UNDP-Jordan.

Beyond the technical aspects, the course highlighted the value of institutional cooperation. The joint efforts of Aqaba Special Economic Zone Authority (ASEZA), the Jordanian Royal Navy, and UNDP illustrate how cross-sectoral partnerships can translate into tangible outcomes for biodiversity protection.

By equipping national teams with advanced monitoring skills, Jordan is strengthening its frontline capacity to respond to the challenges of climate change, overfishing, and other human pressures on marine ecosystems. The significance of this initiative extends well beyond the training itself. It aligns with Jordan's broader strategy under the GFCR programme, which integrates conservation with sustainable development. Coral reefs in the Gulf of Aqaba provide essential ecosystem services – supporting fisheries, sustaining tourism, protecting coastlines, and harbouring rich biodiversity. Ensuring their resilience is therefore not only an environmental necessity but also a socio-economic priority.

As the newly trained environmental divers take on their responsibilities, they will contribute to a growing national effort to monitor and protect coral reefs, generate high-quality data for decision-making, and inspire a culture of stewardship. The programme in Aqaba stands as a model of how practical training, science-based methodologies, and strong partnerships can converge to create lasting impact for marine conservation.

A BREAKTHROUGH FOR SUNFLOWER SEA STARS AND A GLIMMER OF HOPE

BY **JAN FREIWALD, REEF CHECK EXECUTIVE DIRECTOR**

Over a decade ago, sea stars along the West Coast began disappearing almost overnight. At the time, in 2013, Reef Check volunteers noticed the alarming changes when they reported sick and dying sea stars at 25 survey sites stretching from Sonoma County to the Channel Islands and San Diego. The species with the most devastating losses was the sunflower sea star – the world's largest sea star – which has been all but absent from California waters ever since. Over the following years, we have observed many of the consequences of this loss of what was once one of the major invertebrate predators in the kelp forest, including widespread urchin barrens and the continued decline of kelp forest in many areas along the coast. These changes in the kelp forest ecosystem were the beginning of a widespread die-off of red abalone in Northern California and the closure of the last recreational abalone fishery in the state, as well as the declaration of a fisheries disaster for the red sea urchin fishery in Northern California.

The cause of this mysterious illness, Sea Star Wasting Disease, was unknown for years. Divers watched as stars developed lesions, lost arms, and melted away, but no one could say for certain what was causing it. For years, scientists searched for the cause, considering everything from warming waters to viruses.

Now, thanks to research led by Melanie Prentice and Alyssa Gehman, of the Hakai Institute in British Columbia, Canada and their collaborators published in Nature Ecology & Evolution, the mystery has been solved. A bacterium, Vibrio pectenicida, is responsible for the wasting disease. Through careful experiments, the use of genetic datasets, and field observations, they identified the bacterium causing the disease symptoms. This breakthrough resolves one of the most enduring mysteries in one of the largest marine epidemics ever observed and this long-awaited discovery marks a major step toward understanding – and hopefully reversing – the decline of these important predators.

While the sunflower sea star was listed as critically endangered in 2020 by the IUCN, there are signs of hope. In recent months, a handful of sunflower sea stars have been spotted again along California's Sonoma County coast. Reef Check staff joined other researchers in documenting these sightings, collecting data, and celebrating the chance to learn from these rare observations.

REEF CHECK ITALIA COMPLETES 11th EXPEDITION TO INDONESIA; PARTICIPANT REFLECTS ON TRIP

BY **ELENA MANFREDINI**

Reef Check Italia recently completed its 11th annual expedition to Bangka Island, North Sulawesi, Indonesia. Participant Elena Manfredini, a recent graduate with a master's in marine biology, vividly shares her valuable experience here:

"Some experiences can never be fully captured in words: they have to be lived.

Still, I want to try to share what I felt during an intense week on Bangka Island, a small slice of paradise in Indonesia. It is a breathtaking place, surrounded by nature and home to extraordinary people. Here, humans don't seek to dominate, but to coexist with the environment, and this mutual respect creates a fragile yet precious balance that must be carefully protected.

The island's heartbeat seems to echo the rhythm of the waves. Every day, researchers, students, and volunteers come together with a single mission: to safeguard the coral reef, one of the most diverse and vital ecosystems on Earth.

Corals are far more than the colourful, intricate organisms that make the underwater world so fascinating. They provide shelter and food for thousands of marine species. Without them, the ocean would lose much of its biodiversity, and the survival of coastal communities would be at serious risk.

With the guidance of professors and local dive instructors, we built a multidisciplinary team, each of us contributing our skills and knowledge. Using Reef Check and Coral Watch protocols, we monitored reef health and collected valuable data, essential for understanding how these ecosystems evolve over time. But this experience went beyond environmental monitoring. It was about becoming part of something greater, a collective purpose fuelled by enthusiasm and commitment.
It taught me many lessons: the value of collaboration, a deeper respect for the natural world, and the realisation that indifference is no longer an option. Climate change and pollution are putting the future of these ecosystems at risk, with consequences that extend well beyond the ocean.

From this extraordinary journey, I bring back strong bonds, both with the people I had the privilege to work alongside and with nature itself. Only by observing the underwater world up close, and experiencing the vibrancy of its inhabitants, can one truly grasp how interconnected everything is.

I am deeply grateful to Reef Check for the opportunity and for their tireless efforts to protect coral reefs worldwide. And I want to acknowledge all who are already committed to this mission, and those who will join in the years ahead: only together can we achieve meaningful change."

GROWING THE KELP DAY FAMILY:

A COMMUNITY-CENTRIC KICKOFF TO SCIENCE AND CONSERVATION

BY **JESSICA PANTOJA, REEF CHECK BAJA CALIFORNIA REGIONAL MANAGER**

Kelp Day is an annual celebration dedicated to raising awareness about the ecological and cultural importance of underwater kelp forests and to promote collaborative efforts for their conservation and restoration. These events highlight the vital role that kelp ecosystems play in temperate coastal regions, especially along the Californias, and the urgency of addressing the combined impacts of climate change and human activity.

Through interactive exhibits, talks, art, and community activities, Kelp Day connects people of all ages and backgrounds – from divers and fishers to students, scientists, and families – creating opportunities to learn, share, and take action for these ecosystems and the ocean.

Kelp Day has become an opportunity to celebrate both the science and the communities connected to these ecosystems. Through educational activities, community events, and interdisciplinary collaborations, this celebration seeks to inspire concrete actions to protect and restore the world's kelp forests.

In Baja California, the second annual Kelp Day was celebrated in Ensenada, at the Caracol Museum of Science. Local organisations, universities, and community groups came together to honour the kelp forests that sustain life along the peninsula's coast. What began as an initiative of the Ecosystem Management Group for the Californias (MexCal) at the Universidad Autónoma de Baja California (UABC – in collaboration with Reef Check – has now evolved into a growing community effort that bridges science, education, and conservation.

Cuidemos el Océano AC and the Caracol Museum of Science have played a crucial role in ensuring the continuity of Kelp Day celebrations. They have promoted the integration of local fishers, dive centres, government agencies, universities, civil society organisations, as well as artists and local producers. This diversity of participants reflects the core spirit of Kelp Day: connecting people from different sectors to strengthen the collective effort to protect and restore coastal ecosystems.

The weekend of activities began on September 28th, when divers and volunteers carried out urchin removals at a local reef. Cuidemos el Oceano coordinated the removal while the MexCal team performed an underwater survey to evaluate the collective restoration actions before and after the removal. Meanwhile, the Reef Check Baja team conducted its annual monitoring survey at this historically significant site. Campo Kennedy, one of Ensenada's most visited dive sites, used to have a lush kelp forest. Now, it is one of the best examples for restoration. The dive day set the tone for a weekend devoted to reconnecting people with the sea and the ecosystems that define Baja California's coast.

This year, the community honoured Guillermo Torres Moye as the Kelp Champion, an award given to individuals who demonstrate exceptional commitment to the protection and restoration of kelp forests. This recognition highlights Guillermo's dedicated efforts and passion in supporting marine conservation.

"I had never heard much about kelp before," shared one participant. "Seeing it underwater and learning how important it is for marine life and for us changed how I look at the ocean."

Moments like these capture what Kelp Day is all about – creating spaces where science, community, and shared experiences come together to inspire ocean stewardship.

As the celebration continues to grow, so does the network of people committed to preserving and restoring Baja California's kelp forests. Each year, new collaborations, stories, and experiences emerge, strengthening the connection between communities and the sea. Kelp Day reminds us that meaningful conservation begins locally – with people who care, act, and work together to protect the ocean we all share.

REEF CHECK MALAYSIA:
COMMUNITY ACTION AND NEW DIGITAL TOOLS

BY **REEF CHECK MALAYSIA**

Reef Check Malaysia provides us with this update on their activities over the past few months:

KOD BLUE: LAUT NEEDS YOU 2025

On the 21st of September, 35 volunteers joined the third annual Kod Blue event in Kampung Juara, taking part in both beach and underwater clean-ups. In just two hours, they collected 434.5kg of trash – mostly plastic bottles, foam pieces, and ropes – and injected 198 Crown-of-Thorns sea stars with vinegar to protect coral reefs. The villagers also hosted a Pasar Mesra Alam, where food was sold in paper packaging.

Our Cintai Tioman colleague, Ella, conducted a demonstration for a few of our volunteers, who got to try our glass crushing machine. The machine turns glass bottles into sand for making "coral pots" used in our reef rehabilitation efforts in Tioman.

HANDS-ON MARINE EDUCATION AND AWARENESS ACTIVITIES

RCM colleagues have been conducting education and awareness activities in several of our project locations. Our team in Kota Kinabalu conducted the following programmes:

- A marine education session with three primary schools, including SK Pulau Gaya – the only island-based school in Kota Kinabalu. It was followed up by a visit to the Aquarium and Marine Museum at Universiti Malaysia Sabah, which included a guided walk through the exhibits.
- A session with 200 new students at Likas Vocational College, where our colleague Nadhirah introduced Reef Check Malaysia and its programmes, explained the Sustainable Development Goals (SDGs), and highlighted how Technical and Vocational Education and Training (TVET) supports these goals in building a sustainable future.

In the Mersing group of islands, our colleagues conducted two community awareness programmes to promote local marine conservation. Over 100 visitors visited Reef Check Malaysia's exhibition booth to learn about local initiatives.

In the South of Johor, 129 students attended an awareness session on coral reefs, mangroves, and seagrass through interactive demonstrations. Fifty of them then joined us in the International Coastal Cleanup collecting 430kg of marine debris (4,571 items). As a follow-up, students will repurpose some of the waste to create a marine debris replica, turning cleanup efforts into a creative learning project.

Meanwhile, in a separate programme, 31 students established a mangrove nursery, planting 50 propagules. These seedlings will be nurtured for several months before being transplanted along the coastline, allowing students to actively contribute to mangrove restoration.

WASTE MANAGEMENT PROGRAMME & CMCG SKILLS TRAINING IN SEMPORNA

Since its launch in March 2025, the waste management programme on Selakan Island has involved 40 households in a community-led waste collection and segregation system. So far, 1,339kg of waste has been prevented from polluting the surrounding marine ecosystem, with segregated waste sent to the mainland for proper disposal. The Selakan Marine Conservation Group led the implementation and coordination, gaining valuable hands-on experience in managing community-based projects.

Meanwhile, several members of our Community Marine Conservation Groups (CMCGs) in Semporna have been building new skills through several training sessions, including:

1. **Rescue Diver Certifications:** Enhances members' safety awareness and strengthens their ability to carry out marine conservation work.
2. **Drone Training:** Equips members with the skills to operate drones for upcoming sea patrols in Mabul, expanding the patrolling efforts from Selakan Island.
3. **Community Education & Public Awareness** (CEPA) Workshop: Prepares members to take the lead in education and awareness activities on their islands, continuing RCM's outreach efforts independently.

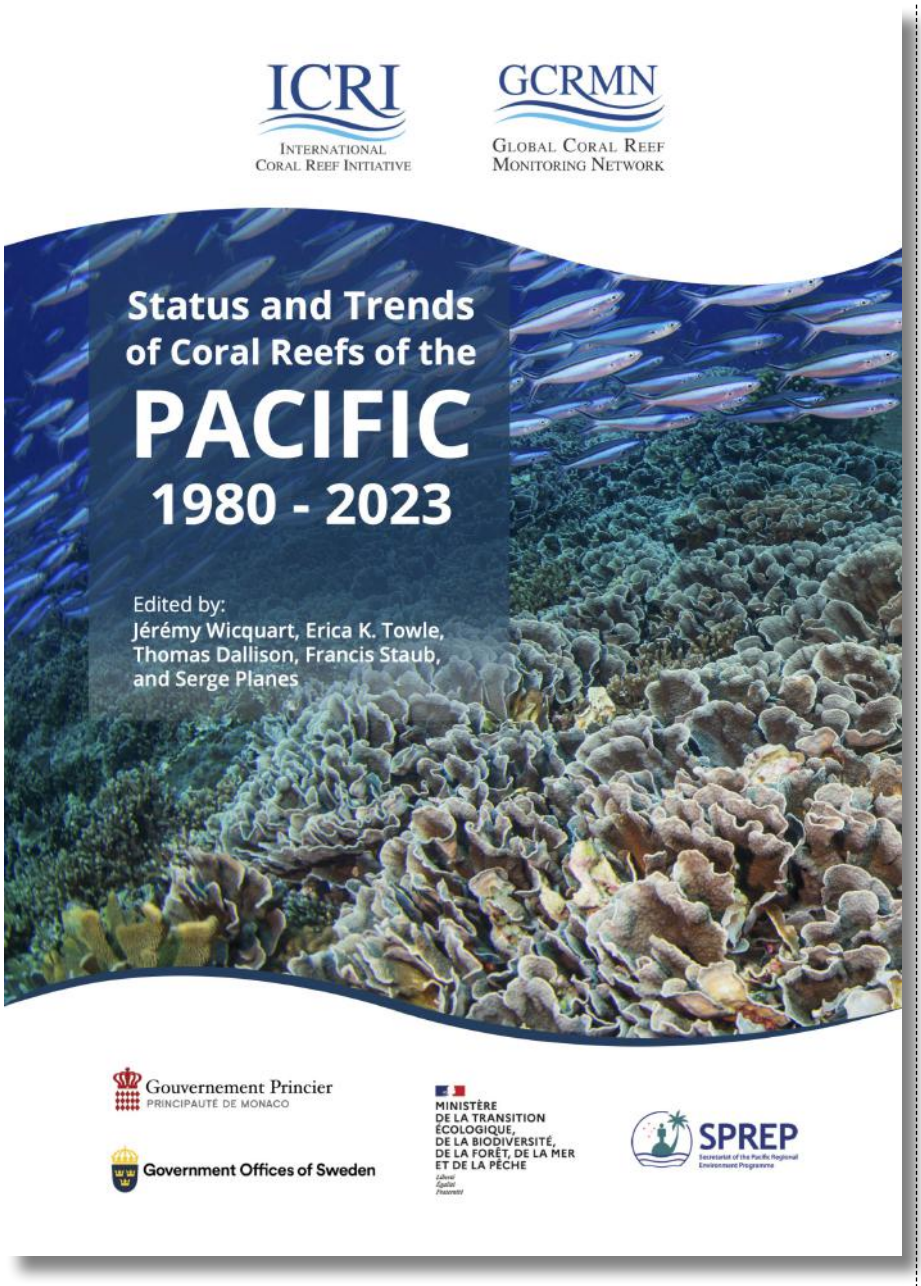
NEW FEATURES AND REPORTS ON REEF CHECK MALAYSIA'S WEBSITE

We've just rolled out some exciting new features on our website! We now have an option for our visitors to explore an interactive map showing real-time data on the health of Malaysia's coral reefs and download our marine education modules specially designed for primary school students. Dive in and start exploring today!

https://reefcheck.org.my

PACIFIC CORAL REEFS AT A CROSSROADS:
NEW REPORT CALLS FOR URGENT GLOBAL ACTION

BY **THE GLOBAL CORAL REEF MONITORING NETWORK (GCRMN)**



A major new regional assessment launched in June by the Global Coral Reef Monitoring Network (GCRMN), an operational network of the International Coral Reef Initiative (ICRI), calls for urgent and unified action to protect the future of coral reefs in the Pacific. Released at the Third United Nations Ocean Conference, the Status and Trends of Coral Reefs of the Pacific: 1980-2023 is the most comprehensive report produced on the region's reefs to date.

The Pacific harbours over 26% of the world's coral reefs, spanning 65,255km² across 30 countries and territories. These ecosystems are far more than biodiversity hotspots: they are the lifeblood of Pacific societies – sustaining fisheries, protecting coastlines, and anchoring cultural identity. In many Pacific communities, coral reefs are not just ecosystems but kin, ancestors, and sacred spaces. Their survival is inseparable from the survival of Pacific ways of life.

Drawing on more than 15,000 surveys from over 8,000 sites between 1987 and 2023 (including Reef Check's extensive database from the region going back to 1997), the GCRMN report delivers a nuanced picture: one of resilience in the face of mounting pressure, but also one that signals urgent intervention is needed.

While many reef systems globally have experienced dramatic declines, the Pacific's average hard coral cover remained relatively stable at 25.5% from 1990 to 2022. This resilience is remarkable and offers hope – attributed to the region's vast geography, high ecological diversity, and relatively low human population.

Yet this seeming resilience is underlined by a changing system:

- Coral cover declined during major bleaching events – by 2.4% in 1998 and 3.7% in 2014-2017 – with recovery taking up to six years.
- The composition of coral communities is shifting away from complex branching species to more massive forms, reducing the complex three-dimensional habitat that supports biodiversity.
- Macroalgae, which compete with corals, has increased by 2.7% across the region, yet coralline algae – vital for new corals to settle – showed modest gains.
- Sea surface temperatures over coral reef areas rose by +0.82°C between 1985 and 2022, contributing to the projected increase in frequency, intensity, and duration of marine heatwaves (leading to bleaching events).
- From 1980 to 2023, 945 cyclones passed within 100km of reefs, and these are expected to become more intense with climate change.
- Human populations near reefs have grown by 28.7% since 2000, increasing local pressures such as pollution and overfishing.

Critically, these findings predate the ongoing Fourth Global Coral Bleaching Event – the most widespread and intense ever recorded – which has affected 84% of the world's coral areas and is still ongoing. The report is clear: if 2023-2024 data were included, we would likely have observed a decline in coral cover in the Pacific. Even though conservation actions in the Pacific have likely aided coral cover to remain relatively stable until 2022, without bold and transformative international progress to curb climate change, the reefs of the Pacific face an uncertain future as more intense and frequent bleaching events become the norm.

The International Coral Reef Initiative has set out clear actions for coral reefs in its Eight Key Policy Asks, from improving water quality, supporting sustainable reef fisheries, and centring Indigenous knowledge in reef governance, to scaling finance and addressing the Triple-Planetary Crisis. Pacific nations are already pioneering many of these approaches – but require greater international financial support to scale them.

DOWNLOAD THE FULL REPORT AT:
https://gcrmn.net/pacific-report-2025-v1

REEF CHECK SOCAL AND BAJA:

DIVING BEYOND BORDERS FOR KELP FOREST CONSERVATION

BY **JESSICA PANTOJA, REEF CHECK BAJA CALIFORNIA REGIONAL MANAGER** AND **JACLYN MANN, REEF CHECK SOUTHERN CALIFORNIA REGIONAL MANAGER**

On the 12th of October, Reef Check SoCal and Reef Check Baja joined forces to conduct, for the first time, a joint kelp forest monitoring expedition off the coast of San Diego. Aboard the Humboldt, a team of passionate divers from both sides of the border came together to share knowledge, strengthen bonds, and dive into the living forests that connect our coasts.

This marked a meaningful milestone for Reef Check Baja – the first time that a team of certified Reef Check divers from Mexico participated in a monitoring effort in California waters. The initiative reflects the growing collaboration between both regions, where scientists, fishermen, and citizen divers are joining efforts to protect the same ecosystems that connect our coasts.

Although surface conditions looked ideal – calm seas and sunny skies – poor underwater visibility prevented the completion of the scheduled surveys. But as every diver knows, the ocean has its own rhythm. Instead of returning to shore, the team decided to make the most of the day with a recreational dive amongst the majestic Pelagophycus porra, the giant elk kelp that thrives in deeper waters.

For many on the team, it was their first time descending into these deeper forests, where towering golden blades sway gently in the dim blue light. The experience was unforgettable – an encounter with a rarely seen ecosystem that deepened everyone's sense of connection to the habitats they work so hard to monitor and protect.

"Collaborating with Reef Check SoCal was an experience that deeply enriched my learning as part of the Reef Check Baja team," shared Carla Castañón. "It reminded me how important it is to unite efforts – because the ocean knows no borders, and the challenges we face are the same."

"Sharing this space with people from such diverse backgrounds, but all united by their love for the ocean and their desire to protect it, was something truly special. The energy on board was incredible," added Castañón.

Two long-time Southern California volunteers, Scott "Mac" McLeod and Nick Radcliffe, both of whom have previously surveyed with the Baja team in Mexico, shared their excitement about the collaboration.

"Participating as part of an international team reminds us that ocean stewardship transcends borders. If we want to protect our oceans, we must think globally while acting locally," stated Nick. And Mac expanded, "Having been on a couple of Baja surveys with the Baja team, being able to have them join with the SoCal team in our home area was superb. One mission. One wonderfully diverse, knowledgeable, multicultural team."

This collaboration represents more than a day at sea – it's a step toward strengthening the network of ocean stewards who, from Baja California to California, are working together to understand and conserve the living forests beneath the waves. This programme is made possible thanks to the grant support from the Binational Resilience Initiative at the San Diego Foundation.

OUR INCREDIBLE OCEANS

WORDS BY **ISAAC AL-ZU'BI**

The Ocean is one of the most amazing parts of our planet. I learnt in school that it covers over 70% of Earth and is really important because it helps make the air we breathe, gives us food, and is home to millions of animals like dolphins, turtles, and sharks. Our Oceans are even responsible for the rain that helps our plants to grow and without those plants we wouldn't have food to eat! If our Oceans are in trouble, we humans would also be in trouble – and right now, our Oceans are facing a lot of serious problems. It's up to us to do something about it, especially my generation. We are the hope of tomorrow, and we need to do something before it's too late.

So what are the problems and how can we help? One of the biggest issues is pollution, especially plastic. Every year, millions of tonnes of plastic end up in the sea. Sea turtles mistake plastic bags for jellyfish. Dolphins, and birds often mistake plastic for food and eat it, which can make them seriously sick or even kill them. Even tiny pieces of plastic, called microplastics, are now showing up in fish and that means they could end up in our food too. It's scary to think about how much we've already damaged the ocean by throwing things away irresponsibly. We should always throw our trash in the bin to avoid it ending up in rivers and eventually our seas and oceans. We should also always recycle when we can so that less plastic ends up on the streets.

