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SCUBA DIVER
AUSTRALIA & NEW ZEALAND

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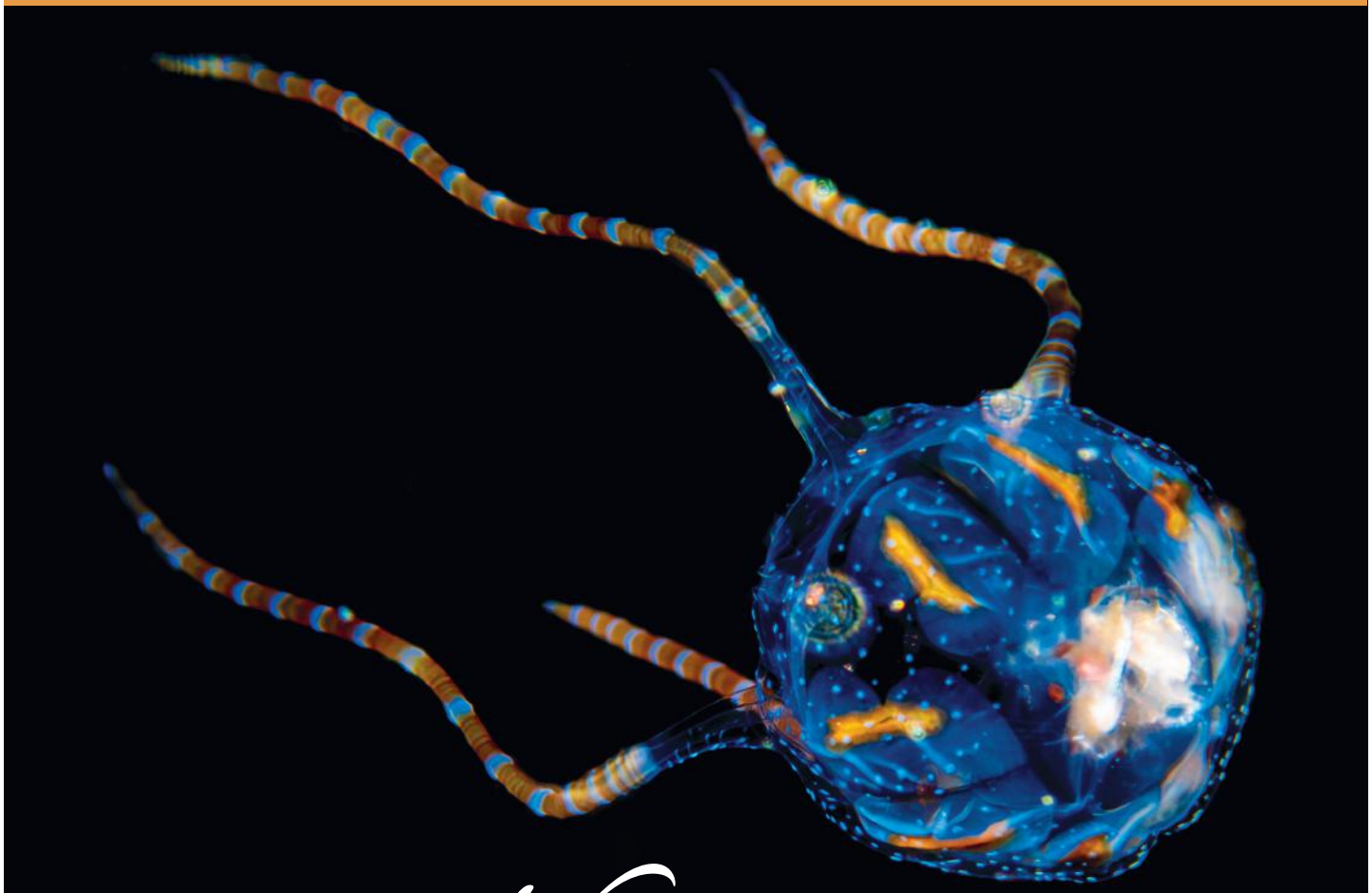

Nature's CROSSROADS

Lawrence Scheele visits one of the most-accessible sites in the GBR World Heritage Area and explains **why it is an ideal place** to **explore a unique melting pot** of habitats and species

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Times are changing and to keep the magazines free, we're asking dive stores to cover their own postage costs. If you enjoy reading the magazine, think about helping out your centre with a small donation to help cover their costs. Your continued support is most appreciated.

Events still important in the digital age

At the time of writing this editorial, the GO Diving Show in the UK had just finished. The unrepresented turnout (over 16,378 dive enthusiasts crammed the halls over the weekend) highlights the enthusiasm for such events and is a good sign for the future of the dive industry. Plenty of regulars were in attendance, along with a healthy number of new and younger divers. It promises to be a busy year for the Rork Media team, as we are running the GO Diving Shows in the UK and Australia, the Scuba Show in Long Beach, and launching the Scuba Show in Atlantic City. The Covid pandemic shows how we need that personal connection, and in the digital age, it is important to have events that allow people to meet face to face, exchange stories, touch and feel new gear, and socialise, possibly even with a beer or two!