Another problem is overfishing. Some big fishing companies take way too many fish at

Diving with my Dad.

once, which doesn't give the species time to recover and affects the whole food chain. This can ruin the livelihoods of the people who depend on fishing to feed their families.

I watched a documentary with my mum about big fishing companies that trawl the ocean floor collecting tonnes and tonnes of fish. Whilst they were scooping up the fish, they were also collecting sharks, turtles and I was so sad to even see a whale shark that had been picked up. The whale shark died because of the greedy actions of the company. I promised myself that I would always try and teach my friends and the kids in school about the importance of telling their parents to buy fish from sustainable sources and companies that take care of the ocean.

Climate change is something that we learn a lot about at school. We know that increasing temperatures are making the ocean too warm and that coral reefs are dying because of it. These reefs are a habitat to so many fish. If they die, millions of fish will die too, and the larger species that feed off of them will also die. This will lead to a collapse of marine biodiversity and the migration of many marine animals towards deeper cooler waters which will disrupt ecosystems.

So what can we actually do about all of these issues our Oceans are facing? My Principal at school once told me that we can start small: stop using single-use plastics such as straws and bags, recycle properly, pick up litter when we see it, and tell our parents to walk or take their bikes more instead of using their cars all the time. We can also talk about these problems more, with our parents, at school, and in our communities, because the more people know, the more we can work together to fix it.

Sustainable fishing in the Maldives

The ocean might seem far away for some of us, but it affects everything: our air, our weather, and our future. It's a living system that keeps our planet healthy. Saving it isn't just important; it's necessary, especially for my generation and the generations that will follow us. The ocean is awesome and full of life and if we take care of it, it will take care of us too.

You can read my previous article 'Jumeirah Primary School – Action Towards Marine Conservation' in the June 2025 issue of Divers for the Environment.

ADVENTURE
ON LAND AND IN WATER
WITH THE STREAMPACK BULLET 01 BY AETEM_X

PHOTOGRAPHY BY **JULIAN MUEHLMEIER** AND **BERNHARD WACHE**

The perfect tool for nature lovers and water sports enthusiasts.

The Streampack Bullet 01 is a versatile piece of sports equipment born from the worlds of Seatrekking and Flowdiving, combining two functions in one: a water mode and a land mode. Developed by AETEM_X – a collaboration between the Seatrekking company SeaNomads and Bernhard Wache, the inventor of Seatrekking – the Bullet 01 offers innovative design built on years of experience.

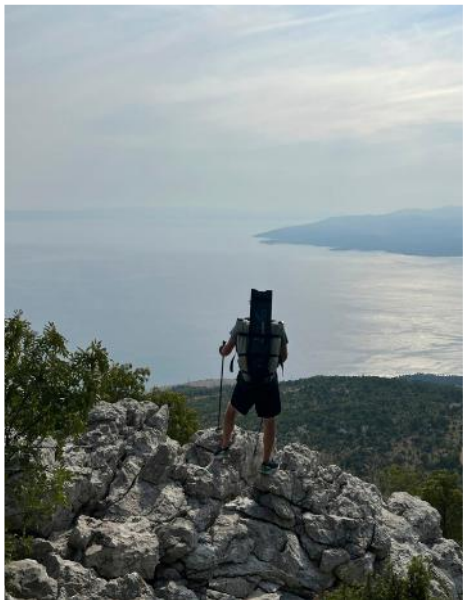
Setting water routes is a world of its own – and that's exactly what the Bullet 01 was designed for. Seatrekking and Flowdiving originated in the open sea: gliding through crystal-clear water, dynamic, three-dimensional, weightless – an incomparable physical sensation that becomes addictive. A sport full of adrenaline and energy. But beyond performance and joy lies another captivating dimension: adventure. The chance to explore landscapes, flora, and fauna, to go on expeditions – with your head above and below the surface, always discovering. Choosing your own path and following nature – that's freedom and a deep connection to the environment.

To function in the world of water, the Streampack needs a second crucial feature: a stable carrying system. That's because the most beautiful and remote access points to the water are often difficult to reach. The ability to transition seamlessly between land and water unlocks entirely new possibilities for freedivers, swimmers, seatrekkers, and snorkellers.

There's hardly anything more rewarding than hiking along a rugged coast, diving into the sea, and gliding through the blue – or coming from the water and ascending into land. This seamless transition is a whole new kind of experience. And even on short walks – from the car to the shore – it's simply practical to have your hands free.

The Streampack is designed to fold down ultra-compact – to a pack size of 30 × 22 × 5cm or rolled to 58 × 7cm – making it easy to take on trips, even as carry-on luggage. This feature also enables another smart use: the Bullet 01 can be paired with traditional trekking backpacks up to 65 litres. Thanks to its special shape, it can fully enclose packed backpacks or duffel bags of that size – creating a seamless connection between water and hiking tours.

The 90cm waterproof and gas-tight TIZIP zipper ensures an easy-load system that eliminates the hassle of packing and unpacking, as seen in traditional top-loaders. That makes the Bullet 01 not only a sports tool but also a high-quality, flexible packing companion for a wide range of activities near the water – whether as a sports bag or a large adventure backpack. It keeps everything dry and offers plenty of space.



In land mode, the front flap can simply be folded down to adjust length and volume as needed. In water mode, the Streampack is inflated by mouth via a Boston valve with a wide opening. This gives it a hydrodynamic shape and stiffness, minimising drag and providing excellent handling in the water.

Multiple daisy chains, attachment points, and grab handles complete the smart construction. Made from high-quality, durable TPU (not PVC), the Streampack Bullet 01 is a long-lasting, functional, and thoughtfully designed product for demanding outdoor adventurers. Additional add-on straps provide even greater flexibility: they allow for securely fixing fins, strapping down the pack in land mode, and expanding packing options for a wide range of adventures.

In water, the Streampack is ultra-fast and hydrodynamic; on land, it is compact and stable to carry. It was specifically designed to transport clothing, food, and outdoor gear comfortably, safely, and in an organised way along aquatic routes with minimal resistance. Its volume and shape are key – allowing it to glide on the surface even when heavily loaded, cutting through waves with ease, and avoiding excessive drag. Its aerodynamic shape also reduces wind resistance, which can be a critical factor in open water on windy days – whether you're a freediver, open-water swimmer, flowdiver, or adventurous snorkeller. From a short afternoon trip to multi-day expeditions – the Bullet 01 is the ideal companion.

The Streampack offers ample room for all essentials. Its form and capacity are crucial, even when fully loaded, it glides effortlessly across the surface and cuts smoothly through the waves without submerging. A removable fin adds stability and keeps the pack on course. An elastic leash, worn around the ankle and barely noticeable, connects the Streampack to the athlete or adventurer – and off you go, no boat or board required. The Bullet is towed behind the swimmer, ensuring full freedom of movement and unrestricted diving. Minimalist, compact, and focused on the essentials: dive into the blue wilderness, along untouched coastlines, hidden beaches, or simply into the next bay.

The SeaNomads

https://en.seanomads.de
www.instagram.com/the.seanomads

MARHE CENTRE

DIVING INTO A MALDIVIAN WORKSHOP

WORDS AND PHOTOGRAPHY BY **ALLY LANDES**

We cannot thank the team enough for having given us this unique opportunity. We were very fortunate to have gained such an experience. May it inspire our members with more possibilities on how to care for our oceans!

ABOVE: A birds eye view of the MaRHE Centre with it's orange outer walls, facing the beach with the Magoodhoo Lagoon straight ahead, and the boat marina on the left hand side.

Earlier this year, EDA were honoured to have received a very special invitation from MaRHE Centre's Director, Paolo Galli, for 8 EDA Members to attend a one-time experience in the Maldives in October with the Marine Research and Higher Education (MaRHE) Centre. The centre, located on Magoodhoo Island, is managed by the University of Milano-Bicocca in Italy, who are collaborating with the Maldivian Ministry of Fisheries, Marine Resources and Agriculture to blend technology, development and sustainability for the protection of the natural environment and the enhancement of human resources. The centre carries out scientific research and educational activities in the fields of environmental science and marine biology, tourism science and human geography. They also aim to educate how to protect this fragile environment and its biodiversity, as well as how to use and manage its resources responsibly.

EDA's Project Director, Ally Landes sat down with Davide Seveso, Enrico Montalbetti, and Jacopo Gobbato to find out more:

DAVIDE SEVESO
Vice Director

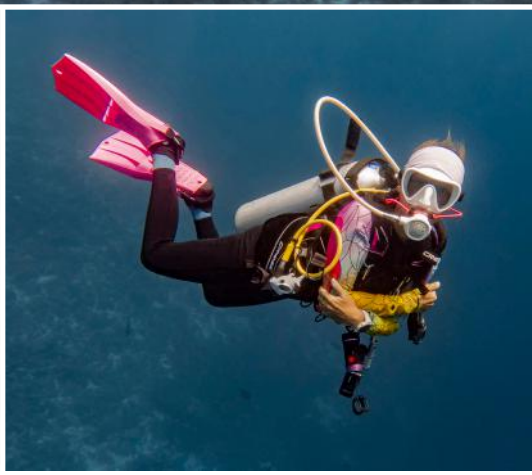
AL: Davide, please tell us when and how you got started with The MaRHE Centre, and your role in the project.

DS: I recently became an Associate Professor for the University of Milano-Bicocca and the MaRHE Centre. I am a Marine Biologist and Marine Ecologist. I came to the MaRHE Centre for the first time in August 2009 before the MaRHE Centre was built. At the time, there was only one building block present where our Director, Paolo Galli, my colleague Simone Montano and I started out sleeping on the floor of this block. Only one wall stood at the time where our laboratories are today with University of Milano-Bicocca written on it. We literally started out with an empty shell and build it up. During the first few months, students were hosted into local family homes so that we could start doing research and offer workshops. By 2010, a year later, we were presented with the MaRHE Centre as it is today.

That's when I started part of my PhD project, but I take care of everyone that comes here, the students and the researchers. We conduct research, we organise international workshops, and so on.

AL: What was the decision behind choosing Magoodhoo Island as your location?

DS: This is a good question. The MaRHE Centre exists thanks to an agreement between the University of Milano-Bicocca, the Municipality



ABOVE: Roger, Svetlana, Juan, Gordon, Perrine and Paul representing the EDA team. **BELOW L-R:** Holly; Davide and Jacopo; Esther.

of Milano (which stems from Expo 2015), and the Government of the Maldives. The Maldivian Government gave us a few options to choose from that were available at the time to host this project, and the choice fell on Magoodhoo Island. I'm not 100% clear on why Magoodhoo was the choice – it could be that some of the other islands were too far to travel to and/or there were some other logistical reasons behind it.

I do believe however, Magoodhoo was a fantastic choice as the local community really welcomed us from the very start which has provided us with some great connections. We successfully work together, and we grow together.

AL: How many people do you have in the MaRHE team?

DS: We now have a big team, and we're flexible. We started with Paolo Galli, our director, myself and my colleague Simone Montano, we are vice directors, and then we have our other colleagues from other courses such as tourism science and human geography from the University of Milano-Bicocca.

Then we started to grow as we had some PhD students and postdoc students, some other researchers, and we've now opened a new PhD course in Marine Sciences, Technology and Management. All the people working on their PhDs, also work for the MaRHE Centre. We are now a team of 10 or 12.

AL: And how many students do you host per season?

DS: This is also a good question. We run the centre from October to May, trying to avoid the wet monsoon period. From the University of Milano-Bicocca, we get about 100-150 students each academic year for our Tropical Marine Ecology internship and Tourism. Then, of course, we have students coming from international universities that bring 20 of their own students over, which is an additional 200 students that come for a week to 10 days.

We change the activities depending on the topics required, and with that, the MaRHE team changes depending on what needs to be taught, but the structure remains the same.

ENRICO MONTALBETTI

Postdoc Researcher

AL: Enrico, give us a breakdown on how you are involved with the MaRHE Centre.

EM: Okay, it's a long story, but I'll try to keep it short. I'm Enrico Montalbetti and I'm from Italy. I'm now a postdoc researcher at MaRHE

ABOVE L-R: Davide Seveso inspecting some of the Acropora corals in the Magoodhoo Lagoon nursery; Jacopo Gobbato; Enrico Montalbetti; A lionfish resting in one of the coral frames.
OPPOSITE PAGE: Esther diving over a different restoration structure that has proven to be the fastest method of coral propagation.

Centre here in the Maldives. I first came here 12 years ago as a student doing my first tropical marine ecology workshop.

Then, after my master's in marine biology, I gained my PhD here, and then my postdoc. So, you can imagine the long hours of travel. I have been coming back and forth between here and Italy for almost 13 years.

AL: What is your main topic of research?

EM: I'm a marine ecologist, a coral ecologist in particular, and I work on the molecular biology of corals.

My goal is to understand and clarify the processes that corals adopt to mitigate environmental stress, such as heat stress, and what these processes can be used for to enhance coral thermal resilience and resilience to climate change. As well as all the phenomena which compromise the integrity of coral reefs.

We have a big restoration project here in our lagoon which has been carried out for a few years now. The lagoon is dedicated to experiments, to restoration trials, and of course, thermal stress experiments to help restoration efforts. We started building our nurseries back in 2018 and most of our lagoon – 600 square metres of it – has been planted with new coral colonies that were harvested in our nurseries.

We teach students or practitioners that come here how to carry out restoration practices with their resources, for their own institutions or organisations. It's a didactic effort, and we try to teach the students the correct way to do that, to be as effective as possible.

JACOPO GOBBATO

Postdoc Researcher

AL: Jacopo, give us the lowdown on your background here at MaRHE Centre.

JG: So, I'm also a postdoc researcher at MaRHE Centre from the University of Milano-Bicocca.

I do different things, from taking samples at the islands here in Faafu Atoll, but also around the rest of the Maldives for several of our research projects, from sharks to coral restoration. Then as you know, we host a lot of students from our own university as well as the other international universities from around the world to get hands on experience in marine research.


MoRHE

OPPOSITE PAGE: Guided tour of Magoodhoo Island. **ABOVE:** Bileydhoo Outside Reef. **BELOWL-R:** The MaRHE and EDA team on a typical Dhoni boat, perfectly kitted out for divers.

AL: How long do these students come for?

JG: Between 8 to 10 days so that we have time to properly teach the techniques they need for their own projects. For example, our coral restoration workshop gives them the know-how from zero to 100. They will learn how to monitor their projects, and the techniques to use straight away in their own countries to work with different environments.

AL: What is your field of expertise?

JG: Monitoring the coral reefs and coral restoration, which I graduated in with my PhD. Restoration, meaning restoring parts of the reef that are not doing well on their own, or they are already dead, and we start trying to recover them. By working with these corals, we know which species, which techniques are best for this part of the world, or a different part of that coral reef. We assess the general health, look for diseases – because corals also get diseases – and we study them to understand how to intervene in the field.

My second passion, which is also my niche of experience, is sharks! Since my master's, I have taken the first step with the MaRHE Centre in a shark research collaboration with another PhD student who is working on a safari boat (White Waves Maldives) here for 8 months each year. We conduct studies on different topics, from collecting samples, getting visual censuses, genetic and movement analyses and more. So, I'm also super happy to be able to continue working with sharks.

THE EDA MEMBER'S WORKSHOP

We were very well looked after by Davide, Enrico, and Jacopo during the 6 days we were hosted by the team. The first and last were our travel days. Our 4-day workshop consisted of 2 morning dives to the different Faafu Atoll dive sites (weather permitted), and the afternoons were spent learning in the MaRHE Centre's classroom on the different topics customised for our group.

To begin our workshop journey, Davide gave us a presentation on the Maldives and the creation of the atolls (derived from active volcanoes thousands of years ago, when the islands eventually disappeared). This incredible island nation is made up of 1,192 tiny islands, with 26 natural atolls, making it the lowest-lying country in the world!

The Faafu Atoll where we were based on Magoodhoo Island, is 140km away from Male




ABOVE L-R: Esther, Roger and Holly each taking part in the Benthic Survey. **BELOW:** A nurse shark casually resting resting on a ledge at Dharanboodhoo Inside Reef.

Airport. Our boat journeys to and from the airport took a little over 3 hours, but if you are travelling with calm seas, you can make it in 2.5 hours. Faafu has about 4,000 inhabitants stretched over 5 inhabited islands (Magoodhoo being one of them), 14 are uninhabited, and there is 1 resort island.

MaRHE Centre offers several international workshops dedicated to different topics related to marine sciences and coral reefs. To date, MaRHE staff has organised 8 international workshops, in which 6 presentations were customised from these for our EDA members:

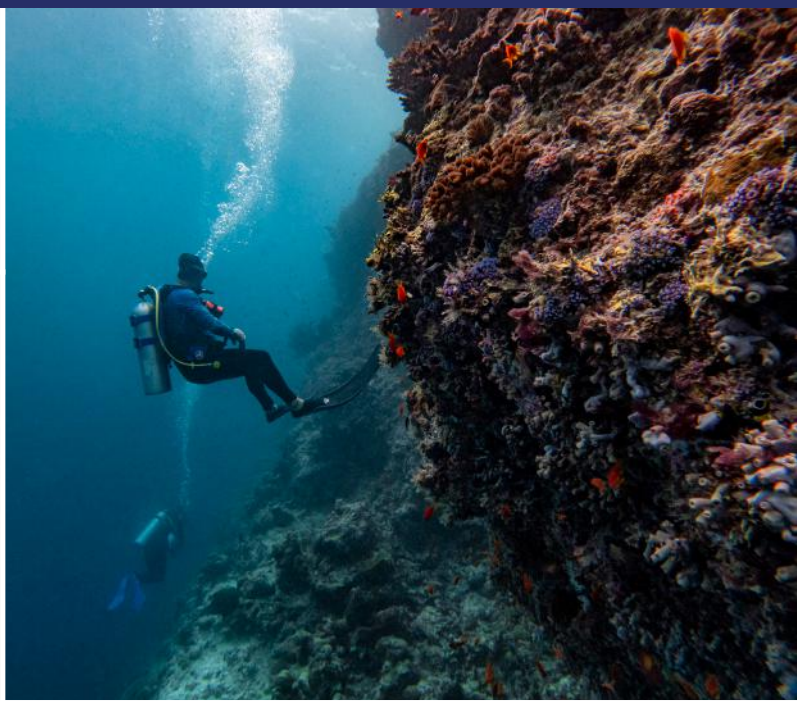
1. Tropical Marine Ecology
2. Coral Reef Fishes
3. Coral Reef Restoration
4. Coral Health and Disease Assessment
5. Mapping Technologies in Coral Reef Environments
6. Sustainable Tourism in Fragile Environments
7. Sharks of the Maldives
8. Marine Spatial Planning

We were given a practical research activity on the third day in the Magoodhoo Lagoon in which we ran a Benthic Survey along a 20 metre transect line. We had to take notes on our slates and mark whether we were coming across: (living) Acropora, Dead Acropora, (living) Coral, Dead Coral, or Sand/Rubble. Our 3 certified Reef Check divers had an advantage in this exercise as we perform similar survey techniques during our substrate surveys, only to discover that taking surveys are not at all easy. It turned out, all our results were different, making this exercise a plausible group failure. It goes to show, practice is needed to perfect these skills, especially when you are dealt poor weather conditions as we happened to have on this particular day. You are not going to get accurate results in one go. Regardless, we had a lot of fun learning in the process, and a more profound respect for researchers!

THE MARHE CENTRE COMPOUND

The centre's compound, is a lovely bright and very warm orange hue, with a beautiful, landscaped garden we could relax in, just a stone's throw from the water. When you exit the centre, you are face to face with the gorgeous view of the sea and white sandy beach, and a small grove of coconut palm trees on either side. The rooms were spacious and very comfortable with bunk beds for 2-4 students to share with an ensuite bathroom.



TOP LEFT: The MaRHE Centre dive kit-up area; The team during a classroom presentation; Part of the beautiful, landscaped garden. **BELOW:** Some colourful underwater scenes from some of our dives.

The dive centre and large kit-up area is well organised, and there is a really nice outdoor study area we could use with WIFI to make the most of being outside to catch up with some work.

The labs are small, but you can imagine them in full swing with students checking their specimens under microscopes, and taking the various different samples. The classroom where we had our presentations in the afternoons is around the front of the compound, and then of course you have the open-air dining area for breakfasts, lunches, and dinners. The food is very basic, but there is something for everyone.

Enrico also gave us a very detailed visit of Magoodhoo. It turns out he is a walking encyclopaedia when it comes to the Maldives. It was a great island tour!

THE DIVES

We were able to do 8 dives in total to discover the different dive sites of Faafu Atoll. Two were done from the shore at Magoodhoo Lagoon with a maximum of 16m, and the other six were boat dives done on a typical Dhoni boat with a nice rooftop platform to take in all the views.

The reefs are all healthy with plenty of fish life. We dove the start of most of the other sites between 10 and 25m where you can make out vague appearances of sharks and rays further down on the sandy bottoms, but the sites glimmer with life when you take your time to look in every nook and cranny back up from 10m. We were very lucky to get a close-up encounter with a resting nurse shark at Dharanboodhoo Inside Reef, which was a highlight for everyone.

We cannot thank the team enough for having given us this unique opportunity. We were very fortunate to have gained such an experience. May it inspire our members with more possibilities on how to care for our oceans!

ABOUT THE MARHE CENTRE
To learn more, go to:
https://marhe.unimib.it

WORDS FROM OUR MEMBERS

HOLLY PELSER

My trip to the Maldives with the MaRHE Centre was an amazing experience that I will never forget. I am very grateful for the opportunity to have been able to take part in this workshop. My favourite part was the lectures because I found the information very interesting and easy to understand. This hands-on experience showed me how important it is to protect our oceans.

This experience has given me more confidence and helped me to realise that marine biology is the course I truly want to study in the future.

ESTHER RODRIGUEZ

I had the privilege of attending this workshop at MaRHE Centre. From the moment we arrived, the team gave us a very warm welcome and made the experience engaging and deeply informative. We learnt about the centre's incredible work over the past ten years. From marine conservation to supporting local studies about the impact of new developments on the island.

Our mornings were spent diving the island's surrounding reefs. We also attended fascinating lectures about coral conservation, shark protection, fish identification and the unique underwater ecosystem of the Maldives, and how it has changed over time.

Enrico, Davide and Jacopo, and the local staff, went out of their way to ensure we had everything we needed. Enrico even guided us around the island, sharing firsthand knowledge about the local community, their customs and the challenges they face.

This trip offered a rare glimpse into a side of the Maldives most visitors never see.

ROGER GRIFFITHS

First a big shout out to EDA for making this trip to the MaRHE Centre at Magoodhoo possible. I have had an interest in coral reef restoration, management and resilience for several years and use my weekend dives to develop my knowledge of local coral and fish species of the UAE.