In this month's issue of the magazine, marine biologist Lawrence Scheele shares his experiences of Magnetic Island, a destination which he believes offers some of the most-accessible dive sites on the Great Barrier Reef and is home to a unique array of habitats and marine species. Also, from the Great Barrier, marine archaeologists James Hunter and Heather Berry of the Australian National Maritime Museum delve into the historic wrecks of Kenn Reef, which is located roughly 500km northeast of Bundaberg.

Further afield, we explore the reefs of Alor and the Banda Sea with Emperor Divers, while Nigel Marsh explores the Cave of Palau and the creatures that call them home. David Strike take a trip down memory lane with a nostalgic look at an old-school divers' helmet, and PT Hirshfield chats with underwater photographer, marine biologist and content creator Tiania Dun for our 'Diving With' Feature.

Adrian Stacey, Editor (Australia & New Zealand)

"Best coral ever. Great staff. We had outstanding guides. Resort buildings and layout are attractive and functional and the operations for snorkeling and equipment were easy & convenient. The bungalow was very comfortable. I really appreciated the help at the airport!"

~ Charles Glass (April 2025)

An experience without equal

At Wakatobi, you don't compromise on comfort to get away from it all. Our private air charter brings you directly to this remote island, where the indulgences of a five-star resort and luxury liveaboard await. Our dive team and private guides ensure your underwater experiences will create lasting memories that remain vivid and rewarding long after the visit to Wakatobi is concluded. You need only ask and we will gladly provide any service or facility within our power. This unmatched combination of world-renowned reefs and relaxed luxuries put Wakatobi in a category all its own.

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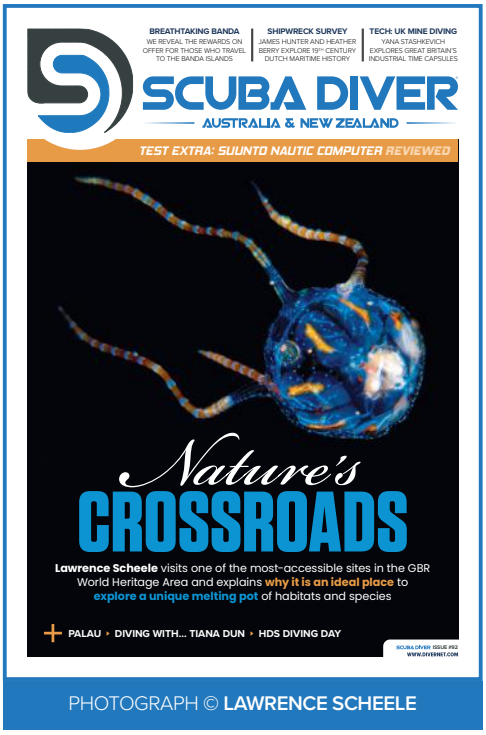
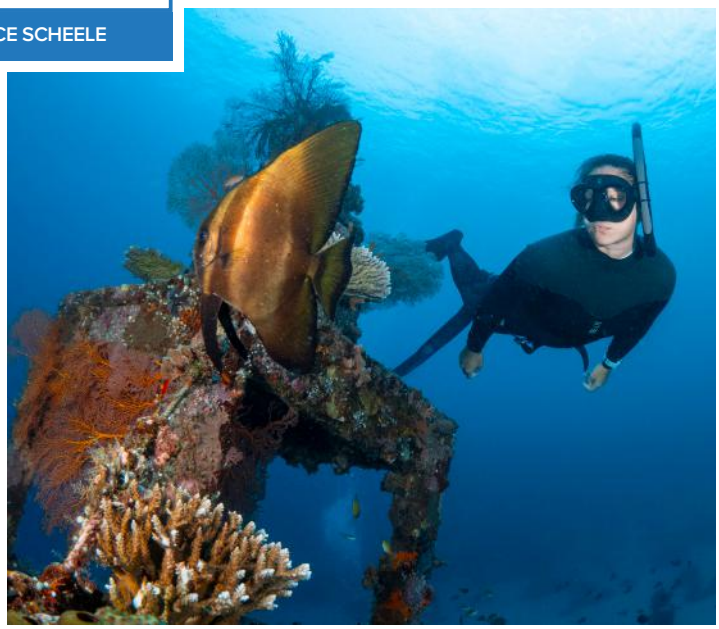


PHOTOGRAPH © **LAWRENCE SCHEELE**



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INDUSTRY NEWS

Each month, we bring together the latest regional industry news, as well as all over our water planet. To find out the most up-to-date news and views, check out the website or follow us on our various social media channels @divernetuk
www.divernet.com/news

NEW PADI FIVE-STAR IDC CENTRE IN INDONESIA

Meridian Adventure Dive Resort becomes the first and only PADI five-star Instructor Development Course (IDC) Centre in Raja Ampat

Meridian Adventure Dive Resort is proud to announce its official recognition as the first and only PADI five-star Instructor Development Course (IDC) Centre in Raja Ampat, marking a major milestone in professional dive training in one of the most-biodiverse marine environments on Earth.

This new designation enables aspiring dive professionals to become PADI Instructors in Raja Ampat, where training takes place amid more than 75% of the world's known coral species. It is set against pristine reefs, remote islands, and protected waters.

Guided by an experienced PADI Course Director, Andrew Goddard, the IDC programme aims to develop confident, capable instructors prepared to inspire the next generation of divers.

The course integrates thorough academic preparation, confined- and open-water training, and practical teaching experience, all conducted within Raja Ampat's vibrant and constantly evolving marine environment. As a well-established eco-conscious dive resort, Meridian Adventure Dive Resort incorporates sustainability into every part of the IDC experience. Candidates train on customised dive boats built specifically for divers, enjoy small-group, personalised instruction, and become part of a community deeply dedicated to marine conservation and responsible tourism.

"This achievement places Raja Ampat firmly on the global map for professional dive training," says Ross Chapple, Instructor at Meridian Adventure Dive Resort. "Becoming a PADI Instructor here means learning to teach in one of the most-challenging, rewarding, and awe-inspiring marine environments in the world."

With limited intakes and exclusive accommodation packages available for IDC candidates, Meridian Adventure Dive Resort's Instructor Development Course offers a rare opportunity to launch or elevate a diving career.
www.raja.meridianadventuredive.com

CITIZEN SCIENTISTS IDENTIFY GBR'S LARGEST **DOCUMENTED AND MAPPED CORAL COLONY**

Citizen scientists taking part in the Great Reef Census, run by Citizens of the Reef, have identified the largest known coral ever documented on the Great Barrier Reef. The discovery was made by a mother and daughter surveying reefs from their family vessel as part of the Census.

Preliminary measurements indicate the coral colony spans approximately 111 metres in maximum length and covers an estimated footprint area of 3,973 square metres - roughly the size of a soccer field - placing it among the most-significant coral structures ever recorded on the Great Barrier Reef. By comparison, some of the largest individual coral colonies documented internationally of this species are typically measured in the 30–35 metre range, according to reporting by ABC News.

The coral was first encountered by Sophie Kalkowski-Pope, Marine Operations Coordinator at Citizens of the Reef, and her mother, Jan Pope, before being verified and mapped through coordinated in-water measurements, surface-based photogrammetry, and three-dimensional spatial modelling.

By combining in-water image capture with AI and structured analysis by citizen scientists, Citizens of the Reef turns community participation into reef data that can be used by reef managers and scientists. Following the initial sighting, a team coordinated by Citizens of the Reef worked to verify the coral's dimensions using multiple independent methods. Manual underwater measurements were combined with high-resolution imagery captured from surface-based platforms, with the resulting data used to generate a detailed 3D model. The spatial modelling was undertaken in collaboration with the Queensland University of Technology Centre for Robotics, alongside imagery capture supported by Biopixel, enabling precise measurement for long-term monitoring of the site.

To join the next Great Reef Census, sign up at citizensgbr.org to be notified when registrations open. Tourism operators and vessel owners interested in participating in the in-water fleet can register their interest via Citizens of the Reef hq@citizensgbr.org

UPGRADED RED SEA AGGRESSOR IV **DEBUTS IN 2026**

Aggressor Adventures has announced an exciting upgrade to the Red Sea Aggressor IV, which will transition to a newer, larger liveaboard yacht beginning 28 February 2026. The vessel – named Turquoise – will operate under the Red Sea Aggressor IV name and continue to offer guests memorable diving experiences in the southern Red Sea. This change will not affect any current or future reservations. Turquoise is a modern, five-deck liveaboard yacht that immediately stands out with its striking turquoise paint scheme, giving it a fresh, contemporary appearance that is distinctly different from other Aggressor Liveaboards. The vessel measures at 42 metres in length with a nine metre beam, which makes it the largest liveaboard in fleet by area. While visually unique, the vessel fully aligns with Aggressor Adventures' commitment to safety, comfort, and exceptional guest service.

While originally built to accommodate up to 34 passengers and crew, Aggressor Adventures will intentionally limit guest capacity to just 26 passengers, creating a more-spacious and relaxed onboard environment.

"This upgrade allows us to elevate the guest experience while staying true to what makes the Red Sea Aggressor IV so special," said Wayne Brown, CEO of Aggressor Adventures. "From the yacht's modern design and eye-catching look to the increased space and added amenities, this vessel is an outstanding platform for Red Sea diving."

What Guests Can Expect Aboard the Upgraded Red Sea Aggressor IV

- A modern five-deck yacht.
- A bold turquoise exterior and contemporary design unlike any other Aggressor liveaboard.
- More space throughout the vessel, including cabins and shared areas.
- Limited guest capacity (26 maximum) for enhanced comfort and personalized service.
- A massage chair onboard, ideal for relaxing tired muscles after a day of diving.
- Four Master Staterooms with a queen mattress.
- Nine Deluxe Staterooms with side-by-side beds.