The world's coral reefs are under an incredible threat, and sadly, this is all too visible in the Maldives. Tourism is slowly killing the very reason we visit these islands.

In Male, plane loads of tourists arrive by the hour with their pre-booked all-inclusive over-water villas just a short speedboat away. The rubbish accumulated gets incinerated on 'no-go' islands. Sewage is pumped untreated into the ocean (really!). Then they leave. The damage is done – this is the dark side to tourism.

Environmental impact assessments for new tourism developments are ignored in the name of 'progress' and of course everything is embellished with claims of environmental responsibility and 'sustainability'. So, as Earth's climate is passing tipping points as global warming surpasses the 1.5°C Paris Agreement target and well on the way to a more worrying 2.7 degrees. Now more than ever is the time for action.

When we travel to diving destinations, we must make our voices heard. Tourism must be restricted and taxes levied that are directed to coral reef management and protection. We must leverage social media to influence marine protection policies. Of course, there will be coral species that are resilient to the current climate change challenges. Some species are robust and there is plenty of evidence that they can survive and thrive. But a few species of coral do not make a reef and without a diverse and fully functioning marine ecosystem, I fear that our coral reefs and the people that rely on them for income and food, have a very challenging future indeed.

PAUL MAMIIT

It was a rare and extraordinary opportunity to join this one-time workshop in the Maldives with EDA.
I feel truly fortunate to have been among those selected to participate. Under the guidance of impressive teachers, Davide, Enrico, and Jacopo from the Marine Research and Higher Education Centre (MaRHE), the workshop was not just informative; it was inspiring.

The MaRHE Centre offered both comfort and hospitality, with dedicated staff who served delicious traditional meals and kept a clean, welcoming environment. Each morning started with two dives, allowing us to explore the crystal-clear waters and vibrant coral reefs of the Maldives. The afternoons were spent in the classroom where we deepened our understanding and appreciation of marine ecosystems, particularly coral reefs.

We looked at the importance of corals, how and where they grow, and the challenges they face. Discussions highlighted several threats: crown-of-thorns sea star outbreaks, climate change along with warming and acidification of oceans, pollution from land and sea, unsustainable fishing practices, coastal development, recreational damage, disease, and natural disasters. These combined issues weaken coral resilience, often leading to mass bleaching and, ultimately, ecosystem collapse. Seeing areas of dead coral firsthand was sobering and served as a stark reminder of the urgent need for action.

The programme also expanded our perspectives through studies in fish and shark taxonomy, coral sampling exercises, and hands-on conservation activities. Our 4 days combined fieldwork, theory, and community spirit.

This workshop was possible thanks to Ally, the EDA Project Director, whose efforts with MaRHE brought everything together. I am also grateful for the camaraderie of my fellow EDA participants Gordon, Roger, Juan, Lana, Perrine, Esther, and Holly. Sharing this journey with such passionate individuals made the experience unforgettable.

Ultimately, the workshop instilled not only knowledge but also a renewed sense of responsibility. If coral decline continues, future generations may be denied these living treasures. Each of us must play our part in protecting the ocean since the future of our corals and the ecosystems they support depends on it.

JUAN MIGUEL LAS

The trip was an amazing experience! A huge thank you to EDA and the wonderful staff at the MaRHE Centre for organising such an unforgettable programme.

It was a few days packed with diving, learning, and inspiration. This was a perfect blend of adventure and purpose. Each morning began with two dives around the atoll, exploring vibrant reefs bursting with life. Every site revealed something new and fascinating, from intricate coral formations to schools of colourful fish weaving through the currents.

In the afternoons, we shifted from fins to notebooks for a series of engaging lectures, each one opening a new window into the world beneath the surface. We learned about the unique formation of Maldivian atolls, the coral species surrounding us and how reef surveys are conducted, the differences between various fish families, and we even explored the vital role of sharks in maintaining healthy ecosystems.

The combination of hands on exploration and expert insights made this trip truly special. I left feeling inspired to learn more about our oceans!

SVETLANA MIROSHNIKOVA

What an unforgettable trip! It's truly inspiring to be surrounded by people who are so passionate about the ocean and eager to share their knowledge. This was my first time in the Maldives, and I learned so much – not just about its surrounding waters, but also about the country itself.

A huge thank you to EDA, the MaRHE Centre, Enrico, Davide, Jacopo, and the entire team for making this experience so special. I return with a deeper appreciation for the underwater world and a greater awareness of the impact we, as humans, have on the ocean.

PERRINE TILLOY

I am deeply grateful and feel privileged to have participated in the workshop EDA and MaRHE Centre have curated for our group in the Maldives.

4 days to dive in the world of corals and marine life research, learning how to collect and interpret data from the sea, discovering how scientists can make a difference by finding new ways to adapt to today's climate change challenges in accordance to local population needs, and in relationship with local authorities.

I particularly appreciated the smooth organisation between EDA and MaRHE, the care of the staff for our group, and the passion for the ocean that everyone shared over there.

A special Thank you to Ally, Davide, Enrico and Jacopo for leading and guiding us through this insightful week.

GORDON T. SMITH

Despite having lived in the UAE for 28 years, I had only visited the Maldives once and that was back in 1998, so I was very thankful for this opportunity to revisit this amazing diving destination. And we got to experience the "real" Maldives, far from the five-star resorts that most people associate it with.

Davide explained that when he first arrived here more than ten years ago, the lagoon was densely inhabited with Acropora corals but now it's sadly reduced to sand and rubble due to the building of a new airport on the island. Enrico explained during our island tour that the airport (still not completed) has been built on reclaimed land over what was a large area of seagrass. The result is that since the demise of the coral in the lagoon, the water is now eroding the island and urgent action will be required to prevent this. To witness this man-made destruction was rather sad, but all may not be lost as they are attempting to rebuild the reef, although this is going to be a challenge.

Thanks again to the MaRHE Centre, and of course EDA for making this happen!

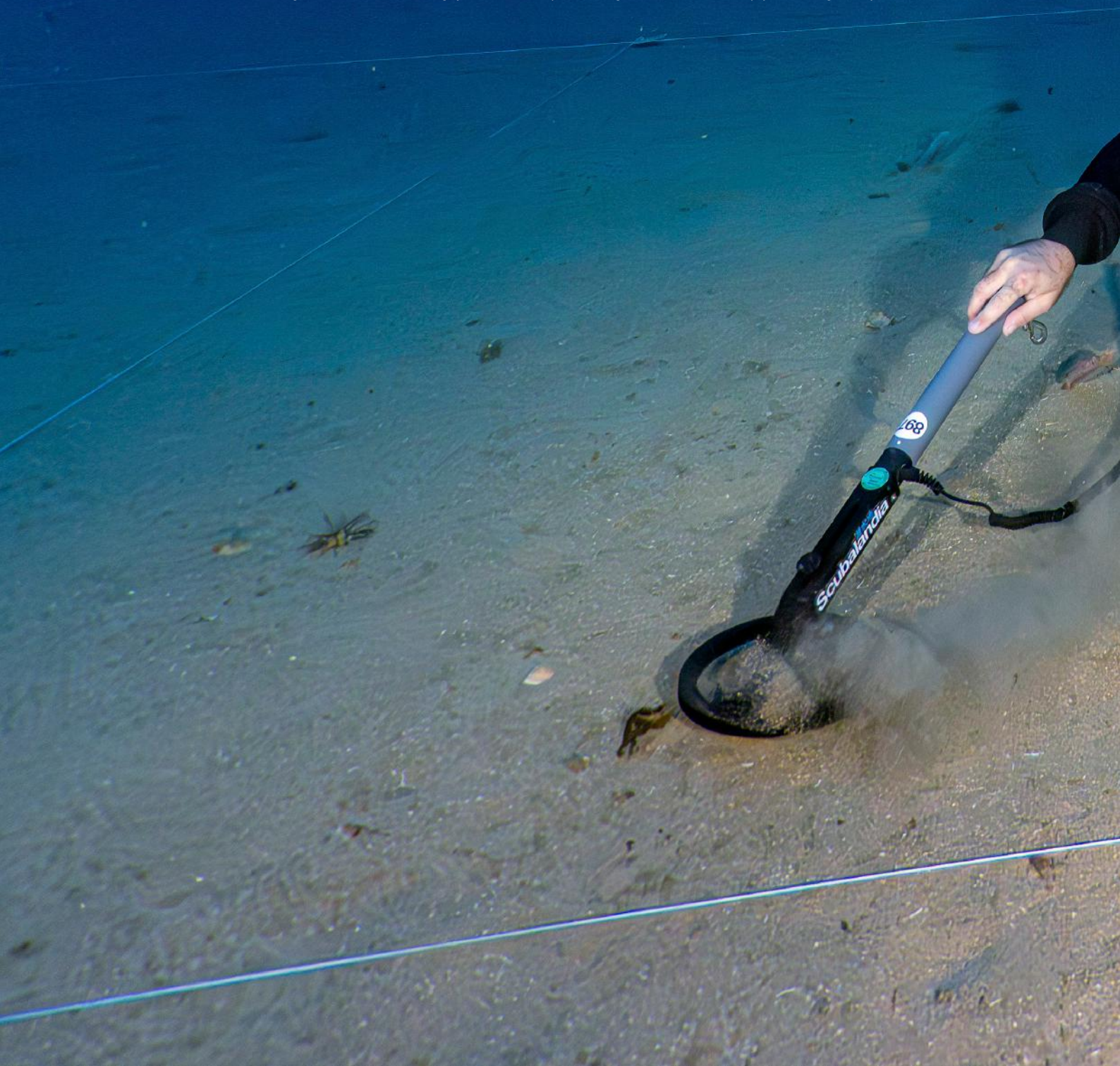
RAMS AND RELICS

HUNTING ARTEFACTS FROM THE LAST BATTLE OF THE FIRST PUNIC WAR

WORDS AND PHOTOGRAPHY BY **JESPER KJØLLER**

Beyond the technical challenges of the project, what stays with me most is the personal learning. Each dive is a lesson in execution, precision, and teamwork – a reminder of how much there is to absorb from even the smallest tasks underwater. Bringing artefacts to the surface and carefully documenting them isn't just about the objects themselves; it's about contributing to science, preserving history, and adding a small piece to the bigger puzzle.

COVER PHOTO: Using metal detectors to thoroughly examine each square in the grid is efficient, but the equipment is fragile and prone to failure.



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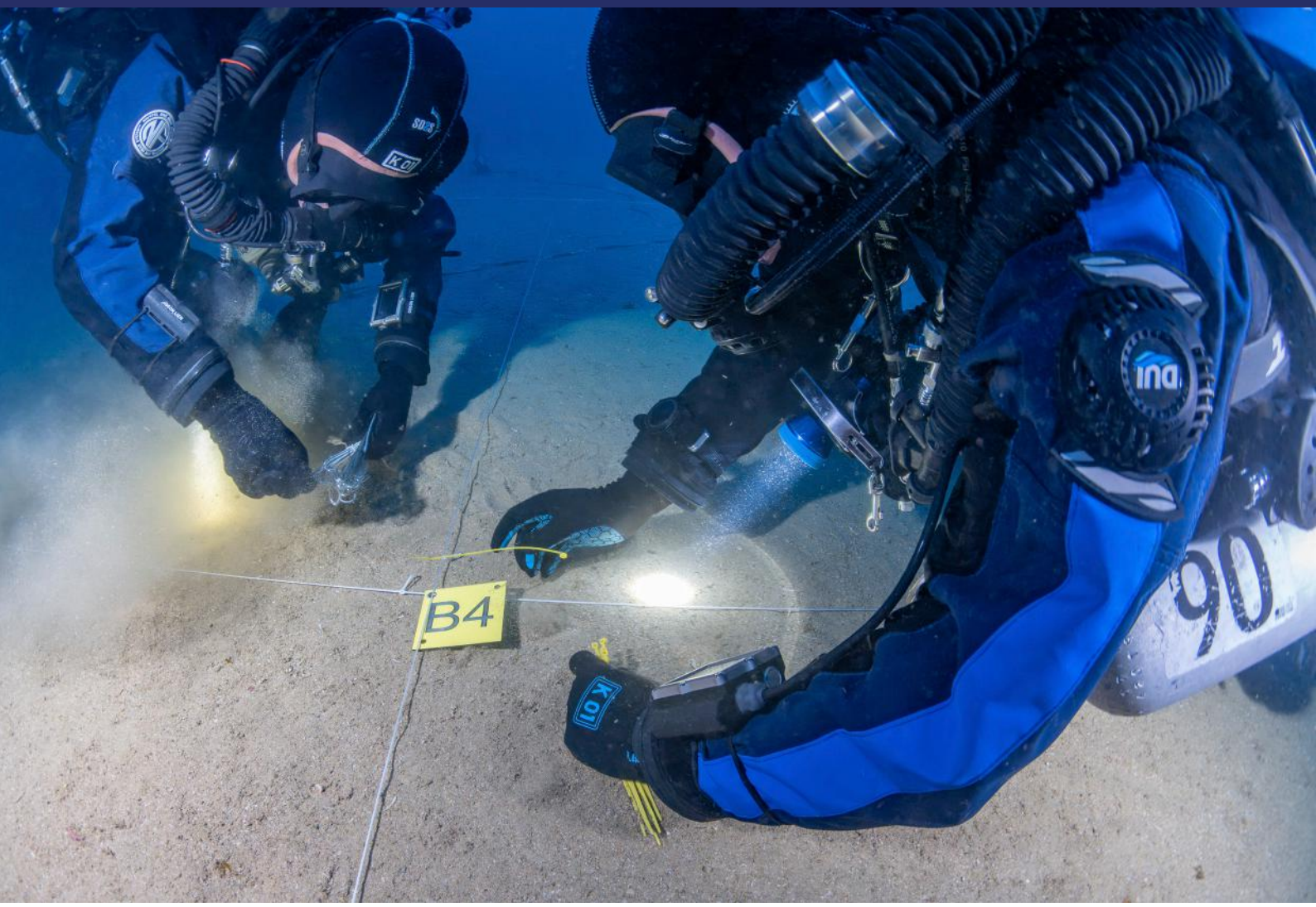


ABOVE: We create a grid, labelling each square with a unique number to track our findings and facilitate documentation.

More than two millennia before steel hulls and torpedoes, naval battles were fought with muscle, timber, and bronze. The Battle of the Egadi Islands in 241 BC marked the violent end of the First Punic War, as Rome and Carthage clashed for control of the Mediterranean. On a stormy day, hundreds of warships collided, their bronze rams splintering hulls and sending men and timber to the depths. Today, the battlefield rests beneath Sicilian waters, scattered with amphorae, helmets, and the deadly rams themselves. Exploring this vast underwater site requires the delicate touch of forensic experts at a crime scene, a role SDSS project divers – most of whom are GUE divers and instructors – fulfil in the ongoing scientific investigation.

Sebastiano Tusa was a leading figure in underwater archaeology with the Sicilian authorities. He was obsessed with discovering an ancient battlefield that history had placed west of Sicily. The big break came from an unusual coincidence. In 2004, Tusa heard a rumour about a local doctor with a huge collection of marine artefacts such as compasses, portholes, and marine telegraphs in his office. The star of his collection was a bronze ram. The ram was allegedly pulled up by a fisherman and given to the doctor – most likely as a barter for a medical consultation.

Except for one ram found in 1980 off the coast of Israel and not related to any known battles, not a single specimen was known to have been found, which made the doctor's ram an important discovery. This was the first tangible clue from the battle area that Tusa had made his mission in life to find and explore.

After five years of research at sea, the battlefield of the Egadi Islands, where the First Punic War came to its bloody conclusion, was finally discovered in 2010 thanks to the efforts of Sicily's Soprintendenza del Mare and the RPM Nautical Foundation with its Hercules, a 37-metre research vessel equipped with instruments for underwater exploration. Just off the coast of the island of Levanzo, some 8 km/5 mi from shore, a vast underwater debris field stretches across more than 10km^2/4 mi^2 at depths averaging 85m/280ft. What at first appears to be nothing more than a sandy desert dotted with rocky outcrops has proven to be one of the richest underwater archaeological sites ever explored.

Since 2017, the Society for the Documentation of Submerged Sites (SDSS), spearheaded by Italian GUE instructor and wreck explorer extraordinaire Mario Arena has joined the hunt, adding technical divers to a project that were first explored by sonars and remote vehicles. Over the years, Mario and his dive teams have peeled back the layers of history piece by piece, uncovering the scattered remnants of a battle that raged so long ago.

CHAOS

The disorder of the vast debris field – the remains of a battle in which more than five hundred ships clashed – was likely worsened by trawling over the past few decades. Since fishing vessels have powerful engines and winches capable of dragging heavy nets, it is plausible that some artefacts were, more or less accidentally, caught, erasing important evidence and making an accurate reconstruction of the events even more difficult.

Still, the finds are nothing short of spectacular. Twenty-seven bronze rams – once fixed to the bows of Roman and Carthaginian warships – have been recovered, each one a masterpiece of ancient naval engineering and a silent witness to the violence of ramming warfare. Around thirty Montefortino helmets tell the story of the soldiers who fought and died in the clash, while amphorae by the hundreds – both Greco-Italic and Punic – testify to the logistics of fleets on campaign. Weapons, coins, fragments of armour, and even everyday tableware round out the picture, offering a hauntingly human glimpse


KOI
Battle Of Egadi
25.037

ABOVE: After documenting each artefact's position with photogrammetry in the grid, the team carefully places them in a net and lifts them to the surface.

into the battle that sealed Rome's rise as the new master of the Mediterranean.

DID THE ROMANS EAT HUMMUS?

I back-roll from the tall pontoons of our expedition RIB, a SUEX scooter resting in my lap and my JJ-CCR already attached to the sideslung S40 cylinder with 12/65 trimix. I've double-checked it's plugged in, and the switch block is correctly set. Our skipper, Niccolo, hands me my leash with the three bailout tanks clipped on; I swing them into place, securing them to my left hip D-ring and wedging them between my legs.

We scooter to the down-line and begin our descent at full throttle as soon as we see it. The water is blue and clear, but surprisingly cold for November, and halfway down I start regretting leaving my gloves behind. Federico and Gideon wear theirs – needed for their dexterous tasks – but I'm here primarily to take photos and will have to survive with stiff fingers.

We're heading to an area flagged during an earlier expedition. About 60m/200ft from here, two rams were found, and a survey transect revealed three helmets nearby.

During the briefing, Mario – in his characteristic Italian accent – mentions finding "chickpeas" in the area, which leaves me puzzled. How could legumes survive in the ocean for so long? And were the Romans really eating hummus? Then it hit me – he was talking about cheek pieces – the hinged flaps on a Roman helmet that protect the sides of the face, swinging shut under the chin while leaving the eyes, nose, and mouth clear.

I am a rookie on the Egadi project, and all the other divers have a few years under their belt, so I keep my embarrassing misunderstanding to myself.

Fede and Gid and the other dive teams begin laying out a 20 x 20m/66 x 66ft grid across the site, neatly dividing it into 4m/13ft squares using cave line and large metal tent pegs at each intersection.

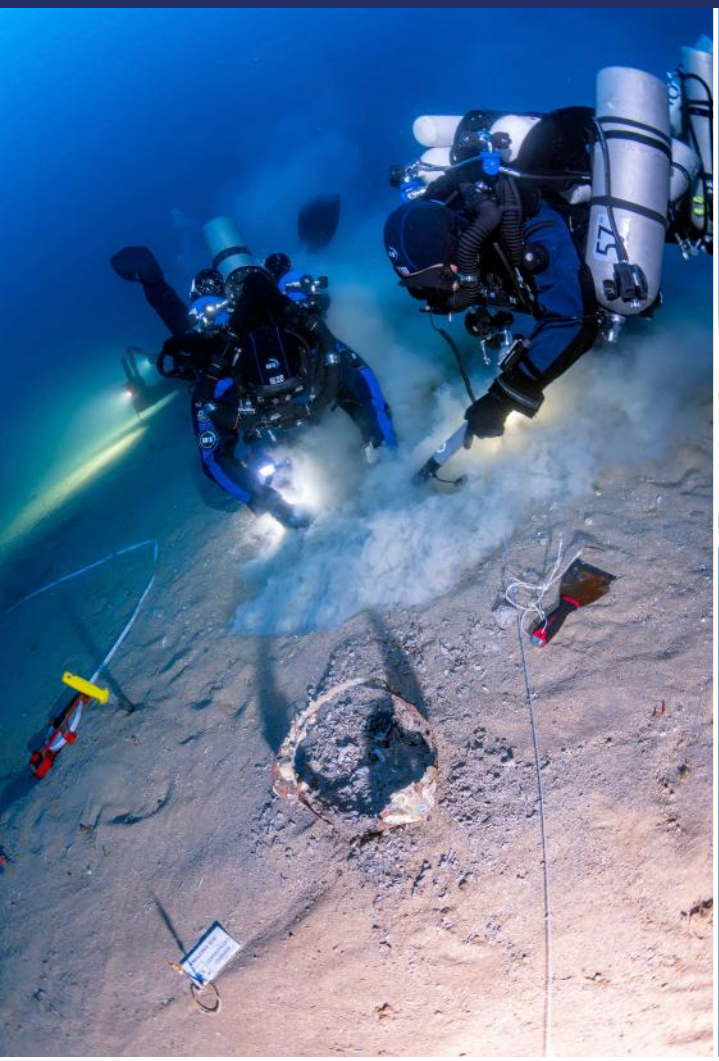
Each quadrant gets its own identification tag, from A1 to E5, turning the seabed into something that looks almost like a giant chessboard.

The following day, we moved systematically through the squares, sweeping each with a metal detector and carefully excavating any signals or objects we uncover. Each team works in their assigned squares. We already know that two helmets and an amphora lie somewhere within this grid, waiting to be brought back into the light after centuries of silence.

DNA AND AN '80s PLAYLIST

When we excavate the artefacts, we leave them in place on the sand, but we mark each with a unique numbered tag fixed to a tent peg. After Faisal uncovers the helmet in one of our squares, we carefully scoop out a sample of the gravel inside and place it in a small vial, giving the archaeologists the opportunity to search for DNA. If the helmet, when it sank to the seabed over 2,200 years ago, was still on the warrior's head there's a chance traces of him remain. More likely, though, are the teeth – nature's stubborn time capsules. Teeth can survive centuries and even millennia of decay, and from just one, experts can reconstruct remarkable details, including the warrior's age and even the region where he grew up. The technique resembles dendrochronology – the scientific method of dating events and environmental changes by analysing growth patterns in tree rings.