The Red Sea Aggressor IV will continue to deliver the same world-class itineraries, experienced crew, and unforgettable Red Sea diving – now paired with a refreshed look and expanded onboard comfort. Guests may book with confidence knowing this transition enhances the overall experience while preserving everything they expect from Aggressor Adventures.
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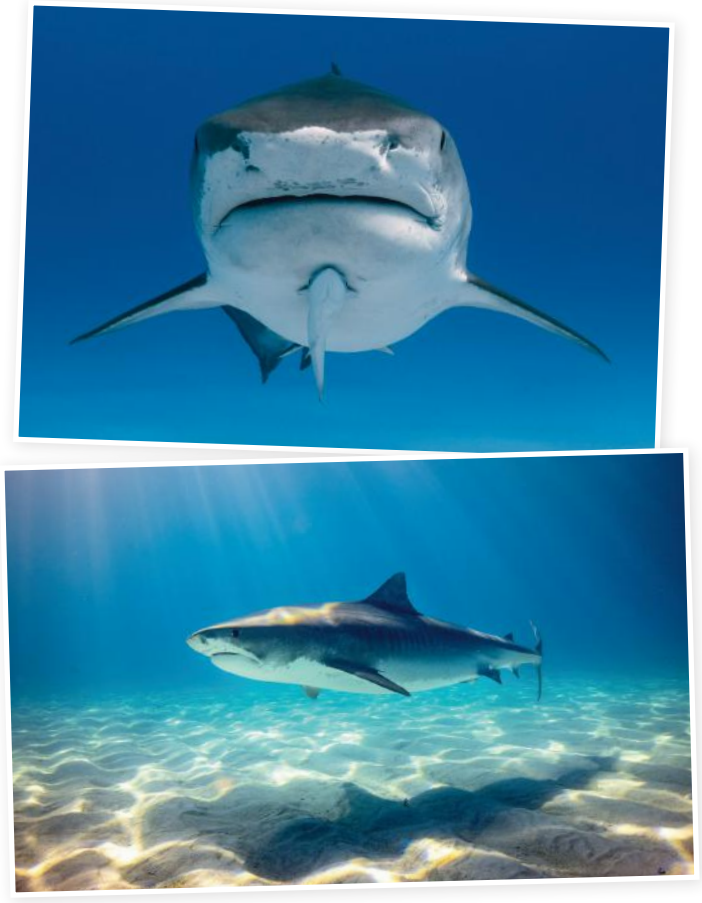
TIGER SHARK BIT BACKSCATTER **OWNER WHITE BY MISTAKE**



A scuba diver working at the Nassau Grouper Spawning Aggregation site off Little Cayman after sunset on 6 February was bitten on the thigh by a juvenile tiger shark – in an incident that the Cayman Islands' government was quick to declare a mistake on the shark's part.

The diver was later named by the Cayman Compass as Berkley White, a California-based underwater photographer who had been recording grouper activity using a video camera mounted on his DPV when the encounter occurred. The Department of Environment (DoE) said that he was working at the site as part of its partner research team.

In 1994 White founded Backscatter Underwater Video & Photo, which is now claimed to be the USA's biggest underwater photographic equipment supplier. A photographer and feature-writer, he also runs underwater photo safaris and training events. Only a few researchers were still working from the dive-boat Sea Keeper when the shark, reckoned to be about 6.5-feet long and three years old, sank its teeth into White's thigh.

The diver sustained what were described as relatively minor puncture wounds that a nurse was able to treat at Little Cayman Beach Resort, though with no clinic on the island she recommended that he be transferred to Grand Cayman for further attention. Airlifted to hospital in George Town, he was reported to be recovering well.

February full moon

Thousands of endangered Nassau grouper assemble off the western tip of Little Cayman after the February full moon to spawn, an annual aggregation that also draws the attention of reef sharks. The area is protected from fishing activities during the spawning period.

Researchers have conducted annual surveys of the spawning event for the past 25 years and this was said to be the first time such an encounter had occurred.

"While this incident was not expected, it is natural for sharks to be attracted to the activity of an aggregation site, and a young shark is less likely to have experience with grouper and divers," stated the DoE.

"Coupled with the poor visibility of the site, the young shark mistakenly bit the diver but since sharks do not consider humans food, it fled and did not pursue."

The researchers still at the site had managed the situation efficiently and safely, continued the department. "We are grateful to the amazing team of DoE research staff, HSA [health service], the Little Cayman Fire department and RCIPS [police] who all did an incredible job of responding to this unexpected event, ensuring the impact on the diver could be minimised," it said.

"Shark bites are an extremely rare occurrence, particularly in Cayman waters. The risk of a shark mistaking a diver, swimmer or snorkeler as food is highly unlikely."

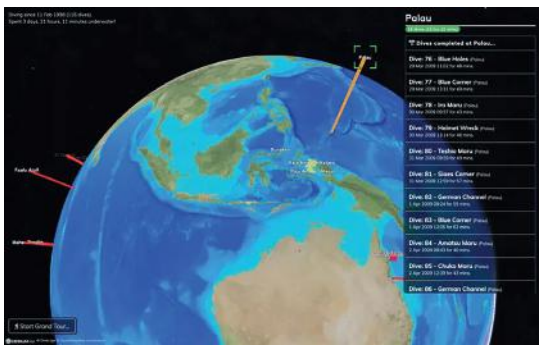
DIVELOGS V4.0 BRINGS AN INTERACTIVE 3D **WORLD VIEW OF YOUR DIVING ADVENTURES**

See your dives like never before in version 4.0 of DiveLogs online dive log. Just released, this version brings in an interactive 3D world view of your diving experience in the new Globe View.

Premium subscribers can also access a special Grand Tour feature that takes them backwards and forwards through their diving history, and flies them around the planet.

Also in this release is a new sharing centre to help you showcase your dives to the world, whether in email and forum signatures, or social media posts. Built on top of the Globe View, you have fine control over what people will see when they click through from your sharing link.

www.divelogs.com



ARRESTED SEX OFFENDER WAS WORKING **AS SCUBA INSTRUCTOR**

A British man working as a scuba-diving instructor in the central Philippines has been arrested by immigration authorities, who say that he is an 'undesirable alien' registered in the UK as a sex offender.

Officers from the Philippines Bureau of Immigration (BI) fugitive search unit carried out an enforcement operation in Santa Fe on Tablas island, Romblon province on 16 February, based on an order issued earlier in the month.

At the time of his arrest, former teacher Andrew Charles Beaumont, 47, was 'allegedly providing diving lessons and demonstrating scuba equipment for a fee', stated the BI. 'He is reportedly known in the area for managing a local diving business'. The moment of arrest was photographed by BI at what appeared to be the Tablas Pro Scuba dive centre in Santa Fe.

Beaumont was said to have been subject to a life-long sexual offence notification order in the UK since 2012. He had previously been convicted in Australia in 2009 on multiple charges involving repeated sexual activity with a 15-year-old over a six-week period. Immigration records indicated that he had entered the Philippines on 19 September 2022 as a temporary visitor and that his last authorised visa extension had expired in November 2023.

AUSTRALIAN CAVE DIVERS **COMPLETE FATALITY PROBE**

An Australian cave diver who died last year after becoming separated from his two buddies had fully functioning equipment and the cause of his death remains a mystery, according to a just-completed investigation by the Cave Divers Association of Australia (CDAA). Gary Gibson, 65, an experienced cave diver from Victoria, died during an incident in Tank Cave, near Tantanoola in South Australia, in late-November 2025, as reported on Divernet. He was said to have completed as many as 70 previous dives in the system.

After Gibson's companions had noticed his absence they had proceeded to a pre-determined meeting point and, when he failed to show up, had retraced their route to find him unresponsive, according to the CDAA internal report as reported by ABC News. South Australia Police (SAPOL) subsequently initiated a two-day recovery operation involving its Water Operations Unit divers assisted by specialist cave divers.

'Sometimes things are a mystery'

The report found no evidence that Gibson's dive-gear had malfunctioned, and his gas levels had been sufficient to complete the planned dive. There had been no indication of a rock collapse or that Gibson had become stuck in a constricted passage, and no unusual cave conditions were identified. The CDAA said it had no evidence of a medical or other non-equipment-related cause of death, but considered that Gibson was likely already dead by the time the others found him, possibly following a period of high stress or exertion.

The investigation concluded that CDAA safety rules and protocols had been adhered to by all the divers involved. The association's national director Grant Pearce told ABC News: "We could only conclude that there may have been some other health incident that would have potentially occurred, but we're not aware of what that is... So sometimes things are a mystery and this is one of those."

Following the incident both the CDAA and SAPOL had indicated that there were no broader safety concerns about the Tank Cave site. Together with associated system Green Waterhole, it contains some 10km of intersecting passages, making it by far the longest underwater cave system in the state and the second-longest in Australia. SAPOL has yet to complete its own official report into the fatality for the coroner.

THE DIVE INDUSTRY ASSOCIATION OF AUSTRALIA

HEALTHY REEFS, STRONGER BUSINESSES

A positive economic case for marine protection from the Dive Industry Association of Australia

For Australia's dive operators, the connection between ocean health and business performance is direct and tangible. When marine ecosystems thrive, so does our industry.

Across the country, coastal and marine tourism plays a major role in supporting regional economies. In NSW alone, recent Marine Estate analysis* found marine-dependent industries generate $20.6 billion in income, contribute $16.2 billion in value added (around 2.5% of the state economy), and support more than 103,000 full-time equivalent jobs. Tourism is the single largest industry linked to the marine estate, contributing $4.3 billion in value added.

These numbers reinforce something passionate divers and dive operators have always known: the ocean is not just beautiful — it is economically powerful.

While recent economic reporting includes the COVID period — when tourism declined significantly due to travel restrictions — demand for nature-based experiences has rebounded strongly. Importantly, long-term participation trends show continued growth in activities like snorkelling, whale and dolphin watching, and coastal visitation.

Healthy oceans mean reliable wildlife encounters, vibrant biodiversity, and memorable experiences that generate strong reviews and repeat visitation. The business dynamics are straightforward. Marine habitat quality influences visitor satisfaction. Visitor satisfaction influences reputation. Reputation influences bookings, pricing power, and resilience during market fluctuations.

Even modest improvements in visitation or yield can have meaningful economic effects. For example, in a coastal region attracting 10,000 marine tourists annually, with average trip expenditure of $2500, direct visitor spend totals $25 million per year. A 10% increase in visitation combined with a 5% uplift in yield — achievable when sea life quality and reputation strengthen — could add several million dollars annually in recurring regional expenditure.