After several days of work in the grid, we have documented the entire area using photogrammetry and a 360° camera. Only then do we collect the helmets and other artefacts, preserving them for further study.
During the two project weeks, Niccolo makes sure his Bluetooth ghetto blaster is always running at full throttle with his favourite Spotify playlist. When packing scrubbers and preparing the rebreathers, loading the boat,



ABOVE LEFT: Digging in the dirt – the tools of underwater archaeology: metal detector, measuring tape, knife, and a spatula.

sailing to and from the dive site, unloading the boat, or just hanging out at the dive camp, the music is constantly on. It does not bother me at all, but by the end of the project, I've heard more '80s pop-rock than I managed to survive in the actual '80s. I'm still not sure how appropriate it is to blast tracks such as "Highway to Hell," "Knockin' on Heaven's Door," or "Another One Bites the Dust" right before a challenging three hour deco dive – but I guess it sharpens our awareness and we do also hear "Stayin' Alive" quite a few times to strike a more positive vibe.

BEYOND THE GRID

After several days working in the grid, we move on to a few days of open-area exploration. The goal is to locate additional objects that have so far eluded the sonar surveys in this region. Who knows – maybe we will find a ram. Several hundred ships were lost in the battles, and only 27 rams have been found so far, so there must be more around.

Divers, with their eyes and intuition, can often detect patterns and shapes that escape high-tech search methods – a corner of a ram protruding from the sediment, or the subtle difference between an amphora and a rock.

One reason for changing our methodology is the recurring failure of our metal detectors. They tend to flood easily, and without them, detailed searching and fine combing within a confined grid becomes far less effective. Instead of metal detectors, we just use our eyes.

We divide into four teams, all starting from the same point but moving out in different directions according to our planned search pattern. I'm paired with Andrea; he manages the line that will guide us back to the upline, while I keep track of our compass heading. We scan the seabed with slow, sweeping motions of our lights, keeping our scooters at a moderate speed.

I spot a small clay pot resembling a pitcher – complete with a perfectly fitting lid. We decide to bring the artefact up. We make sure an octopus hasn't moved in and fix a numbered tag to a tent peg to mark the site.

When we turn back around, we're reminded how much longer it takes to retrieve the line and wind it back onto the reel. On the way out, you can deploy it with the scooter on the throttle, stopping only occasionally to make a tie-off. On the way back, you have to swim while reeling in like a madman. After 40 minutes of bottom time, we begin the two hours of decompression that await, and in the medium current, we are constantly running the scooters to stay close to the upline.

THE VALUE OF LEAVING THINGS BEHIND

Every evening before dinner, we hold a debriefing at our camp inside the museum. The SDSS and SopMare archaeologists, after spending their day documenting artefacts in the field conservation laboratory set up inside the museum expect a detailed report from each team, including depth, bottom time, decompression profile, and other dive-related data. And more to the point they are interested in our findings, observations and documentations. Everything is meticulously recorded for posterity. After Andrea and I present our actions and discoveries, Mario's comments are quite blunt: "What you have done is totally meaningless." Ouch! That stings. But Mario goes on to explain that removing an object without documenting its exact position in relation to other known finds renders it scientifically worthless.

The jug – beautiful and intact as it is – has little value once brought to the surface. Left in place, it still tells a story. Removed, it loses its context and becomes just a piece of fired clay. Mario's criticism makes perfect sense, and we realise our mistake. Lesson learned.

CSI

Underwater archaeology shares a striking parallel with forensic work: in both fields, context is everything. Just as a forensic

investigator studies the arrangement of evidence at a crime scene to reconstruct the chain of events, the underwater archaeologist relies on the placement of artefacts to tell the story of the site. Every object – whether a helmet, amphora, coin or weapon – derives much of its meaning from its position relative to others. If items are moved without careful recording, that silent testimony is erased, leaving only scattered relics without context.

This challenge is even greater on deep sites such as the Battle of the Egadi Islands where archaeologists cannot themselves descend but must instead depend on highly trained technical divers to serve as their eyes and hands.

As in so many other branches of science, underwater archaeology continues to evolve as technology expands the realm of what is possible. Looking back at the methods used 50 or 100 years ago, we can only shake our heads in disbelief at the crude techniques that often clouded or even erased the conclusions we might otherwise have drawn with the resources we have now. That perspective is a reminder of our responsibility today: to create records and documentation robust enough to endure, so that future generations of scientists – equipped with tools and insights we cannot yet imagine – may be able to extract meaning from patterns still invisible to us.

The GUE-configured JJ-CCR rebreather once again proves to be a solid and reliable platform for expedition-style dive missions.

A MEANINGFUL EXPERIENCE

Beyond the technical challenges of the project, what stays with me most is the personal learning. Each dive is a lesson in execution, precision, and teamwork – a reminder of how much there is to absorb from even the smallest tasks underwater. Bringing artefacts to the surface and carefully documenting them isn't just about the objects themselves; it's about contributing to science, preserving history, and adding a small piece to the bigger puzzle.

Being part of such a highly skilled, accomplished team of divers makes the experience even more meaningful. Their expertise, professionalism, and passion are contagious, and I feel privileged to share in their knowledge and dedication. In the end, it's not just about what we recover from the depths, but what we gain personally – a deeper understanding of our craft, of the underwater world, and of the value of collaboration in pursuit of something greater than ourselves.

FACT FILE | THE MUSEUM

Ex Stabilimento Florio delle Tonnare di Favignana e Formica

Perched on the edge of Favignana's harbour, the Ex Stabilimento Florio is a striking reminder of Sicily's layered maritime history. Built in the mid-19th century by the Florio family, its vast stone halls once echoed with the rhythm of the mattanza, the traditional tuna harvest – but today the site serves as a gateway to a far older story: the seas that surround it have been witness to naval battles for over two millennia.

From these shores, the waters of the Egadi Islands stretch outward, hiding the wrecks of the historic 241 BC battle. Visitors walking through the restored factory can sense the link between past and present: the same waters that once carried tuna now cradle warships, amphorae, helmets, and more than two dozen bronze rams, relics of a conflict frozen in time.

THE RAMS

The ram, a massive bronze spike on the prow, was the primary offensive weapon of ancient warships. The Egadi site has yielded the world's largest collection, with 27 examples discovered to date. These artefacts are invaluable historical sources. Many bear inscriptions or decorations that identify their origin.

Some bronze rams from the Battle of the Egadi carry Latin inscriptions naming a quaestor, the Roman magistrate responsible for finance and supplies. This stamp of approval certified the ram's quality and tied it directly to the Roman state. Because quaestors held office for just a year, these inscriptions also provide archaeologists with precise dating, turning a weapon of war into a signed, time-stamped artefact of history.

TOP LEFT: Mario Arena with a fully intact Montefortino helmet in the museum's archaeology lab. **RIGHT:** After being landed, the tuna were cooked in these kettles and packed into tins. **BOTTOM:** The 200kg/440lbs bronze rams have been been preserved in the lab before exhibition in the museum.

FACT FILE | THE BATTLE

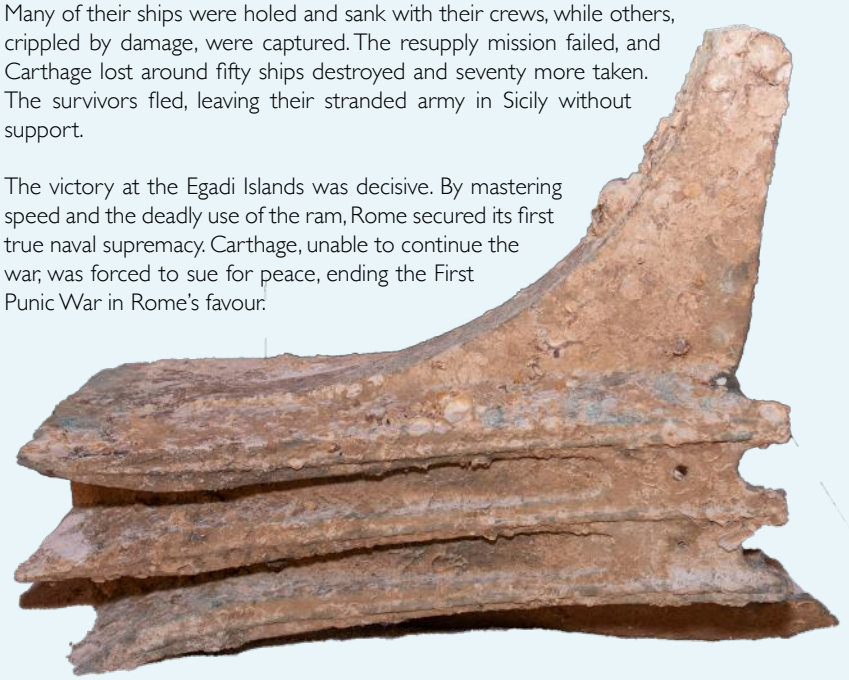
The Battle of the Egadi Islands was fought on the 10th of March 241 BC, and marked the conclusion of the First Punic War. After two decades of struggle at sea and on land, Rome had rebuilt a fleet with funds borrowed from wealthy citizens. Carthage, meanwhile, was desperate to resupply its forces in Sicily and dispatched a convoy of transports, escorted by warships, across the waters near the Egadi Islands.

The fleets met under very different conditions. The Carthaginian ships were heavily laden with provisions and equipment, making them sluggish and difficult to handle. The Roman commander, Gaius Lutatius Catulus, had deliberately lightened his ships, stripping away anything that might slow them down. This gave his fleet a sharp edge in speed and manoeuvrability, crucial in the type of naval combat about to unfold.

When the Romans fell upon the Carthaginian fleet, they no longer relied on boarding tactics or the heavy corvus bridges that had characterised their early naval encounters. Instead, they had embraced the art of ship-handling and ramming, tactics long practiced by their adversaries. Each Roman vessel carried a bronze ram at the bow, a reinforced extension of the keel designed to smash through planking and punch holes beneath the waterline. With their lighter ships, the Romans could dart in, strike a Carthaginian vessel amid ships or from the stern, and sheer away before the enemy could respond.

The Carthaginians, weighed down and unable to manoeuvre effectively, were easy prey. Many of their ships were holed and sank with their crews, while others, crippled by damage, were captured. The resupply mission failed, and Carthage lost around fifty ships destroyed and seventy more taken. The survivors fled, leaving their stranded army in Sicily without support.

The victory at the Egadi Islands was decisive. By mastering speed and the deadly use of the ram, Rome secured its first true naval supremacy. Carthage, unable to continue the war, was forced to sue for peace, ending the First Punic War in Rome's favour.



FACT FILE | THE TEAM

- Andrea Scaccianoce, Italy
- Ben Oortwijn, Holland
- Caterina De Seta, Switzerland
- Faisal Khalaf, Egypt
- Federico De Gado, Italy
- Gideon Liew, Singapore
- Jesper Kjoller, Denmark/UAE
- Mario Arena, Italy
- Nicola Crespi, Italy
- Stefano Gualtieri, Italy

JESPER KJØLLER

Jesper began his professional life as a musician but discovered his passion for diving over 30 years ago. He changed careers, becoming a diving instructor in 1994 and a PADI Course Director in 1999 – the same year he took on the role of editor for the Scandinavian diving magazine DYK. He became a GUE instructor in 2011, and in 2015, relocated to Dubai to bring his talent for underwater storytelling and imagery to Deep Dive Dubai as the facility's Marketing Manager. From his base in Dubai, Jesper travels the globe to teach, contribute to international dive publications, and take part in exploration projects such as the Mars field studies in the Baltic Sea, deep wreck exploration in the UAE and Egypt, or the Battle of the Convoys project in the Southern Mediterranean. In 2021, he became Editor-in-Chief of Quest, GUE's member journal.

A NEW PARTNERSHIP FOR PROJECT REEFRAME

CANON MIDDLE EAST'S WORLD UNSEEN: CORAL REEF RESTORATION CAMPAIGN

WORDS BY **ALLY LANDES** AND **DARRYL OWEN** PHOTOGRAPHY BY **ALLY LANDES**

EDA members are all invited to join the community, whether it is to spread the word, rescue reefs, or measure the impact we have collectively created.

Scuba divers acquainted with Freestyle Divers in Dibba, Fujairah, will be familiar with their Project REEFrame! EDA members were invited to one of our one-off events at Deep Dive Dubai to attend a presentation given by Darryl Owen all about the project with a Q&A back in August 2024.

This important presentation talked about the challenges facing the UAE's coastal ecosystems on both the East and West coastlines and the conservation approaches being implemented, and provided an overview of the unique REEFgrowth "whole site" approach to ecosystem restoration. This nature-based solution is designed to re-establish the integration of ecosystem services provided by mangroves, seagrass, molluscs (native oysters and mussels) and coral reefs.

The Q&A session allowed members to join the discussion on the various ways that divers and non-divers can contribute to the success of the restoration efforts.

For those not in the know, Project REEFrame is a unique scientific community programme that protects and restores coastal ecosystems in the UAE. It brings volunteers, corporates, schools, academia and governments together to actively create positive ocean impacts. It delivers education to people of all ages from 6+ about the ocean and how to protect it.

The research for Project REEFrame began in December 2019 with 18 months of methodical conservation and scientific preparations to secure a permit for work to begin on Phase 1 in July 2021. This first phase – granted a 12-month permit with a 100m^2 prototype site – was now on the clock to put all the research into practice, to consequently prepare for their second permit application for Phase 2.

The project's first year was a resounding success, and Phase 2 was deployed in October 2023, having been granted a 36-month permit and a further 40,000m^2 project site. Methods were refined, and the table structures are working with successful coral propagation, all proving the science a success in these early phases!

Phase 3 is scheduled to begin in October 2026 with a multi-site permit, which will further evolve to include seagrass, oysters, and mussels.

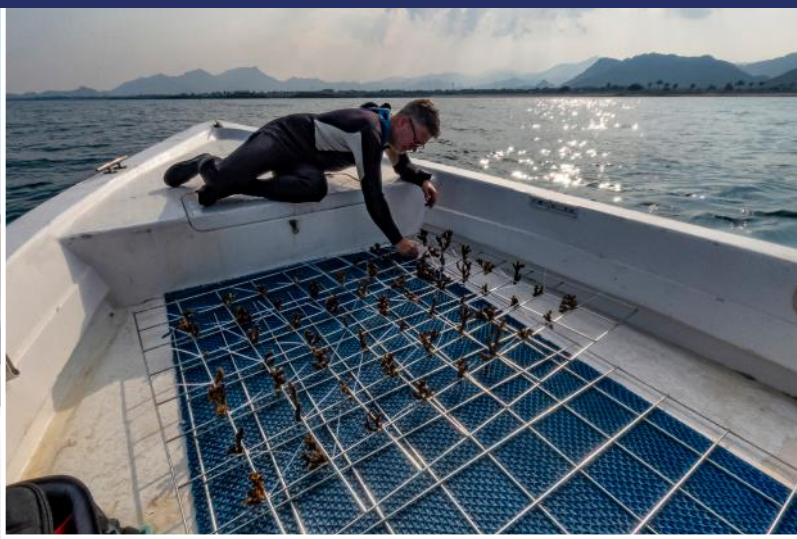
On the 23rd of October, Ally, EDA's Project Director, was invited by Canon Middle East to come and witness the launch of their World Unseen 2.0 – Coral Reef Restoration campaign, in which they have partnered with Project REEFrame to bring interactive experiences, educational outreach and storytelling initiatives to the UAE.

With a mission to reveal our fragile underwater ecosystems to their own audiences, Canon's World Unseen campaign has also built recent partnerships with Nature Seychelles, and Coral Spawning International.

In the UAE, they are providing direct sponsorship to Project REEFrame for coral restoration infrastructure, including coral nursery tables to support the propagation of coral fragments and their outplanting to permanent reef structures later. This also includes two-years' funding for monthly maintenance, scientific monitoring, and providing imagery for documentation, as well as facilitating community engagement.

We rendezvoused in the morning at Freestyle Divers in Dibba to kit up and set off to the Project REEFrame dive site. The Canon team were shown how to attach their coral fragments to the table's mesh on the boat, and when all was fully prepped, Darryl and Marine Owen dropped into the water with Canon's funded table frame for the new addition of corals to take their place at the site.

Watching them walk in slow motion along the seabed in their fins was similar to a scene of astronauts walking on the moon. Henrik Stahl from Khorfakkan University was there to give a hand, as was Oliver Farrel (an EDA Member and Digital Online Award-Winning photographer and videographer in 2022, 2023



and 2025) to take the underwater film footage for Canon Middle East's campaign.

Once we were back at Freestyle Divers, food was served and then talks and presentations were given by both Canon and Darryl, and the event closed with a short promotional campaign film.

Knowing so much about the project through our discussions and reading articles in past issues of Divers for the Environment by Freestyle Divers, diving the site was an absolute thrill to witness all the different stages of coral growth in person.

We want to give EDA members the chance to get involved in this meaningful project!

Darryl Owen is the founder of Project REEFrame, owner and CEO of Freestyle Divers, and a long term member and supporter of EDA. He explains why he is keen to have EDA members involved and the special deal he is making available.

Project REEFrame's mission is to create high-impact, scalable environmental initiatives that help restore the UAE coastline and it is built around three core values:

- Community building;
- Education; and
- Science-based methods.

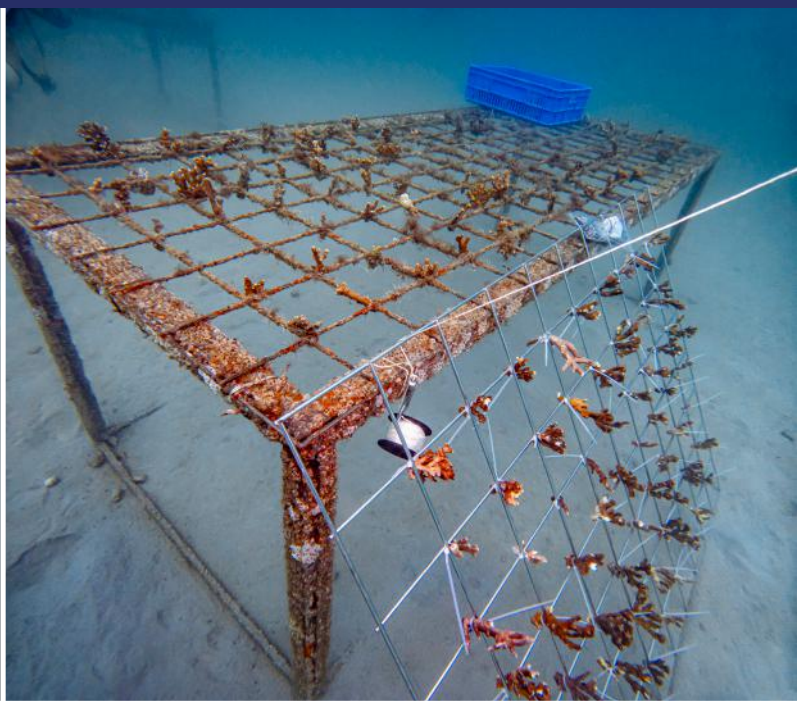
Community building is a core part of the programme – we all have an vested interest in keeping the ocean healthy! As divers we directly experience the wonders of the underwater world and over recent decades we have also been frontline observers of the decline of marine environments such as coral reefs. Whether we dive or not, the services provided by the ocean are a major contributor to the health of the human race – it produces more than 50% of the air that we breathe (that's right, every second breath you take comes from the ocean), over 50% of the protein intake for coastal developing nations, absorbs 30% of the human produced atmospheric CO^2 emissions, and absorbs and redistributes up to 90% of the excess heat trapped in the climate system. Without a healthy ocean, humanity would struggle to survive.

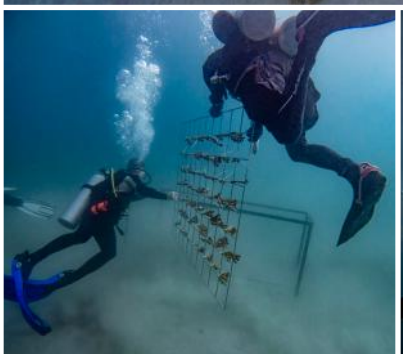
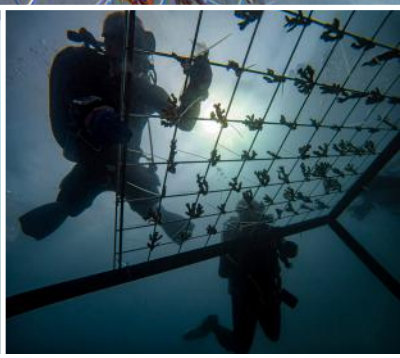
To build a community, we need to create awareness and understanding across all age groups, especially our children and youth, who will be the future stewards of our blue planet. This is a fundamental component of the partnership between Canon and Project REEFrame, aligned with the spirit of Kyosei (living and working together for the common good) which is at the heart of Canon culture. In our modern world of social media culture, imagery, and storytelling, the phrase "to see what you can change, you must change what you can see" has never been so important for the ocean – Project REEFrame aims to bring the beauty of the ocean, its benefits to humanity and the challenges it faces, into classrooms, boardrooms, and people's homes.

EDA members are all invited to join the community, whether it is to spread the word, rescue reefs, or measure the impact we have collectively created.

Education is the way we transform communities into action, first by helping people of all ages to understand the importance of the ocean and the challenges it is facing, then by providing the tools and environment for them to transform good intentions into positive action. Project REEFrame is actively teaching children from 6 years old about the ocean, from 10 years old we are teaching them to dive with a marine conservation mindset, and from 12 years up we are helping them to become active marine conservationists. We work with divers, non-divers, universities, and corporates to help them understand how they can actively contribute to keeping our oceans healthy.

The impact we create is a team result, and all teams love to know how they are performing! Project REEFrame generates and records data about all aspects of the programme, including recording coral growth and mortality each quarter, ocean conditions, biodiversity, team effort and contributions. The data is compiled

for research purposes and shared with the government as well as academic institutions. To ensure that the data is consistent and comparable over time, it's vital that all team members use the same methods and approaches to perform their activities.

The Project REEFrame education system includes courses for each project role. The training combines online learning with practical work, both in and out of the water. The three main education streams are designed for:

- Reef Restoration Divers;
- Environmental Monitoring Divers; and
- Coral Analysts (land based).

You can join as many of the courses as you wish, depending on your availability and preferences.

The REEFrame Restoration Diver course is for certified divers and the goal is to train you in the science-based techniques that are used as a standard on Project REEFrame. Having everyone doing things in the same way helps to produce consistent data for the monitoring and the research parts of the project.

The course consists of two parts; the first is an online module that you can complete at home, it usually takes about 60-90 minutes and covers our methods and approach to coral rescue, coral health screening, propagation, and maintenance.

The second part is an intense 1-day session held at the Freestyle Divers centre in Dibba Fujairah that starts at 9am and finishes at around 5pm. The day starts with a presentation on coral and coral reefs for about an hour, then you will move on to some land-based practice on how to attach coral fragments to the nursery tables (coral propagation). Once the theory has been completed, we move onto the boat for 3 dives:

1. Coral collection and coral health screening on the natural reef;
2. Coral propagation on the Project REEFrame nursery tables; and
3. Coral maintenance – how to keep the corals healthy using underwater "gardening" techniques.