Importantly, these gains flow beyond dive operators. Accommodation providers, hospitality venues, transport services, and retail businesses all benefit from a strong marine tourism offering. In this way, marine protection becomes a regional economic development strategy.

At a national level, the Great Barrier Reef has been valued at $95 billion** and contributes approximately $9 billion annually to the Australian economy, supporting 77,000 full-time jobs. Government investment in reef protection reflects recognition that natural assets generate long-term economic returns when managed carefully.

The same principle applies to state marine parks and local dive destinations. Marine ecosystems function as renewable assets. When biodiversity is maintained and water quality is protected, they continue to generate visitor interest and economic activity year after year. Well-managed marine environments provide confidence to travellers, stability to operators, and enduring value to communities.

Australia competes globally on quality. Our unique biodiversity, iconic species, and established tourism infrastructure give us a strong foundation. By supporting science-based management, water quality improvements, and appropriate protection of key habitats, we strengthen that advantage. Marine protection and business success are not opposing goals. They are mutually reinforcing.

For government, this represents prudent asset management. For regional communities, it supports employment and economic diversity. For dive operators, it safeguards the very product we depend upon. The message is simple and optimistic: when we protect our marine environments, we invest in long-term prosperity. Healthy oceans. Strong businesses. Thriving coastal communities. ■

**Source: NSW marine estate economic contribution and market insights report, 2023; Deloitte Access Economics.*
***Source: At what cost? Safeguarding the Great Barrier Reef's role in Australia's economy, 2025; Deloitte Access Economics.*

If you would like help promoting a local marine environment protection initiative, contact the DIAA Environment sub-committee: **DiveIndustryAustralia@gmail.com**
www.diveindustry.com.au

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Our unrivalled experience and impact at Papua Diving Resorts make us the natural choice for ocean enthusiasts.

Pioneering the way for conservation in Raja Ampat, committing our efforts to nature and the local people since 1993.

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Situated a short ferry ride from North Queensland's Townsville, Magnetic Island's iconic coastline is littered with colossal granite boulders, dense eucalyptus woodlands (with lots of koalas) and towering hoop pines. The island boasts incredible biodiversity, with each of the bays around the island offering a different marine habitat, from seagrass meadows and mangrove forests to deep-dwelling sea fan colonies and rocky shores. Many of its fringing coral reefs can be accessed right from the shore, making it ideal for snorkellers and divers of all skill levels.

For eight years now I've been researching and photographing the biodiversity around the island, cataloguing the species to create the region's first field guide. The quantity of new and undiscovered species found on the island is astonishing - a diversity of corals, invertebrates, and fish combine to create an underwater world teeming with hidden treasures.

The Inshore Reef Area

The Great Barrier Reef World Heritage Area can be broadly divided into two sections - inshore and offshore. The inshore section is closest to the coastline, and bears a greater influence of freshwater, nutrient run-off, and sediment. Different species thrive in these shallower and more-turbid conditions, so it hosts a unique offering of coastal habitats and species that are not found further out. The offshore section features deeper, clearer water with less influence from rivers and land. What's special about Magnetic Island is you get currents pulling in typically offshore species who may adapt to these conditions, resulting in a dynamic mix of inshore and offshore species that form complex fish and coral communities unique to the area. You'll find so many species here you won't see on the outer barrier reefs!

During my marine biology studies, I was surprised to see how little is published about the island despite its close proximity to marine research centres - a stark contrast to the overflowing literature on offshore sites, such as Lizard Island and Orpheus Island.

Magnetic ISLAND

Magnetic Island is perhaps one of the most-accessible sites in the Great Barrier Reef World Heritage Area, and an ideal place to explore a unique melting pot of habitats and species, as Lawrence Scheele explains

Photographs by Lawrence Scheele

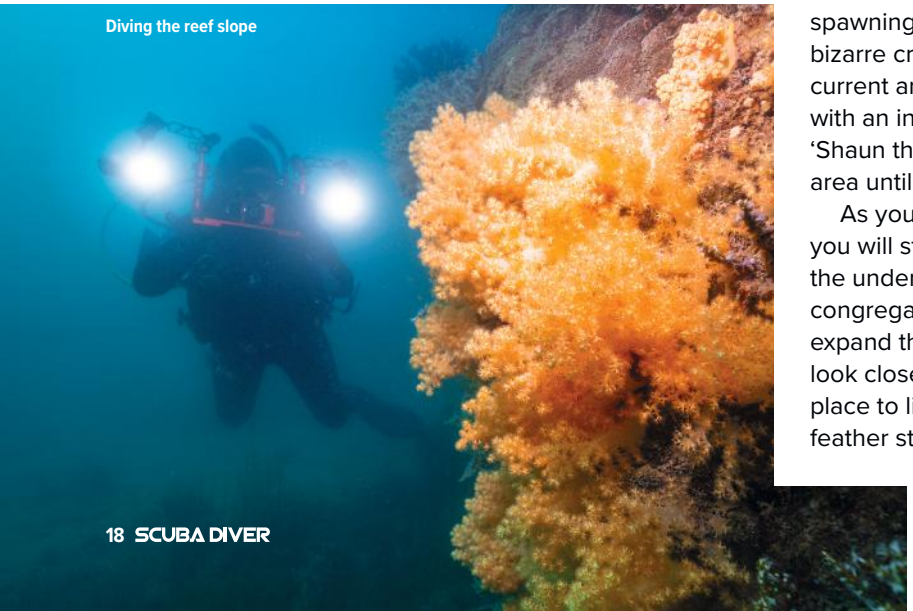
Green marble mantis shrimp

I set about trying to change that, and after years of diving, photographing, researching and exploring, I published A Field Guide to The Marine Life of Magnetic Island, Great Barrier Reef. This is the first-ever field guide to the inshore islands of the Great Barrier Reef, and although it's named after the Island, many of these species can be found throughout the inshore region from Bundaberg through to Cape York.