Once you have completed the REEFrame Restoration Course, you will be added to the Reef Restoration Team group, so that you can join us for dives to work on the project according to your availability.

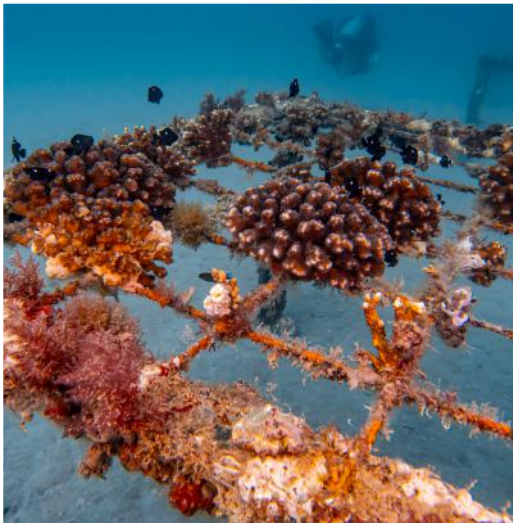
The REEFrame Environmental Monitoring Diver course is an introduction to the monitoring techniques used on Project REEFrame to capture growth and mortality in the nursery and on the reefs, as well as the marine biodiversity that has been recruited to the site. The course focuses on two main monitoring techniques:

- Photographic documentation of corals in the nursery and on constructed reefs; and
- Monitoring techniques including quadrat sampling, transect analyses, and roving diver surveys.

After an introduction to the monitoring techniques in an online learning module, the environmental monitoring divers will learn how to set up, execute, and record their surveys in the underwater environment according to scientific principles, using the standardised tools that have been developed for use on Project REEFrame.

The resulting photographic and video results are passed to the Project REEFrame Analyst team for assessment and to record the measures.

As a related learning opportunity for divers who are interested in learning underwater photography or videography, Freestyle Divers will be hosting the Canon Academy, who will deliver one free course per quarter to pre-selected divers during 2026 and 2027. Places will be limited to 15 divers per session, and candidates will be selected according to their availability and commitment to help document Project REEFrame after completing their course.



The REEFrame Coral Analyst Course is an entirely online experience that teaches you how to create data about coral species, the growth, and mortality from quarterly survey photographs. The resulting information is uploaded into the Project REEFrame monitoring and research database.

Each month, underwater photographs are taken of the corals, with a measuring scale included in each shot. You will learn to use a software-based approach to interpret the photos and create the project data via an open-source application called ImageJ Fiji – this tool allows us to upload photos, then generate measurements of the healthy coral observed in the images. The course is a mix of online training to learn the mechanics of ImageJ Fiji, combined with instructor led online coaching sessions to help you learn how to interpret photos correctly. All the activities on this course can be done at home, and on completion you will be able to participate in our ongoing data analysis according to your schedule.

If you've made it all the way to the end of the article, you are probably keen to understand how you can get involved! Each of the introductory courses (REEFrame Restoration Diver, REEFrame Environmental Monitoring Diver, REEFrame Coral Analyst) normally retail at AED 995 per course; however, as a community creating gesture to EDA members, we are offering a special deal until the 31st of March 2026.

The more people we get onto each course, the cheaper it will get for each participant. If you are coming on your own you'll get 10% off and pay 895.50; for each additional course added to your group we will offer an additional 5% discount up to a maximum of 50% discount, which means for a group of 9-10 people everyone pays AED 497.50. You can also mix and match the courses within the group, so even if you wanted to do all three yourself, you would pay 796.00 per course.

Project REEFRAME

You can find more information about the programme and a sign-up form at: **https://freestyledivers.me/eda-special**

ONE COURSE	TWO COURSES	THREE COURSES	FOUR COURSES	FIVE COURSES
AED 895.50	AED 845.75 each	AED 796.00 each	AED 746.25 each	AED 696.50 each

SIX COURSES	SEVEN COURSES	EIGHT COURSES	NINE COURSES	TEN COURSES
AED 646.75 each	AED 597.00 each	AED 547.25 each	AED 497.50 each	AED 497.50 each

PART 2
THE HISTORY OF DIVING

WORDS BY **PATRICK VAN HOESERLANDE**

We concluded the first part of our series on the history of diving with the Greek philosopher, Aristotle (384-322 BC), and we begin this second part with the knowledge learned from that of his famous student, Alexander the Great (365-323 BC).

COVER PHOTO: Elephants swim across a river with their trunks above water, using them like a snorkel. This first concept of the snorkel comes most likely from 350 BC from the Greek philosopher Aristotle who noticed an elephant swimming underwater with its trunk breaching out of the water to breathe. This is one of the first written accounts in man's history that explores the concept of snorkelling. Illustration by Midjourney – Ivo Madder.

ABOVE: Archimedes' "Eureka" moment! Illustration by Midjourney – Ivo Madder. **BELOW:** The one-person bell designed by Guglielmo de Lorena.

We concluded the first part of our series on the history of diving with the Greek philosopher Aristotle (384-322 BC). He wrote about the use of snorkels and diving bells. We do not know whether he ever went underwater himself. However, he wrote about the underwater adventures of his famous pupil Alexander the Great (365-323 BC), who used his knowledge of diving during his conquest. We begin the second part of this series with this famous Macedonian.

Alexander learned how to use a diving bell from Aristotle, amongst others. As a conqueror, he put all available knowledge to use on the battlefield and he employed a diving bell during the siege of Tyros in 332 BC.

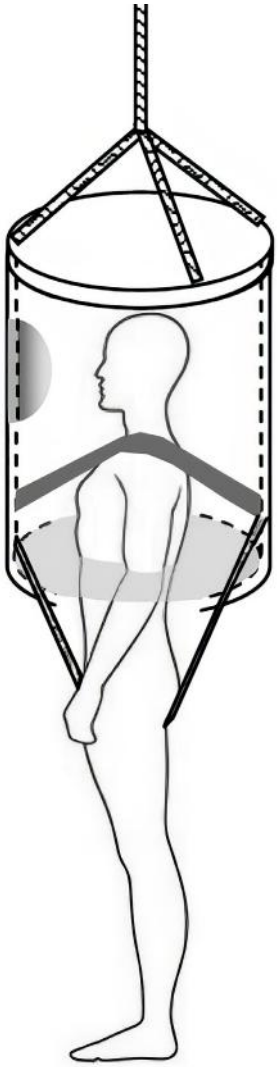
The diving bell served as a base for free divers who had to cut through the pole erected by the defending Phoenicians to prevent enemy ships from reaching the city. This made the Macedonians the first to use "demolition divers". Alexander is said to have watched the progress of the underwater works by diving in a glass diving bell called the "Colimphax". The description of this diving bell can be found much later in a French manuscript from 1250. During his dives, Alexander is said to have seen enormous sea monsters, including a fish so long, that, although it swam very fast, it took three days to swim past.

FLOATABILITY

The last Greek in our story did not realise during his days that he would play such an important role in diving. Archimedes of Syracuse (287-212 BC) lived on the Italian island of Sicily and was a well-known scientist more than 200 years before our era. In his role as advisor to the court, he was given a special assignment by his King. The King had a crown made from a lump of gold. But was the crown made entirely of gold, or had the goldsmith secretly added cheaper silver? The latter lived beyond his means, which the King found suspicious. The weight was correct; it was exactly the same as the lump of gold that the King had given the royal goldsmith. But that did not guarantee that the crown was made entirely of gold, and with the science of the time, it was not possible to prove that the goldsmith had "stolen from the crown".

The brooding King asked Archimedes to investigate whether the crown was 100% gold. Archimedes set to work. He knew that gold had a higher density than silver, but at that time it was only possible to calculate the volume of regular shapes. He could have hammered the crown into a cube, but the king had expressly ordered him not to damage the golden object. After all, if it was all gold, the King wanted to keep the crown.

Archimedes decided to take a bath to think things over. He sat down in the bath, saw the water rise and the tub overflow. Then he knew it! When an object is immersed in water, the water rises. And so, he figured out that objects made of the same material and weighing the same must also displace the same amount of water. "Eureka!" (I've got it!), he cried. He jumped out of the bath and ran naked into



ABOVE: Urinatores: professional Roman divers. Illustration by Midjourney – Ivo Madder.

the street, shouting "Eureka!" (according to the story). Later, he showed the King and the court how he could figure out the volume of an object based on the amount of water that ran out of a bucket. According to Archimedes' calculations, the crown was indeed not made of gold alone. Archimedes never formulated his law as such, but his story is at its core. That is why we know the relationship between mass and volume as Archimedes' Law.

URINATORES: PROFESSIONAL ROMAN DIVERS

We find references to underwater activities involving diving bells and free divers in ancient Egyptian, Greek, and Roman writings. If there was one professional group in Roman society that remained at the bottom of the sea and of the social ladder, it was the 'urinatores', the divers who earned their meagre wages as pearl, sponge or treasure divers in the port of Ostia, in the River Tiber and off the coasts of Italy. They were seen as daredevils who played with death. Without diving masks or other equipment, they descended, weighted down with stones, to depths of sometimes more than fifteen metres. Every day, without fail. Each dive must have been a painful experience. Their eyes were red and swollen from the salt water and their ears suffered greatly from the differences in pressure. To prevent their eardrums from bursting during the rapid descent, some of them pierced holes in them. With pieces of sponge or olive oil in their ears, they hoped that the seawater would not enter the Eustachian tube through their pierced eardrums. It is clear that the life expectancy of these divers was not very high. No matter how hard they worked, no matter what risks they took, they could not count on any social advancement. Those who earned their living at sea were considered unsavoury, and those who descended into the sea and ventured into this hostile element were considered completely insane and far removed from the norms and values of agricultural society, even though they were useful to that society.

Divers were therefore shunned. Only when war situations made it necessary for them to disable enemy ships as a kind of military diver "avant la lettre" were the Romans prepared to temporarily overcome their aversion. This was the case in 194, when divers in the service of Emperor Septimius Severus played a decisive role in the siege of Byzantium. They swam to the enemy ships, drove nails with long cables attached to the bottom of those ships and then pulled the ships from their moorings.

The Latin word used to refer to divers conveys contempt. Although the Romans had words for diving and going underwater (demergi, inmergi, submergi), the word urinator, derived from urino(r), was the term used for this group. Although urinator is not exactly a word that expresses appreciation, divers themselves used it to refer to their profession, as there are inscriptions with the name of their trade association, the "corpus urinatorum".

The question of how the Romans came up with this name is still unanswered. The traditional explanation is that urinator is related to the word "urina" in its original meaning of water. Urinatores were therefore people who were submerged in water or people from whom "water dripped". Another explanation is that urinatores refers to the derived meaning of urine. Based on the fact that divers in cold water, due to the pressure of the water column and the cold, tend to urinate spontaneously underwater, they would have been called urinatores. Although this condition is not serious and does not affect divers above water, they were nevertheless labelled urinatores. The explanation can probably be found in the book "Les Secrets de la Mer Rouge" by the explorer Henry de Monfreid. De Monfreid spent a lot of time with pearl divers and during those trips he was repeatedly struck by a terrible stench when the divers were on board. When he asked where the stench came from, he was told that young divers suffered from urinary incontinence. It is a disease that affects divers under the age of thirty when they descend to depths of fifteen to eighteen metres, weighed down by a large stone.

Although the urinatores were important to the port of Ostia, the beating heart of the Roman economy, and in times of war, to outsiders they stayed urine collectors who stank and were best avoided.

FIRST DIVING LAW

In the first century BC, a thriving salvage industry developed along the main trade routes of the Mediterranean. In 77 AD, the inhabitants of the island of Rhodes were doing

ABOVE LEFT: A "corpus urinatorum" inscription. **RIGHT:** The catch of a tasty fish by the fisher on the vase (in his right hand) proves the the benefits of a dive mask.

such a thriving business salvaging valuables from sunken ships that it was considered an important matter requiring a law to set up the rights of the various parties involved. The first diving law stipulated that divers would receive a share of everything they recovered from the sea, with the compensation depending on the difficulty of the salvage, in this case the depth of the wreck. At a depth of 25 feet (7.6m) or more, the salvager's share was half of all salvaged goods. From 25 to 12 feet (7.6 to 3.6m), the share was reduced to one-third, and in shallow water where they could stand, the share was only one-tenth of the value of the goods. That was all they were allowed to demand from the owners. Similar laws exist today in almost every country in the world.

FIRST BREATHING TUBE

In the year 77, Pliny the Elder wrote an encyclopaedia of 37 books. In this extensive work, he mentioned the technique whereby military divers attach a breathing tube to a surface buoy. The use of military divers was so widespread that Roman galleons at anchor were recommended to set up a guard system against divers. Having your own diver who could stay underwater for a long time was a great advantage.

We know that underwater warfare was important from, among other things, the work "De Re Militari" from 375 by Publius (or Flavius) Vegetius Renatus, a writer from the Roman Empire. The original work no longer exists, but a new edition was published in 1511. In this book, we find illustrations of a helmet with a long snorkel and an armed free diver. The diving techniques in both images were probably very limited, but they do show the continuing interest in this field.

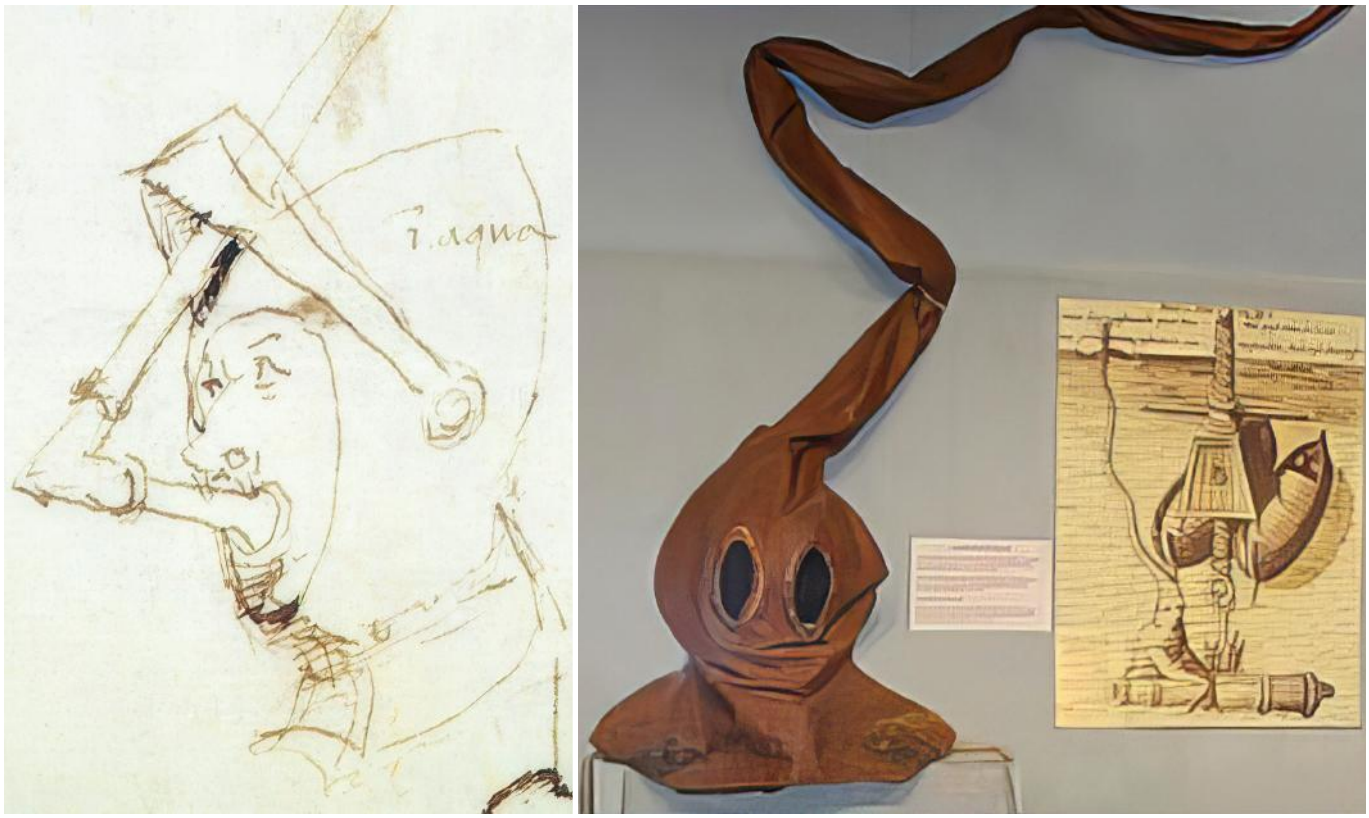
FIRST DIVING MASK

As in so many fields, interest in the underwater world waned after antiquity. There were probably free divers in our regions who dived for natural and anthropogenic treasures, but few traces of this can be found. We have to cross the Atlantic Ocean to find anything about diving in these centuries. In the arid Nasca desert in southern Peru, fish and other marine animals from the nearby Pacific Ocean were essential food sources, and those who fished these riches from the Pacific were respected in Nasca society, unlike in Roman society. These fishers wore distinctive headgear: a turban with a pointed knot at the front, as can be seen on a Peruvian vase depicting a diver. The style of this headgear appears to have been functional. Similar to a fish's fin, the protrusion at the front was intended to help fishermen dive and swim through the water more quickly and easily. The catch of a tasty fish by the fisher on the vase above (in his right hand) proves the belief in the benefits of the fishing gear. The eye part of this headgear resembles a type of diving mask and could be the first image of this diving equipment.

It is not possible to find out when exactly the diving mask first appeared. In the 1300s, possibly earlier, Persian and Polynesian pearl divers began to use visual aids underwater. They had 'glass' made by thinly cutting and polishing the outer layer of turtle shells. Several centuries earlier, the prototype of modern diving masks were used by the many free divers in the Pacific Ocean, such as the Ama from Japan, to harvest food and resources underwater. These masks were often made from polished sea or turtle shells. The invention of diving masks seems to have arisen from a natural, progressive need for visibility, without a single precursor or real origin. Rather, it seems that knowledge of their use was passed on through trade and occasional contacts between coastal dwellers.

FIRST DIVING APPARATUS AND DIVING HELMET

It is not until 1190 that we encounter something interesting, and once again it is a military activity, namely the siege of Acre, a city in the north of present-day Israel. According to the Arab writer Bohaddin, an Arab diver used a device to breathe underwater. This diver was the Egyptian Ahsan-ul-Ghawasin, also known as Issa, and he may well have been the inventor of the first diving apparatus. He served in the navy of the Turkish Sultan Saladin during the Third Crusade. In order to bring supplies to the city of Akko, he is said to have made a device with a bellows. Weighed down with a stone, this device allowed him to stay just below the surface of the water and swim past the Christian guard posts. The report tells colourful stories about Issa's horror when he saw the hundreds of Arab bodies lying on the seabed, "which served as a feast for eels, octopuses, and crabs". He too became one of those bodies after being spotted by a patrol of crusaders and shot dead by an arrow. However, he went down in history as the first person to develop a kind of diving helmet.



ABOVE LEFT: Mariano di Jacopo's long snorkel design. **RIGHT:** A leather diving helmet with a long tube.

The Middle Ages were a time without much progress. Even underwater, it stayed dark, and we had to wait until the Renaissance to discover anything new. In 1450, we meet the "Sienese Archimedes" Mariano di Jacopo, il Taccola (1382-1453). This Italian scientist described a breathing apparatus, in fact a long snorkel, very similar to a horse's nose cap. A rather impractical design, but it does signal a hopeful revival of interest in diving. More importantly, he also provided the first European illustration of a piston pump.

FIRST SCUBA AND MODERN SNORKEL

Later, the Italian Leonardo da Vinci (1452-1519) described systems for breathing underwater and is sometimes credited with the first design of SCUBA equipment. It is likely that others had done so before him, but we do not find much evidence of this, and his sketch is very similar to our current equipment. In his Codex Atlanticus, he described equipment with an air supply and a means of controlling buoyancy. He did not want to give details so as not to give unsavoury characters any ideas (such as sinking ships for their treasures or for robbery and murder). That was not such a strange thought at the time, as pirates and beachcombers were more common than they are today.

When the Turkish fleet sailed towards Venice to attack the city, the city council realised that their small fleet would be defeated and called on everyone to come up with solutions. Of course, Leonardo had to respond. He designed diving equipment to sink the Turkish fleet. The diver could breathe through two tubes attached to a float. One tube was for inhaling, the second for exhaling. With this, Leonardo solved the problem of dead space, and his diver would suffer less from headaches. His proposal also included a kind of fin, although it was intended for "swimming" with the hands. After all, his diver had to walk across the seabed to the Turkish fleet. Unfortunately, the Turks did not invade Italy, so there was no need to produce and use his diving equipment. It did not however, leave the design stage. Nevertheless, Jacques-Yves Cousteau is said to have been inspired by this design.