While researching I was blown away by the number of new species we were finding on our dives. From nocturnal anemones and the first-recorded East Coast observation of Noah's giant clam and Merton's sea start, to swimming file clams and small cryptic fish hiding in secluded crevices - it felt like each time we were in the water, we were uncovering something new. Many species around the island are vastly unresearched, and you can find a plethora of unnamed species completely new to science. It's astonishing how little we know about these shallow water dwelling species, and it is an exciting time to be out there witnessing discovery after discovery.

Geoffrey Bay

One of my favourite places to explore is Geoffrey Bay, a Green Zone that has a spectacular coral reef, impressive fish assemblages and the wreck dive Moltke. It is also a great place to dive with many estuarine species, such as barramundi. For scuba diving I team up with Chad and Haley from Pleasure Divers Magnetic Island, a fantastic local business with a bustling community of divers wanting to see something different.



Diving the reef slope

Geoffrey Bay and Alma Bay

Red spot night octopus

Geoffrey Bay is a historic place in marine science as it was here, in the 1980s, where local researchers discovered one of marine biology's most-important findings - mass coral spawning. But it's off these colourful reefs where the really bizarre critters live, nestled on soft sediment slopes in high current areas. Nudibranchs are a particularly common sight, with an incredible diversity of species, including the iconic 'Shaun the Sheep slug', who was not known to be in this area until we started researching the field guide.

As you're diving down the reef slope near the headlands you will start to notice a plethora of sea fans clinging to the underwater colossal granite boulders. Many species congregate here, forming large colourful meadows as they expand their polyps, catching plankton in the current. If you look closely you'll see that these fans provide shelter and a place to live for a whole other community of critters, such as feather stars, cowries and shrimp.

Bryozoan colonies, which are genetically-identical individuals called Zooids, also offer refuge to marine life in soft sediments, and are almost completely covered with feather stars and other organisms. Even the sponges look different in this habitat, sprawling up from the sand in various growth forms like the 'translucent pointed finger sponge', which looks exactly like it sounds. Burrowing and tube anemones also arise from the sand but will retreat into their body column at the slightest disturbance. Zebra mantis shrimp and algae octopus will be watching you from their dens, but their exceptional camouflage means most people don't notice them. If you come across an algae octopus in the dry season (May-October) hold on tight, as it will almost certainly try to take your equipment off you. The algae octopus venture out of their dens during mating season and are particularly curious - there've been numerous times I've had to wrestle one to get a camera back.