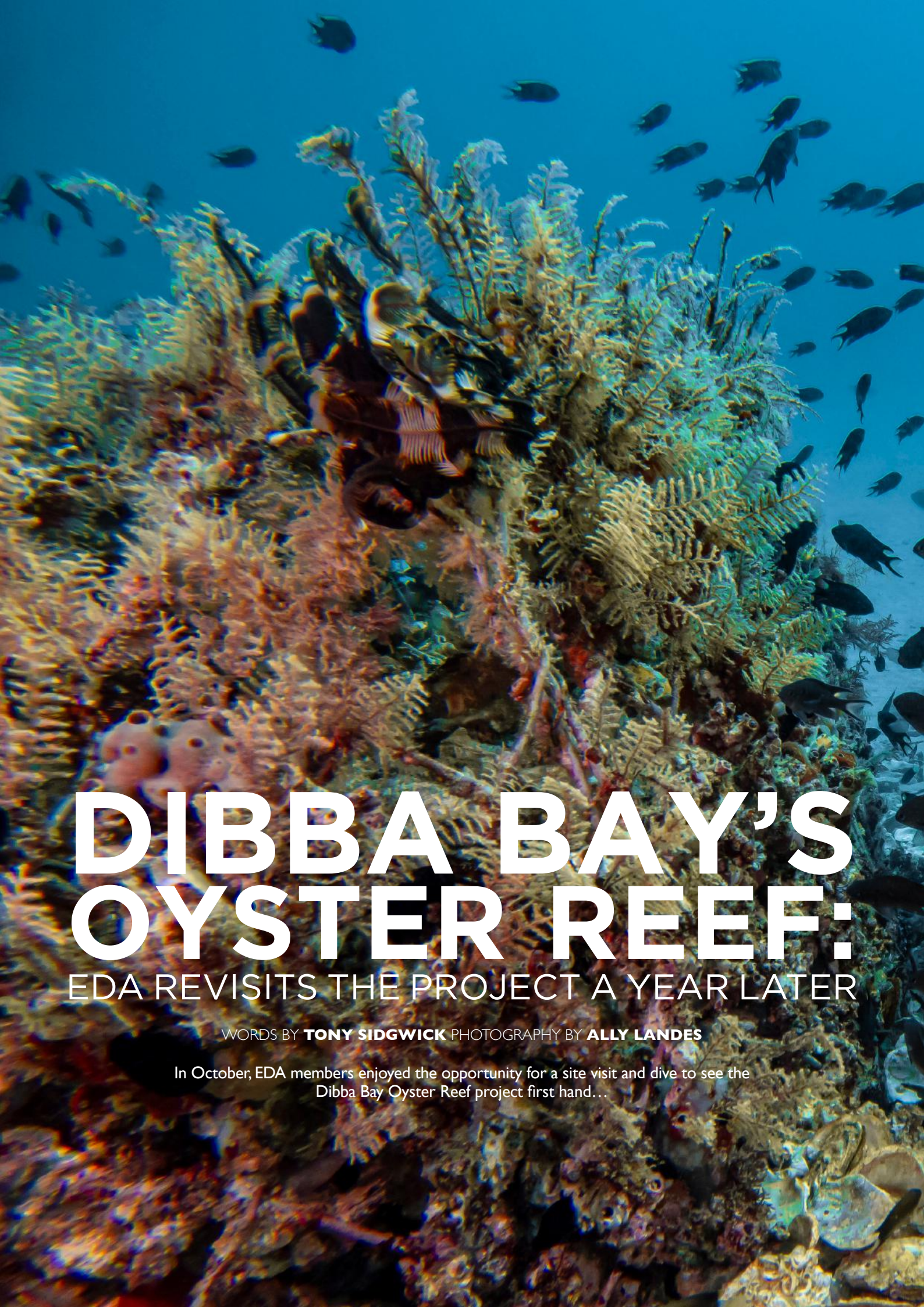
Leonardo also devised a full leather diving suit with an integrated mask that could float or sink thanks to a leather bag to control buoyancy. By breathing in and out of this air bag, the diver would be able to dive autonomously. This design was therefore a first sketch of SCUBA equipment. Leonardo had thought of almost everything, as he even integrated a small bag to collect the diver's urine in case of an emergency! Had he read about the Roman epithet "urinator"?

FIRST SUBMARINE WITH PROPULSION AND SUBMARINE ATTACK

The earliest mention of a self-propelled underwater vehicle can be found in the writings of the Swedish historian Olaf Magnus, who recounted that during an expedition by the Swedish King Haakon to Greenland shortly before 1505, two submarines made of sealskin, each with three men on board, were captured. They had been devised because the natives wanted to take revenge on visiting European traders for their dishonesty. The Greenlanders managed to drill holes in the bottoms of a handful of European ships before they were captured. These submarines were propelled by oars protruding from their sides and were used not deeper than a few metres, as the sealskin hulls would never have been able to withstand the increased water pressure at greater depths.

FIRST USE OF A DIVING BELL

The Roman emperor Caligula ruled in the first century and was best known for his extravagant parties. He even had several luxurious pleasure galleys that sailed on Lake Nemi, found about 30 kilometres from Rome. These ships, laden with treasures, sank in the lake, and although many searched for the wrecks, they were never found. In 1531 (other sources mention 1535), the Italian Guglielmo de Lorena designed a single-person diving bell. The bell was carried on the shoulders and lowered into the water with cables, which also served to keep the bell upright. The pressure in the bell was equal to the ambient pressure. The air for the diver was refreshed with barrels. In later versions, air was pumped through pipes to maintain a consistent air flow. In July, Guglielmo de Lorena and Francesco de Marchi began their search and a few weeks later they found the galleys. This is not only the earliest known use of a diving bell, but also the first underwater archaeological investigation. It was probably not a pleasant experience, as Francesco described diving with the bell as follows: 'From your elbows up, you were warm, but below that, you were cold.' The neoprene diving suit had not yet been invented.



DIBBA BAY'S OYSTER REEF:

EDA REVISITS THE PROJECT A YEAR LATER

WORDS BY **TONY SIDGWICK** PHOTOGRAPHY BY **ALLY LANDES**

In October, EDA members enjoyed the opportunity for a site visit and dive to see the Dibba Bay Oyster Reef project first hand…

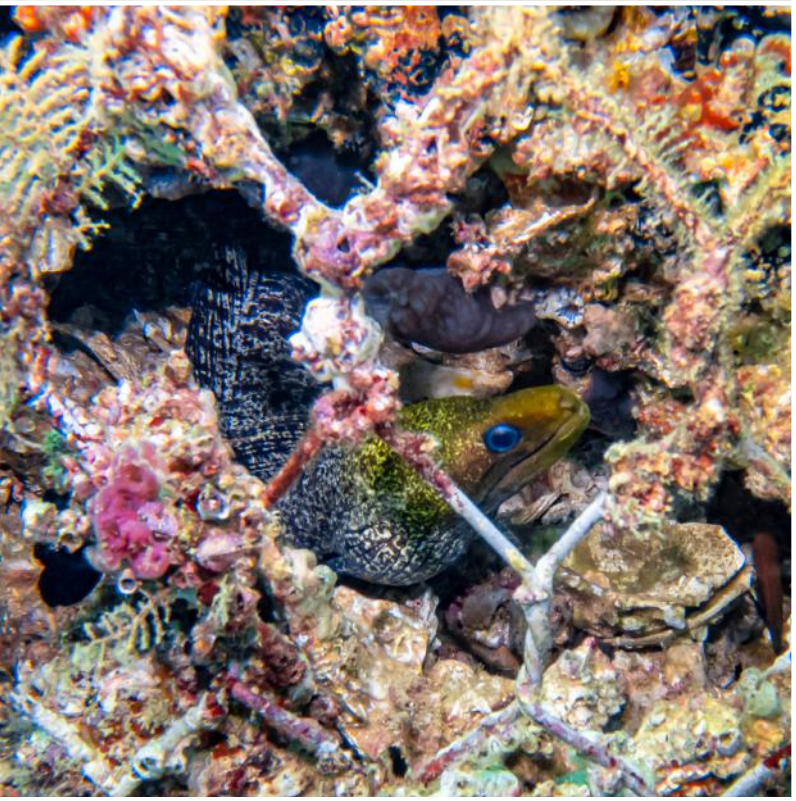
EDA members who opt to support the Dibba Bay Oyster Reef Creation Project through the EDA Local Conservation Impact Plan (first introduced in early 2024), pay a surplus donation added to their annual EDA membership fee. Our members are then able to witness the fruits of their donations first hand with a dive experience at the Dibba Bay Oyster Reef, followed by a tour of the Dibba Bay Farm's unique ocean aquaculture project in October. Over these past 2 visits we have seen the evolution of this reef, once a stark sandy bottom, turn into a vibrant habitat for marine life.

DIBBA BAY OYSTERS

For those who don't know, Dibba Bay Oysters is a pioneering aquaculture project, the first of its kind in the region, that grows oysters in a farm situated in the waters off Fujairah's coast. Grown in layered baskets, aka 'lanterns', hanging beneath the surface, the oysters are raised from spat, which are baby oysters. These are grown for a period of 9-10 months before being harvested, sorted, and packaged for distribution to customers across the UAE and the world.

In a process spanning around twenty five hectares of concessions from the Fujairah government, the farm can harvest several millions of oysters every year.

As you can imagine, the millions of Dibba Bay oysters consumed in the UAE each year create a lot of shells as waste. As organic waste, they're not harmful to the environment, but they do take up a lot of space in landfill. Therefore, as part of a circular economy initiative, Dibba Bay is working with local partners at hotels and restaurants across the UAE to collect the shells and repurpose them into a man-made reef.



Oyster reefs offer a wealth of benefits to the marine environment; they are one of the most ecologically diverse and productive ecosystems on the planet. In collaboration with the Fujairah Environmental Authority, the Dibba Bay Oyster Reef Creation Project aims to support the growth of biodiversity in the coastal waters of Fujairah.

Under the project, the shells are collected from the partners, contained in structures of wire mesh, and placed in the allocated area of ocean floor which contained no pre-existing coral reef or marine life – just a sandy seabed. It's incredible to see the abundance of life that has flourished on the reef. Since our visit in 2024, the first phase of the reef has been covered in sand, though there were still small fish and scorpionfish nestled amongst the still-visible patches of oyster shells.

However, the 2nd and 3rd phase structures are still standing strong, and there is a plethora of life lurking in every nook and cranny, with small schools of various fish species dotted everywhere. We saw a large stingray on our descent which quickly swam away, but we noticed multiple stingray patches in the sand surrounding the site, indicating that it's attracting many of these animals thanks to the sea life it contains.

There is also an abundance of red algae, feather stars, tunicates, bivalves, barnacles, hydroids, crinoids, hermit crabs, and we found *Hypselodoris pulchella* nudibranchs and the tiniest *Caloria indica* nudibranchs.

There are lots of scorpionfish camouflaged amongst the shells and flora, and plenty of juvenile lionfish swimming about making some great photo opportunities. The triggerfish are

a new addition from last year, and there are more groupers which is always a good sign.

One large cuttlefish stood its ground, possibly laying eggs in a corner during the entirety of our dive, and we found two reticulate moray eels hiding in their respective dens. To end our dive, a small curious green turtle spent a few moments with us, giving us the perfect ending!

After our dive, we went to see the offshore concession acreage where the oysters grow in their lantern nets. We got to see how the Dibba Bay team clean the oysters from barnacles or other smothering entities to keep their growth in check.

Then we headed back to the farm where we got an insightful step-by-step tour of the impressive facilities by Dibba Bay's Farm Manager, Philip Steenkamp. You will gain a whole other appreciation for gourmet oysters after you learn all about the process from growing to harvesting and packaging.

Of course, no tour is complete without a tasting session. Thanks to the unique nutritional content and conditions of Fujairah's coastal waters, Dibba Bay oysters are meaty and flavourful, and an absolute treat for seafood lovers!

For those who missed the trip, there is always the opportunity to visit the Dibba Bay Restaurant in Fishing Harbour 2 in Umm Sequiem, Jumeirah to order a platter of freshly shucked oysters.

Our thanks go to Dibba Bay for another fantastic field trip and dive experience for our members, and a special mention to Divers Down for managing our dive.

DIBBA BAY®
OYSTERS

EDA'S LOCAL CONSERVATION IMPACT PLAN

100% of our members' donations go directly to Dibba Bay to help fund the operational aspect of collecting the shells, creating the new structures, transporting them to the site, and placement. The payment can be made when members acquire or renew their annual EDA Membership.

EDA Annual Membership Fee: AED100

Additional and Optional EDA Local Conservation Impact Fund: AED180
(Total to Pay: AED280 = Membership + Impact Fund)

To participate in our Impact Plan for Dibba Bay's Oyster Reef Creation Project, go to the link on our website for the payment instructions:
www.emiratesdiving.com/membership


AQUALUNG
LEGEND

GREEN FINS:

A NEW PATH FOR UAE DIVE OPERATORS TO LEAD IN SUSTAINABILITY

WORDS AND PHOTOS BY **THE REEF-WORLD FOUNDATION**

Green Fins membership offers UAE operators a proven pathway to stand out in a crowded market while protecting the extraordinary underwater environments that make diving in the region so special.

COVER PHOTO: Sebastian Pena Lambarri

The diving industry stands at a crossroads. As marine tourism continues to grow globally, so does its environmental footprint on the fragile ecosystems that make the underwater world so captivating. For the UAE dive operators, this presents both a challenge and an extraordinary opportunity: to become leaders in sustainable diving practices while attracting the growing market of environmentally conscious travellers.

THE BUSINESS CASE FOR SUSTAINABILITY

The numbers tell a compelling story. According to a study of over 2,400 divers, 83% of dive tourists actively seek sustainability education, and 75% are willing to pay more for sustainable options. Yet here's the catch: 85% of these tourists find it difficult to identify truly sustainable operators. This gap represents a significant market opportunity for dive businesses that can credibly demonstrate their environmental commitment.

The diving industry generates between US$8.5 billion and US$20.4 billion annually, supporting up to 124,000 jobs worldwide. In regions like the UAE, where coral reefs and marine biodiversity are both environmental treasures and economic assets, protecting these resources isn't just about conservation – it's about ensuring the long-term viability of the tourism sector itself.

WHY THE UAE'S MARINE ENVIRONMENT MATTERS

The UAE's coral reefs are remarkable not only for their ecological value but also for their resilience. Abu Dhabi alone hosts approximately 350km² of coral reef associated habitat, with the 55 square kilometre Ras Ghanadah protected area being the largest coral reef in the UAE and Gulf region, containing 40% of all coral species found in the Arabian Gulf.

What makes these reefs particularly special is their heat tolerance. UAE corals possess some of the highest thresholds for bleaching and mortality in the world, making them critically important for international coral science as researchers study how reefs might adapt to climate change globally.

ENTER GREEN FINS: THE WORLD'S FIRST MARINE TOURISM CERTIFICATION

For over 20 years, The Reef-World Foundation has partnered with the UN Environment Programme to deliver Green Fins, the world's first independent certification to stop environmental impact from marine-based tourism. Green Fins provides the only internationally recognised environmental standards for the diving and snorkelling industry.

The Green Fins approach is refreshingly practical. Rather than requiring complete operational overhauls, the programme focuses on practical, small, cost-effective changes that collectively create significant positive impact. The results speak for themselves: in 2024 alone, Green Fins Members have achieved an overall 26% reduction in environmental threats, including a 16% reduction in direct diver contact with reefs, 31% improvement in trash management and a 30% improvement in managing threats such as toxic sunscreen and chemical cleaning products.

Over 1,500 marine tourism businesses have actively reduced local threats through Green Fins membership, and more than 1.4 million tourists have been engaged with Green Fins dive and snorkel centres in the last decade, the programme has proven its effectiveness at scale.

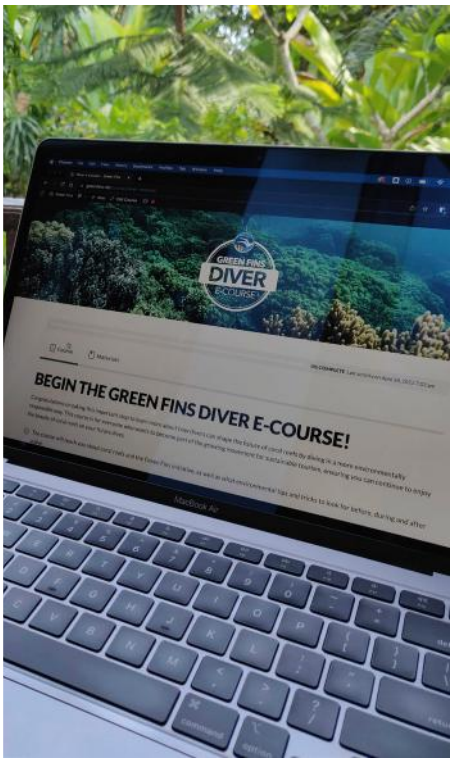
GREEN FINS DIGITAL MEMBERSHIP: ACCESSIBLE SUSTAINABILITY FOR UAE OPERATORS

Recognising that the demand for Green Fins membership has increased but not all regions have established Green Fins assessment teams, Reef-World launched Green Fins Digital Membership – a pathway that makes sustainability certification accessible to operators everywhere, including the UAE.

Digital Membership offers dive, snorkel and liveaboard operators a comprehensive self-evaluation tool to assess their environmental impact across 15 key criteria. Members receive a personalised environmental action plan, access to a solutions library with over 120 practical resources, and membership in a global community forum connecting sustainable tourism champions from 61 countries.

The process is straightforward: operators complete an online environmental self-evaluation, receive their baseline score and customised action plan, implement improvements throughout their 12-month membership and track progress via Green Fins Hub. Annual evaluations help businesses measure their improvement and refine their strategies.

At just $140 for the first year and $60 for subsequent years, digital membership represents an affordable investment in both environmental stewardship and business differentiation. Members earn a certificate and can display the Green Fins logo, showcasing to



eco-conscious travellers that they're making a genuine commitment to reef protection.

THE PATH TO INDUSTRY RECOGNITION

For operators seeking additional recognition, Green Fins membership serves as a foundation for external eco recognition programmes. Reef-World's external eco recognition highlights businesses that demonstrate exemplary commitment to sustainability and conservation, working with partners such as dive training agencies and booking platforms to incorporate Green Fins membership within their in-house programmes.

For example, PADI requires Green Fins membership as one of three criteria for its PADI Eco Centre designation – part of this external eco recognition framework. This partnership has seen growth in Members achieving Eco Centre status year-over-year, demonstrating the value of stacking sustainability credentials. The PADI Eco Centre designation offers additional marketing advantages, helping operators connect with ocean lovers who want assurance that their tourism dollars support positive environmental impact.

WHY NOW IS THE TIME FOR UAE OPERATORS

The UAE diving industry is positioned at an exciting moment. With government-led conservation initiatives demonstrating national commitment to marine protection, dive operators who embrace sustainability now will be perfectly positioned to benefit from the growing eco-tourism market.

Green Fins digital membership offers UAE operators a way to:

- Demonstrate environmental leadership in a competitive market.
- Access proven, practical solutions used successfully by operators in 61 countries.
- Join a global network of sustainability leaders.
- Prepare for potential future local certification programmes.
- Meet the expectations of the of dive tourists seeking sustainable operators.

The programme's emphasis on small, achievable improvements means operators don't need to invest in expensive infrastructure changes. Many impactful modifications – such as proper briefing techniques to reduce reef contact, eliminating single-use plastics, or switching to biodegradable cleaning products – require minimal financial investment but deliver measurable environmental benefits.

A COLLECTIVE APPROACH TO CONSERVATION

What makes Green Fins particularly powerful is its recognition that conservation isn't solely the responsibility of scientists and policymakers. The marine tourism industry, which depends entirely on healthy marine ecosystems, has both the motivation and the means to be part of the solution.

As The Reef-World Foundation emphasises in its recent impact report, champions within local coral reef communities hold the key to solving the coral reef health crisis. By empowering operators and local communities with knowledge, tools and support, Green Fins creates a network of conservation advocates who are protecting reefs through their daily operations.

TAKING THE PLUNGE

For UAE dive operators wondering where to begin their sustainability journey, Green Fins digital membership offers a clear starting point. The programme doesn't require perfection – it requires commitment to continuous improvement. Now, the UAE's diving industry has an opportunity to demonstrate equal resilience as the coral reefs – not just by adapting to change, but by actively driving positive environmental outcomes.

In a world where travellers increasingly vote with their wallets for businesses that align with their values, sustainability isn't just good ethics – it's good business. Green Fins membership offers UAE operators a proven pathway to stand out in a crowded market while protecting the extraordinary underwater environments that make diving in the region so special.

The question isn't whether the marine tourism industry needs to embrace sustainability. The question is: which operators will lead the way?

GREEN FINS

GET MORE INFO

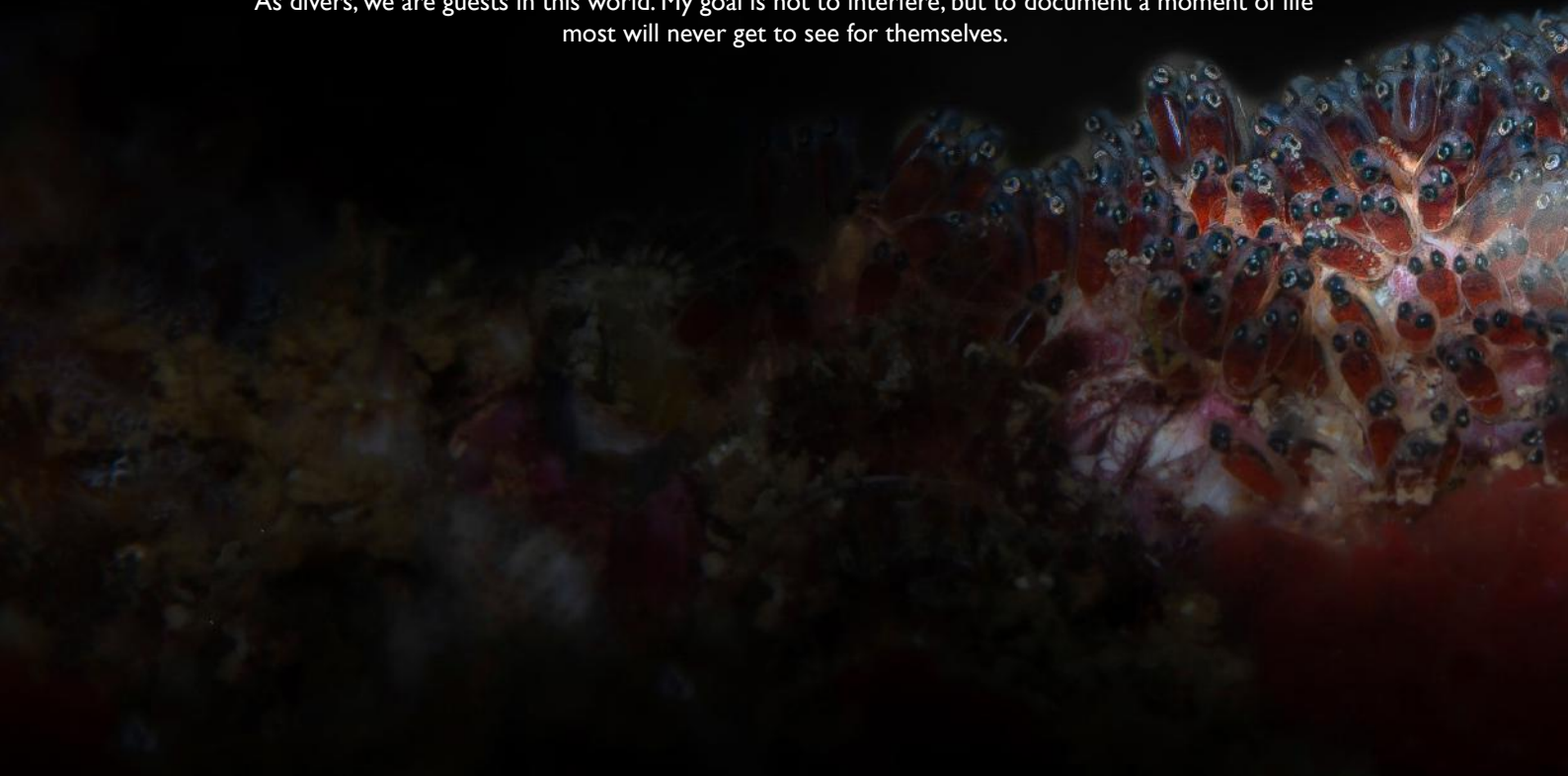
For more information about Green Fins membership, visit:
www.greenfins.net
or contact the team at:
info@greenfins.net.

THE REEF-WORLD FOUNDATION

GUARDIANS OF THE REEF: THE PARENTAL DUTY OF NEMO

WORDS AND PHOTOGRAPHY BY **MOHAMED MOHSEN**

As divers, we are guests in this world. My goal is not to interfere, but to document a moment of life most will never get to see for themselves.



THE GENTLE OCEAN WARRIOR

At fifteen metres below the tranquil surface of Ras Al Hadd, I watched a scene that stilled time itself – a single clownfish fanning her eggs that held her next generation. Amongst the waving tentacles of a grey anemone, the orange glow of the fish pulsed like a heartbeat in the reef.

A MOTHER'S WATCHFUL CARE

This "Nemo," the two-banded anemonefish *Amphiprion bicinctus*, was relentless. She darted back and forth over her clutch, fanning fresh water with her fins, inspecting every egg, clearing debris, even removing the few that would not hatch. The eggs shimmered like tiny glass beads, each one revealing a pair of silver eyes staring back from within.

Nearby, her mate patrolled the anemone's edge, ready to defend their territory against intruders many times his size. Together they formed one of the ocean's most tender partnerships – proof that parenthood and courage thrive even in miniature worlds.

THE UNDERWATER DANCE OF LIFE

Photographing this behaviour demanded a lot of patience and respect. I slowed my breathing, adjusted my strobes to a soft glow, and let the moment unfold. Every flick of her fins, every quick glance toward me, spoke of instinctive devotion.

Ras Al Hadd's reefs are alive and full of these hidden stories. Here, clownfish and anemones live in perfect symbiosis: the anemone's stinging tentacles protect the fish, while the clownfish keep their host clean and aerated. It's a fragile balance – a small miracle repeated endlessly across the Indian Ocean.

RESPECTING THE OCEAN'S FAMILIES

As divers, we are guests in this world. My goal is not to interfere, but to document a moment of life most will never get to see for themselves.

When I surfaced, I carried with me a deeper respect for these tiny guardians and the invisible web of care that sustains our reefs.

ABOUT THE PHOTOGRAPHER

Mohamed Mohsen is an architect, diver, and underwater photographer based in the UAE and Oman. His macro work reveals the quiet beauty and behaviour of marine life that often escapes the casual eye – from the vigilant guardianship of clownfish to the ethereal drift of nudibranchs.

TECHNICAL NOTES

Camera Setup: Sony A7 III + Sony 90 mm f/2.8 Macro G OSS + INON UCL-165 M67 wet lens.
Lighting: Backscatter MF-2 strobes with an OrcaTorch focus light.
Depth: 15-20m
Conditions: Calm, clear, with a moderate current.
Dive Centre: As-Adventure (Oman)
Date: August 2025
Dive Buddies: Fayez and Adel

www.instagram.com/m.mohsen.uwp

MY GOPRO JOURNEY

WORDS AND PHOTOGRAPHY BY **FELIPE MORALES ROJAS**

"The ocean taught me patience, balance, and humility, and GoPro gave me a platform to share it."

ABOVE L-R: 2nd Place in Digital Online – EDA's Underwater Photography and Film Competition 2024; 3rd Place in Digital Online 2025.

It's incredible to look back and realise how much can change in a few years. Every challenge, doubt, and small victory has shaped the path that brought me to where I am today. The hardest part was always believing in myself, but each time I trusted my instincts, life showed me I was moving in the right direction.

Today, I hold on to a phrase that captures my story: "If you can't beat the fear, just do it scared." Because it's in those moments of fear and uncertainty that we grow the most.

My connection with GoPro began in 2016 on a trip to New Zealand with my brother. We had bought our first Hero 3 to capture our adventure. That little camera opened a whole new way of documenting my experiences and quickly became synonymous with travel.

Since then, GoPro has become part of my life. With the upgrade to the Hero 5, I kept learning and unlocking every single function.

Then came 2018, the year that would change my life forever. That's when I started diving and completed my Open Water course in Chile. It was a real challenge: cold waters, strong currents, and low visibility. But it turned out to be the best classroom to learn in. That first time underwater was unforgettable, I felt like I was on another planet.

With every dive, I knew this was where I belonged, and GoPro was going to be my best ally. I needed to show the world what was happening down there. Of course, it wasn't easy. I was still learning, so my early videos were quite funny. You were lucky if one second of footage showed what I actually meant to film! Photos? I had no clue what I was doing.

By 2020, the Hero 9 arrived, and my first "good" videos began to take shape. I started understanding the basics of editing and improving my underwater filming skills, however, it was only with the arrival of the Hero 11 in 2022 that I began to get closer to the professional quality results I dreamed of. As diving became a bigger part of my life, my experiences and technique improved, allowing me to capture steadier and clearer footage.

In 2023, I came across a copy of EDA's magazine, 'Divers for the Environment' for the first time. That edition featured the winners of that year's Digital Online underwater photography competition. I remember turning to my wife and saying, "Next year, I'll be one of them." I had a full year ahead with many dives and trips to improve. I learned to edit using GoPro Quik and Lightroom, and worked hard to bring my vision to life.

That's how nomad.underwater was born! With one simple purpose: to share the beauty of the underwater world through powerful imagery and storytelling while helping others explore, learn, and protect the ocean in an accessible and meaningful way.

Whenever I lose focus, I return to my purpose and ask myself, "Why am I doing this?" The answer is always the same: to show the beauty of the ocean and remind people they're not alone, that they can count on me to make their journey toward the sea and diving a little easier. Those who dare to teach, never stop learning, and I'm convinced more than ever, that creating nomad.underwater was one of the best decisions I've ever made.

Then, Digital Online 2024 – EDA's Underwater Photography and Film Competition finally came. I submitted my photos, all taken with my GoPro 11 (and by then, I had also added the Hero 12).

Thousands of thoughts crossed my mind: Were my photos good enough to compete against professionals? Did I choose the right ones? When the results were announced, I couldn't believe it, I had won 2nd place in one of the categories. My happiness was beyond words; I had proven to myself that I was good enough to be amongst the best.

That recognition caught the attention of GoPro Middle East, who were truly impressed by my work on Instagram. That's how I became one of their official brand ambassadors, fulfilling a dream I had for so many years. Since then, I've collaborated with them on retail activations, events, and digital marketing campaigns.

The journey continued in 2025 with a new edition of EDA's Digital Online photo competition. This time, I felt much more confident in my work. I had already earned recognition in other photography contests, and once again, I made it to the podium, winning 3rd place in one of the categories.

Today, I can proudly say I've inspired others to dive, to get their own GoPro, to explore photography, and to discover the world that once captured me. Life is simpler than we think, and for me, that simplicity is embodied by GoPro: an accessible, portable camera that allows anyone to create and share their story.

There is still a long way to go, but this journey is far from over. Stay tuned, because the best is yet to come. And yes, this time my GoPro 13 comes with me everywhere I go!

GoPro Winner 2025

UNDERWATER GOPRO SETTING RECOMMENDATIONS

FOR VIDEOS:
You can film vertically or horizontally in a 16:9 frame, or use the 8:7 frame to adapt both orientations from the same footage.

For larger subjects, or panoramic shots, I recommend the following:
Resolution: 4K (10-Bit)
FPS: 60
Lens: Wide Angle
ISO: 100-1600
Shutter: Auto
White Balance: Auto

FOR PHOTOS:
Lens: Wide Angle
ISO: 100-3200
Shutter: Auto
Sharpness: Low
Output: RAW (if you plan to edit)

It's always useful to use Burst mode, where you can capture multiple frames per second to capture the perfect moment.

Lastly, it's always helpful to use a diving rig to improve stabilisation underwater and to add lights, which are essential for capturing colours below the surface.

FELIPE MORALES ROJAS
www.instagram.com/nomad.underwater

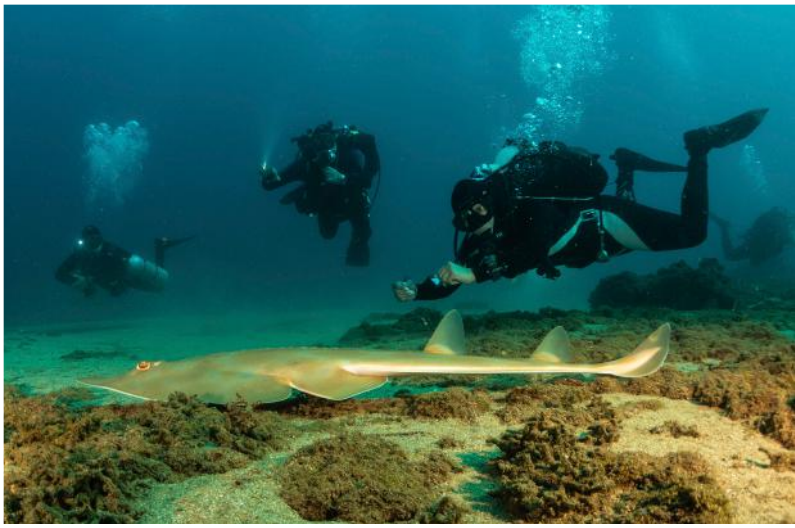
LEBANON

A MEDITERRANEAN GEM FOR DIVERS

WORDS AND PHOTOGRAPHY BY **SAMER HALWANY**

A short 4-hour flight from Dubai brings you to beautiful Beirut, where East meets West. A vibrant city alive with social energy, restaurants, shops, and seaside charm – Beirut is your gateway to an unforgettable diving adventure along Lebanon's Mediterranean coast.

COVER PHOTO: The charming coastal town of Batroun.



ABOVE L-R: One of the loggerhead turtles found in Tyre; Soufleur Wreck; A guitar shark at AUB Wall. **OPPOSITE PAGE:** A regal sea nudibranch.

A short 4-hour flight from Dubai brings you to beautiful Beirut, where East meets West. A vibrant city alive with social energy, restaurants, shops, and seaside charm – Beirut is your gateway to an unforgettable diving adventure along Lebanon's Mediterranean coast.

DAY 1: DIVING INTO ANCIENT HISTORY

Begin your journey with a scenic drive south to Tyre, one of the world's oldest inhabited cities. Beneath the turquoise waters of Al Jamal dive site, discover submerged Roman and Phoenician ruins, columns, arches, and relics resting silently on the seabed. Keep an eye on the loggerhead turtles while diving there as Tyre is famous for its sea turtle population.

In the afternoon, continue to Saida (Sidon), another ancient coastal city. Explore the Sea Castle, a 13th century fortress built by the Crusaders, before diving into the Underwater Garden, an artificial reef created from 10 military vehicles, including six tanks. These structures have transformed into thriving marine habitats, attracting a rich variety of fish and sea life.

DAY 2: SOUFLEUR WRECK & AUB WALL

Board a dive boat from Beirut and cruise 25 minutes offshore to the Soufleur Wreck, down at 39 metres deep, suitable for air or nitrox dives. This Vichy French Requin-class submarine was sunk by a torpedo in 1941, splitting it into two sections. Today, it's an artificial reef teeming with marine life (stingrays, schools of seabream, and other Mediterranean species).

Return to Beirut in the afternoon for a dive at the AUB Wall, a breathtaking multilevel site alive with guitar sharks, loggerhead and green turtles, cuttlefish, moray eels, lionfish, and vibrant schools of damsels. For macro lovers, keep an eye out for seahorses, nudibranchs, and other tiny wonders. If you still have energy, a night dive here reveals a glowing seascape of squid, tiny shrimps, octopuses, and crabs, making this a magical underwater spectacle.

DAY 3: ALICE B SHIPWRECK

Head north to Tabarja, where you'll take a short

ABOVE LEFT TO RIGHT: The St Charbel statue found at the Alice B Wreck; Exploring the engine room in Alice B; The Cement Wreck; Inside the Air Cave; Diving the caves of Ramkeen Island; a moray eel makes its appearance.

boat ride to the Alice B Wreck. This cargo ship sank in 1987 during the Lebanese Civil War, resting at 37 metres deep. Divers can explore the engine room and crew quarters, and marvel at the serene statue of St Charbel which has been placed inside the wreck, a symbol of blessing and protection. The site teems with life, from nudibranchs and stingrays, to shimmering schools of sardines making it a fitting finale to your deep-diving adventure.

DAY 4: PHOENICIAN HERITAGE & TWIN DIVE ADVENTURE

Set off in the early morning from Beirut and drive further north to the charming coastal town of Batroun. This city is celebrated for its ancient heritage Phoenician Wall, its historical port and old town. Have a traditional Lebanese breakfast there then embark on a dive cruise from the Batroun harbour. You will begin at the Cement Wreck for your first dive, which is a cargo freighter (known locally as the "Captain Michel" wreck). It sank around 1939 while carrying a heavy load of cement bags, and now lies at a depth of about 40 metres off Batroun's coast.

The Air Cave will be your second dive. There is a shallow underwater passage which ultimately surfaces inside the rock formation. This dive allows certified divers to ascend inside the cave and breathe at the surface inside the cavern. If you're very fortunate and conditions permit, you may even spot the endangered Mediterranean monk seal swimming in the clear water of the cave.

DAY 5: NORTHERN CHARM AND THE CAVES OF RAMKEEN ISLAND

Continue your journey north to Tripoli, Lebanon's second-largest city, famed for its Arabic sweets, vibrant souks, and historic streets that echo with centuries of culture.

From the fishermen's port, embark on a boat ride to Ramkeen Island, part of the Palm Islands Nature Reserve. Beneath its turquoise waters lies a captivating world of reef formations, underwater caves, and caverns – a paradise for divers who love exploration and adventure. The Ramkeen dive offers a perfect blend of scenic beauty and thrill, where shafts of sunlight pierce through the rock openings, illuminating colourful sponges and curious sea creatures that make this site truly unforgettable.

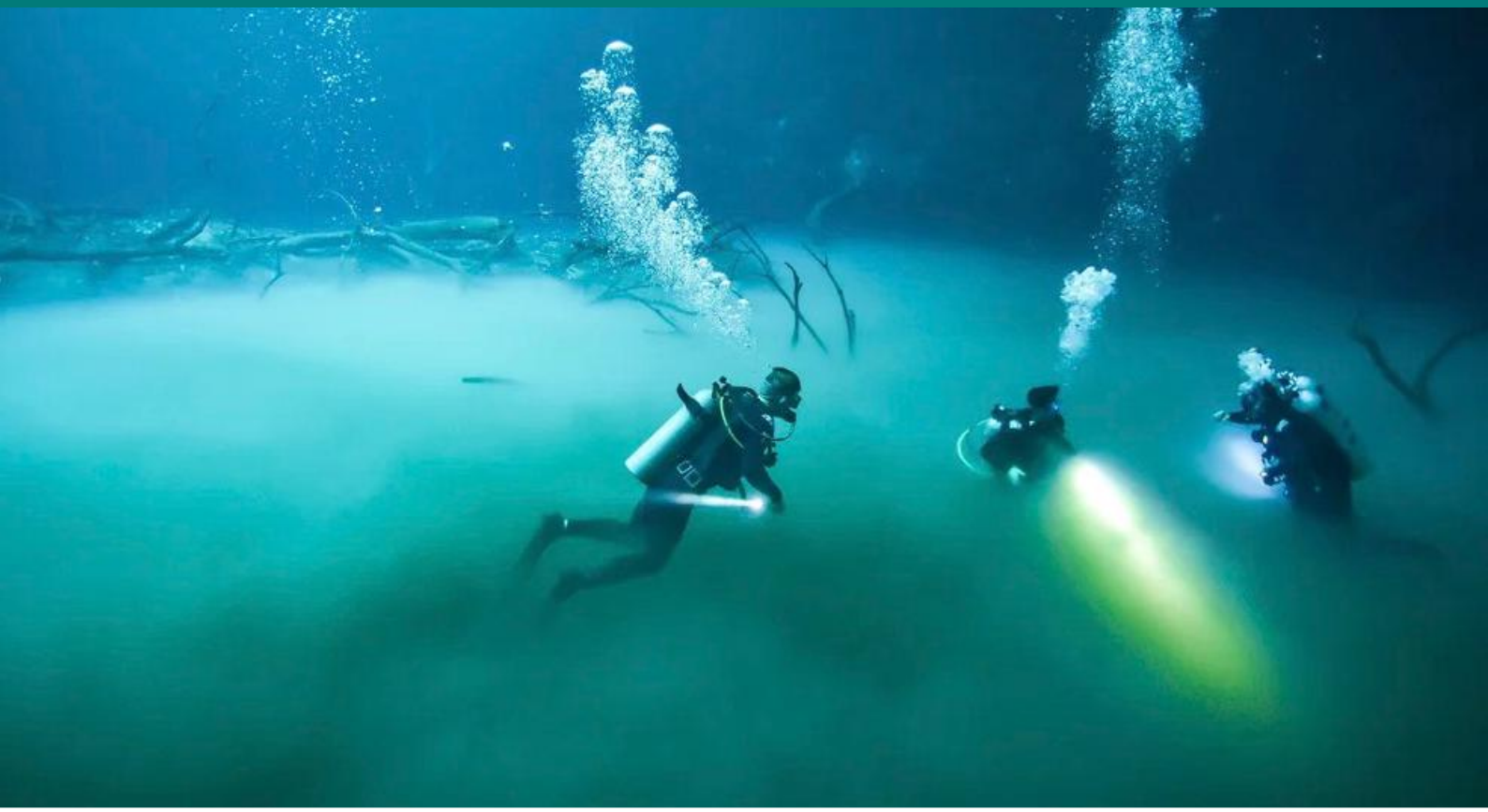
DISCOVERING THE MAGIC OF MEXICO:

A WEEK OF CENOTES, REEFS, AND WHALE SHARKS

WORDS BY **ESTHER RODRIGUEZ** PHOTOGRAPHY BY **GO DIVE MEXICO**

This diving expedition was more than just a trip abroad. It was a reminder of the joy of exploring the underwater world with new and old diving buddies, and it was only the beginning of more adventures. The Big Blue hopes to connect with more divers seeking unique and life-enriching experiences.

COVER PHOTO: One of Dos Ojos' immense caves all lit up by sunlight. Photo by Adam Beard.



ABOVE LEFT TO RIGHT: Angelita with its mesmerising halocline and sulphure cloud; Carwash with all its delicate lily pads; Panchito, the resident crocodile at the Casa Cenote.

This past August, The Big Blue led an unforgettable journey through Tulum and the surrounding areas of Mexico, exploring some of the world's most remarkable dive sites. Over a week, our group of divers immersed themselves in mystical freshwater cenotes, swam alongside gentle giants of the Caribbean and experienced the rich culture and natural beauty of the Yucatán Peninsula.

CENOTE DIVING: NATURE'S HIDDEN WONDERS

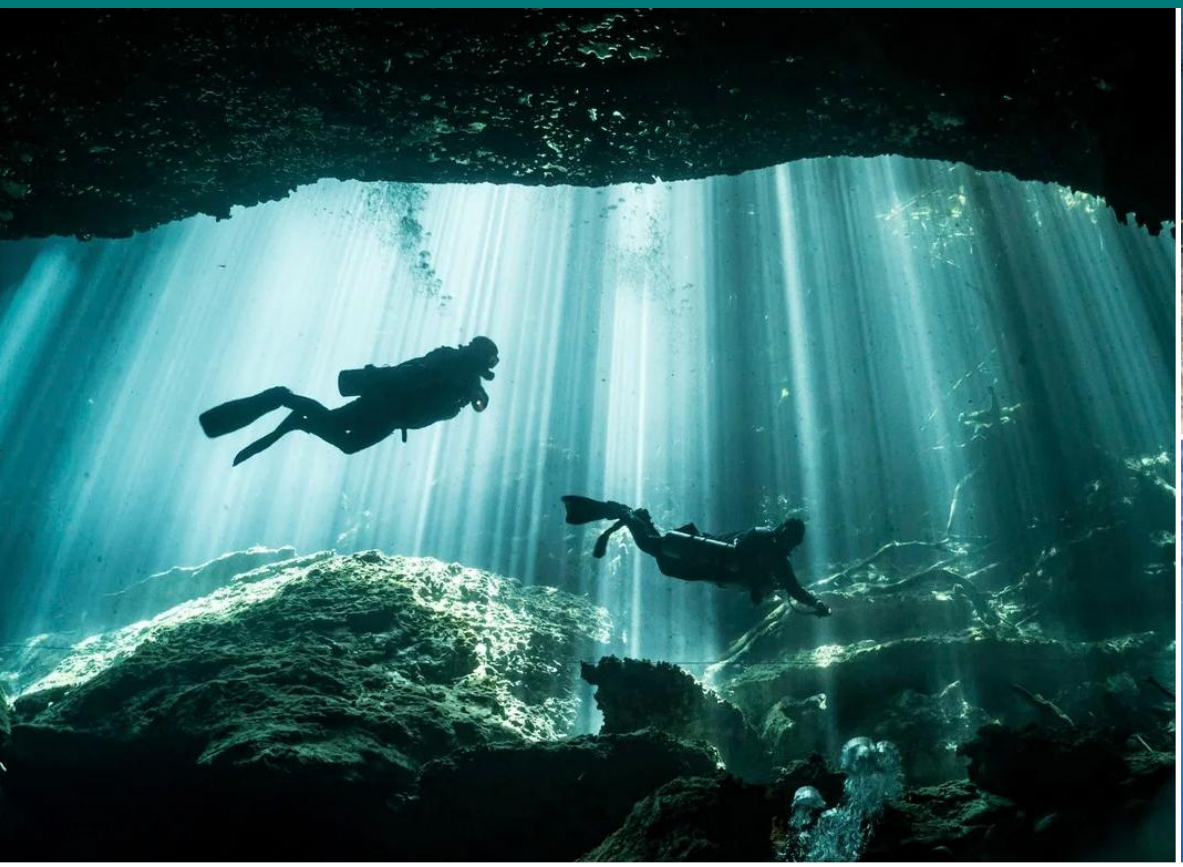
Diving in Tulum's cenotes is like entering another world. These natural, sacred sinkholes – formed by collapsed limestone ceilings of caverns – reveal underwater landscapes unlike any other. While an Open Water certification is sufficient to enjoy many cenotes, Advanced and Nitrox certifications are recommended to enjoy the full extent of these magical dive sites, allowing for deeper dives and longer bottom times.

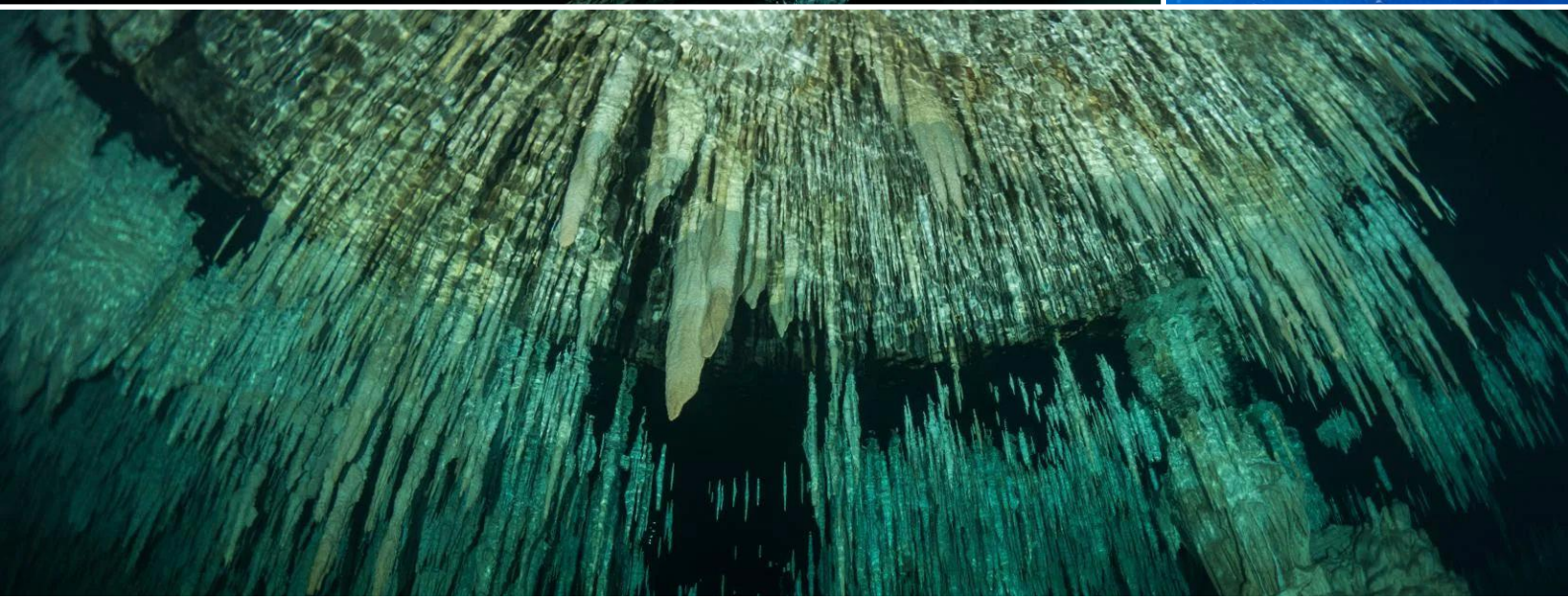
We began at Carwash (aka "Aktun Ha" in Mayan), where delicate lily pads floated above cave-like passages and blue crabs and small fish navigated the hidden gardens below the surface. At Casa Cenote, a sinkhole surrounded by mangroves that felt more like diving into a river, we experienced the thrill of drifting through an underwater jungle, where we got a glimpse of Panchito, the resident crocodile, basking in the sun.

Dreamgate was an unforgettable introduction to what real cave diving might feel like. It was filled with impressive and intricate stalactites and stalagmites, ideal for refining our buoyancy skills, while Angelita offered a truly mesmerising halocline and its signature sulphur cloud – a fog-like layer creating an otherworldly effect.

El Pit left us in complete awe with its incredibly vast chamber. However, it was the sunbeams slicing through crystal clear water with visibility well beyond 70m, that created a truly ethereal experience, as if we were looking at the underwater gates of heaven itself.

Dos Ojos revealed immense caverns, with two distinctive routes to choose from – the famous "Barbie Line" where the popular doll was once placed along the route, giving its name to it, and a route where halfway through the line





ABOVE LEFT TO RIGHT: Sunbeams slicing through crystal clear water; Dreamgate with all its stalactites and stalagmites; The Barbie Line at Dos Ojos; Snorkelling with whale sharks.

a cave full of bats serves as a diving pause, for more adventurous divers.

As we progressed through our week, we also visited Nikte Ha. This is a fairy-tale-like cenote framed by jungle, welcoming iguanas and vultures. Taak Bi-Ha, an advanced dive site with dramatic stalactites illuminated by artificial lighting at its entrance also put our trim and frog finning skills to the test, as we swam through the delicate decorations of the cenote.

Each cenote offered a unique dive, providing adventure, beauty and a glimpse into Mexico's geological and ecological treasures.

ENCOUNTERS WITH GENTLE GIANTS

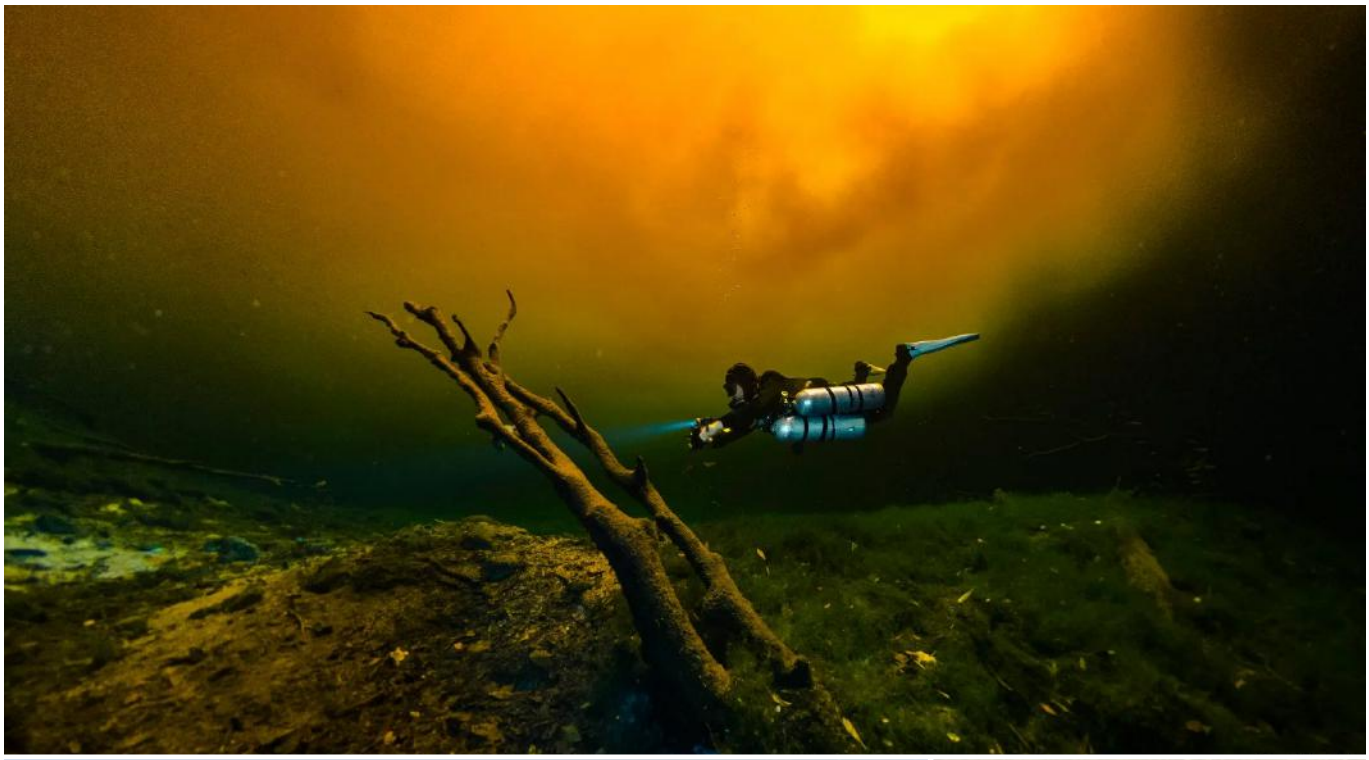
The adventure extended beyond freshwater to the open Caribbean Sea, where we snorkelled with the largest fish on earth, whale sharks. Departing before dawn, we travelled off the Cancun coastline toward Isla Mujeres and found ourselves surrounded by more than 60 whale sharks. Swimming alongside these magnificent creatures was a humbling and exhilarating experience. While scientists continue to study why male juveniles dominate these gatherings, witnessing their grace firsthand was unforgettable.

A GLIMPSE INTO ANCIENT CIVILIZATION

In a change of pace, one morning, we set out to explore the Tulum Mayan Ruins – a spectacular archaeological site perched on cliffs overlooking the Caribbean Sea. Walking through the well-preserved buildings that date back to 6th century AD, we learned about the ancient Maya civilization, their sophisticated architecture and the clever ways they organised daily life, trade and spiritual practices.

COZUMEL & THE SIAN KA'AN BIOSPHERE: REEFS AND FLOATING CANALS

After exploring the cenotes, we went to Cozumel for some reef diving, where vibrant coral gardens, large barrel sponges and abundant marine life offered a stunning contrast to the freshwater caverns. Yet the true magic came in the Sian Ka'an Biosphere Reserve, where we discovered its hidden floating canal. To reach the entrance, we went through winding waterways by speedboat, zigzagging between the dense mangroves that formed the natural edges of the canals, giving



ABOVE LEFT TO RIGHT: A diver explores the depths beneath Carwash's halocline; Some of the vibrant coral gardens, large barrel sponges and abundant marine life offered on our reef dive in Cozumel; Group photo by Manit Moolchandani.

OPPOSITE PAGE: The entrance to Dos Ojos. Photo by Esther Rodriguez.

us a thrilling taste of adventure even before entering the water.

Once there, wearing our life jackets in nappy fashion, we floated effortlessly in a seated position. Drifting silently along the pristine waters, surrounded by untouched jungle to the call of exotic birds with no one else in sight, it felt like we had discovered a secret world. This calm, intimate connection with nature and the breathtaking scenery, made this experience truly unforgettable.

A WEEK TO REMEMBER

From the first sight of a freshwater turtle at Carwash, to dives in the monumental chambers of El Pit, from encounters with whale sharks, to evenings catered by private Mexican chefs in our very own jungle retreat, this journey was a celebration of adventure, nature and community. Each moment – whether discovering what diving through halocline is, spotting Panchito napping by the mangroves, or simply relaxing in our jungle hideaway – showed us why diving in Mexico is so special.

This diving expedition was more than just a trip abroad. It was a reminder of the joy of exploring the underwater world with new and old diving buddies, and it was only the beginning of more adventures The Big Blue hopes to connect with more divers seeking unique and life-enriching experiences.

THE BIG BLUE

magic happens underwater

The Big Blue is more than just a place to plan your next dive trip; it's a gateway to unforgettable experiences in incredible destinations such as the Maldives, Mexico and Southeast Asia.

Whether you're dreaming of diving alongside majestic marine life or connecting with other passionate divers, the magic happens underwater!

FOR MORE INFO:

- www.thebigblue.co
- www.instagram.com/thebigbluediving
- www.instagram.com/divewithesther
- hola@thebigblue.co
- +971 50 847 0477

DEALING WITH THE UNEXPECTED

WORDS BY **PATTY SEERY** PHOTO BY **DAVIDE BATIANI**

Situational awareness and safety fundamentals can save the day.

When conditions took an abrupt and unexpected turn during an exotic warm-water dive, our dive leader decided to abort. His awareness of the group's abilities, the worsening weather conditions and the intensifying sea state led him to make the first of several good decisions that were made that day.

As a group, we began to swim away from the reef where we had been diving at about 10 metres and headed toward the boat. I was at the back of the group when I realised I was often equalising my ears. When I checked my depth gauge I saw that I had descended to 15 metres; in response I began finning harder and added a little air to my buoyancy compensator (BC). When my dive buddy looked back and gave me an OK sign, I responded with an OK.

I continued my efforts to ascend, keeping my eyes on the group, but I still needed to equalise frequently. I added more air to my BC and kicked harder, but I had dropped to 20 metres. I was caught in a down current and couldn't break free of it.

When my dive buddy checked on me again, I let him know there was a problem, so he came to my aid. We linked arms and together kicked our way out of the down current, eventually joining the group during their safety stop. Later he said he was concerned we may have ascended too fast, but his dive computer confirmed what I already knew – getting to a shallower depth took work. The whole event transpired in about two and a half minutes.

WHAT WENT RIGHT?

Several elements contributed to this positive outcome. First, I recognised there was a problem and took action. By finning harder and adding air to my BC, I resisted the pull of the down current. While my training and experience suggested that I move closer to the reef to get some relief from the strong current, the circumstances did not provide that option because we were in open water.

Second, when my efforts were not getting the desired result, I asked for help. Together, my dive buddy and I had the strength to break free from the down current.

Third, my dive buddy remained close by and was paying attention, so he was able to provide the assistance I needed. Diving without a buddy or being separated from the group could have led to a disastrous outcome in this situation.

Staying calm and considering options are significant parts of any problem resolution. By the time my buddy came to my assistance, I still had time to drop my weights. I was not low on air, and I had not reached a critical depth for the nitrox mix I was breathing. Timely actions broke the chain of events and prevented escalation of the problem.

Situational awareness is the overarching skill required to dive safely and respond quickly. In this event, both my rescuer and I were paying attention and were therefore able to avert an incident. Rescue skills do not just involve helping other divers. Self-rescue capabilities – as well as knowing when you need help and being willing to ask for it – are just as important.

ABOUT THE AUTHOR

When she joined Divers Alert Network (DAN) in 2008, Patty Seery, MHS, brought with her more than 30 years of experience as a health care provider/educator and CPR instructor/instructor trainer in addition to being a scuba instructor/course director. While serving as the Director of Training at DAN, she was the architect behind the current DAN first-aid courses which are still being used across the globe by divers of all sorts and multiple agencies. Since this article was first published, she has moved on to other pursuits in the scuba diving industry.

THE TOP 5 REASONS WHY
DIVING INSURANCE CLAIMS GET DENIED

WORDS BY **EMANUELE GIACCHETTA** PHOTO BY **MARCELLO DI FRANCESCO**

When it comes to insurance policies, nothing is more frustrating than having a claim rejected. After all, what's the use of an insurance that doesn't cover your costs?

At IDA, the insurance company of the DAN Europe Group, refusing to cover a DAN member is the least preferred outcome. That's why, every year, thousands of DAN Europe members successfully claim their medical expenses.

A small fraction of claims, however, do get rejected, usually because of a handful of errors made by the claimants.

Let's explore the five most common mistakes that lead to insurance claims being denied.

1: FAILURE TO INVOLVE THE DAN ALARM CENTRE EARLY ON

As a DAN Member, you can rely on an exceptional tool: the DAN Alarm Centre. Available 24/7, you can request help via telephone, VoIP call, and email, from anywhere in the world.

Not only will you receive specialised assistance by our doctors and experts; DAN may also be able to guarantee that your expenses will be covered or even take on your costs, so that you don't have to pay anything up front.

By contrast, if you only involve DAN after you've already received treatment, you may find out that some expenses fall outside of your insurance cover.

Tip: In case of emergency, contact the DAN Europe Alarm Centre as soon as you reasonably can.

2: LATE NOTIFICATION

Suppose you had an accident but didn't immediately involve DAN to help you handle the situation. That may not be an issue in itself, as you can still file a claim.

However, it is crucial that you notify the insurer within 60 days from the date of the accident. If you miss this deadline, your claim might be rejected.

In the past, some members have unfortunately made the wrong assumption that they should wait until all medical treatments are completed

before they can initiate the claims process.

In fact, it is paramount that you notify the insurance company as soon as possible, even if you don't know yet how much you will claim eventually.

Tip: Always notify IDA within 60 days from the date of the incident.

3: EXCEEDED TRAVELLING DAYS

A special feature of many DAN insurance plans is the so-called "non-diving cover".

For instance, with the Sport Silver insurance plan you will be covered for non-diving related emergencies while travelling abroad for a maximum of 90 days per year.

Now, consider this scenario: you decide to travel outside of your country of residence for 2 months. After your return, you still have 30 days left on your plan. Later the same year, you make another trip, this time for 40 days.

In this example, you'll have spent 100 days travelling abroad. Only the first 90 of them fall within the scope of the non-diving cover.

Result: If you had a non-diving related accident during the last 10 days of your trip, you wouldn't be able to make an insurance claim for it.

Tip: Before travelling, check the remaining validity of your non-diving cover. Also, keep a copy of your travel tickets.

4: FAILURE TO REVIEW THE TERMS AND CONDITIONS

We get it: Reading insurance documents can be boring. But when your well-being is on the line, taking a few minutes to review your policy can make all the difference.

Being aware of any exclusions is particularly important, as there might be elements you didn't consider. Relying on unqualified advice is also risky. Your friends may be great dive buddies, but they might not be as reliable when asked about what's covered by DAN.

At the end of the day, a claim will be accepted or denied based on what's written on these documents, not on what you or your buddies assumed was covered.

Tip: Read carefully what it's covered and what is not covered. If in doubt, ask DAN Europe.

5: INCOMPLETE DOCUMENTATION

To make an insurance claim, you need an invoice or other proof of payment. However, having clear medical reports is also vital.

For example, suppose you underwent a hyperbaric chamber treatment but have no medical report stating why you needed such a therapy.

Without the proper report by the treating facility, the insurer will not cover your expense.

Tip: Always request and keep all medical reports, proofs of payment, and invoices.

Filing an insurance claim is not fun. One would rather avoid accidents in the first place. But if you ever find yourself in this type of situation, now you know how to save yourself further stress and ensure a smooth and hassle-free refund process.

ABOUT THE AUTHOR

Emanuele has been with DAN Europe since 2013 and currently serves as the Customer Experience Manager. He is dedicated to enhancing the experience of DAN Members by improving clarity and ease of use.

Emanuele is fluent in Italian, English, and Spanish, and he is passionate about DAN Europe's contributions to the diving community.

DO YOU KNOW?

MAP THE GIANTS: POWERED BY MARHE CENTRE

MAP THE GIANTS

Discover Giant Corals with Map the Giants, a project by MaRHE Centre, University of Milano Bicocca. They're mapping the largest coral colonies in the world, to reveal their resilience to environmental changes, and turn them into marine monuments, a new symbol of marine conservation.

Whether you're a tourist, marine biologist, diver, community member, or fisherman, you can help Map the Giants find them.

Giant corals provide vital habitats for diverse marine life, offering shelter, food, and protection.

The innovative idea is to turn corals into underwater icons, symbols of resilience and conservation of reefs. Specifically, giant coral colonies will be the centre of the research for their intrinsic high value in terms of resilience, historical data contained within them, and importance for the area where they are located. They are amongst the most important reef builders. They can contribute to creating models to predict environmental responses to climate change and understand past oceanographic events even on a century-wide scale.

Moreover, giant colonies might provide socio-economic benefits through tourism or stewardship. The broader goal is to identify biological and ecological patterns that determine the existence and resilience of specific colonies and areas and can provide suggestions for conservation plans. Scientists will be able to conduct invaluable studies on coral microbiome, symbiosis, genetics, paleoclimatology, physiology, and ecology of the reef area.

Citizen scientists like you, are the key to success. Join the team in this journey to map the oldest and greatest monumental corals in our oceans.

FOR MORE INFO, GO TO:
www.mapthegiants.com
www.instagram.com/mapthegiants

THE LAST UNDERWATER CLEAN-UP EVENT OF 2025

UNDERWATER DIVE CLEAN-UP | PORT DE LA MER MARINA

Saturday 6th December 2025 | 8am

It has been 12 months since this marinas' last clean-up and we're going back to Port de la Mer to check how a year affects its underwater environment. This beautiful World-class boutique marina with panoramic views is Mediterranean-inspired, offering an unparalleled island retreat within the city.

Save the date to your calendars for now and we'll share the details soon. Spaces are limited and on a first come, first served basis.

OPEN FOR REGISTRATION

Please email Layla to register your spot: **projects@emiratesdiving.com**
(you must be an EDA Member to take part)

1st UNDERWATER CLEAN-UP EVENT OF 2026

UNDERWATER DIVE CLEAN-UP | DUBAI HARBOUR

Saturday 10th January 2026 | 8am | EDA Members & Partners Only

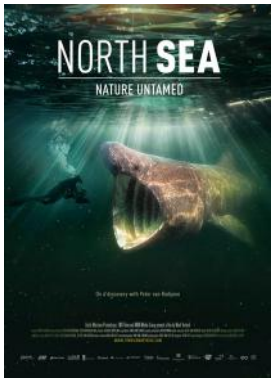
We are going back to Dubai Harbour for another clean-up! Dubai Harbour is home to the most advanced cruise terminal, and the largest marina in the region. This unique waterfront neighbourhood is a stone's throw away from the city's most-loved landmarks, beautiful beaches and world-famous attractions such as Ain Dubai and Burj Al Arab.

We will let you know once registrations open for this event. Mark your calendars!

AN EDA MOVIE SCREENING 2026

NORTH SEA – NATURE UNTAMED (88 mins)

Thursday 5th February 2026 | Deep Dive Dubai | Doors Open 6:30pm | Film Starts 7pm



SYNOPSIS

In the feature film 'North Sea, Nature Untamed', the viewer is taken beneath the waves through the eyes of Peter van Rodijnen. He is an experienced diver and underwater cameraman. From the wild blue waters around the Scottish islands to the shallow delta of the Low Countries and up along the dramatic coastline of the Norwegian fjords. North Sea Untamed is a cinematic adventure and a voyage of discovery that will show the North Sea in all its glory.

Peter has travelled the world, capturing breathtaking footage of some of the most spectacular oceans but has never been drawn to what he saw as the cold, lifeless grey waters of his native North Sea. All this changes when he is sent on assignment to Denmark to film the spawning of the majestic Atlantic salmon.

After an absence of more than 60 years, these great ocean icons are returning once again to European waters. This experience urges Peter to go out and learn more about the secrets of this little-known world.

As Peter embarks on his journey, he faces a number of challenges. He encounters dangerous currents, poor visibility and fierce storms, but his determination to uncover the secrets of this untamed natural wonder never wavers.

2nd UNDERWATER CLEAN-UP EVENT OF 2026

UNDERWATER DIVE CLEAN-UP | D-MARIN MARSA AL ARAB MARINA

Saturday 7th February 2026 | 8am | EDA Members & Partners Only

We are going back to Marsa Al Arab Marina to run a second underwater clean-up to collect a year's results! Nestled at the tip of the peninsula in the heart of Dubai's largest private beach, Marsa Al Arab is an ultra-luxury destination featuring a world-class marina that accommodates yachts up to 61 metres in length, all boasting spectacular views of the renowned Burj Al Arab Jumeirah.

Snacks will be provided to the participants courtesy of D-Marin. Spaces are limited.

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Office Location: Jumeirah 1, Al Hudaiba Awards Buildings, Block B, 2nd Floor, Office 214

Tel: +971 4 393 9390
Email: projects@emiratesdiving.com
Website: www.emiratesdiving.com

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FOR THE OCEAN

OCEAN STORIES | CONSERVATION | DIVE TRAVEL

EXPLORE ALL OUR BACK ISSUES

Beautiful photography and captivating stories, by divers for divers!

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جمعية الإمارات للغوص
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