Guard crab in Acropora coral


Radical Bay beach is very picturesque

The Island at Night

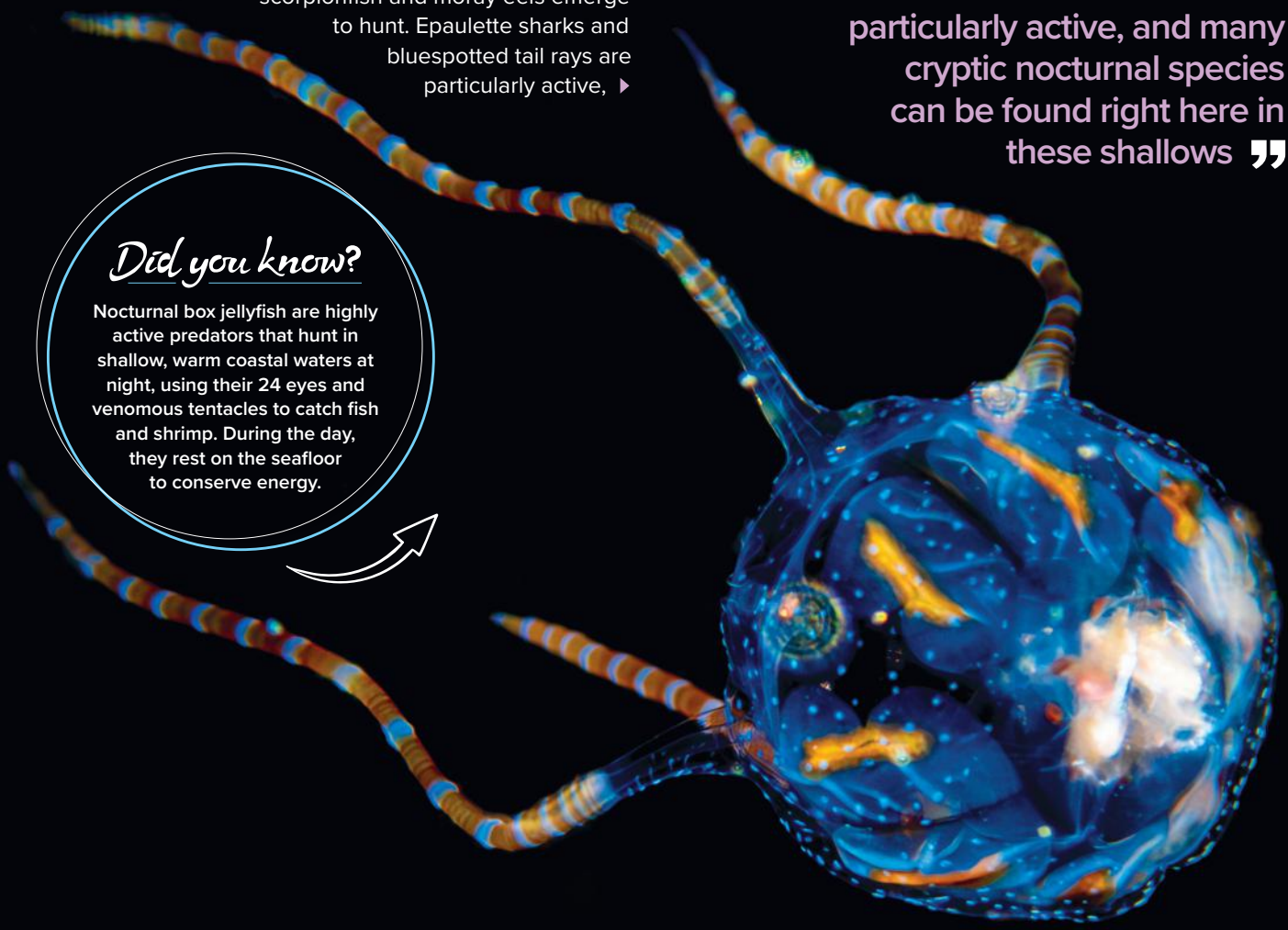
The waters after dark are particularly active, and many cryptic nocturnal species can be found right here in these shallows. The reefs come alive at night! You can really see it when you shine your torch at corals and see hundreds of crustaceans eyes reflecting back at you.

A lot of elusive shrimps, lobster and crabs are strictly nocturnal, hiding in coral crevices during the day and emerging into exposed areas at night to feed. Most of the reef fish can be seen sleeping nestled in the corals, a charming sight in itself, while strange fish like squirrelfish, scorpionfish and moray eels emerge to hunt. Epaulette sharks and bluespotted tail rays are particularly active, ▸

> "The waters after dark are particularly active, and many cryptic nocturnal species can be found right here in these shallows"

Did you know?

Nocturnal box jellyfish are highly active predators that hunt in shallow, warm coastal waters at night, using their 24 eyes and venomous tentacles to catch fish and shrimp. During the day, they rest on the seafloor to conserve energy.



Reticulated head shield slug

Dugong

Burrowing anemones

Shaun the Sheep sap sucking slug

and you will often see them feeding on buried invertebrates. I recently found a striped pyjama squid, often only seen in temperate–cold waters further south. It is so rare that these warmer water tropical squid may even be a new species. It's also a great chance to observe plankton, as it's easier to see their translucent details with a dark background. Many larval fish, flatworms, molluscs and crustaceans can be found here, looking particularly alien in their planktonic stages as they drift in the water column and are carried away by the currents.

Another critter I keep my eye out for is the nocturnal box jellyfish, a small box jellyfish who stays highly camouflaged during the day by using specialised adhesive pads to attach to algae and coral. This jellyfish has an elaborate mating ritual described as a 'wedding dance', so if you want to witness a jellyfish wedding head to Geoffrey Bay at night. And rest assured that unlike their close relatives, the nocturnal box jellyfish only has a mild sting and is not considered dangerous.

What I love about diving here is that you never know what you are going to see. I am still exploring, photographing and documenting new species around the island, and already have recorded another 300 species that could make up a second field guide. Scientific research has not yet caught up with the incredible biodiversity found here, and with every trip we see something we have never seen. Whether you're a fellow marine biologist or a curious diving enthusiast, it's a very exciting time to be in the water. Between the variety of habitats and the unique mix of inshore and offshore species, Magnetic Island is an underwater world unlike any other with so much hidden treasure to explore. ■

Author Bio

Lawrence Scheele is a marine biologist, writer, underwater photographer and filmmaker who lives on Magnetic Island (Yunbenun). He recently released A Field Guide to The Marine Life of Magnetic Island, Great Barrier Reef and a short film Hidden Treasure: Magnetic Island, and shares his photography through his website Snorkeldownunder. Lawrence is passionate about documenting the lesser-known creatures of the ocean, and capturing the wonder and fragility of marine ecosystems to inspire education and conservation.

Barramundi

Away from the busier circuits of Raja Ampat and Komodo National Park, the Banda Islands sit scattered across one of the deepest seas on the planet - but reaching them requires commitment.

That sense of distance is precisely what defines the Banda experience, though. From the moment the last sliver of populated coastline slips below the horizon, you understand this is not just another dive trip, but a journey into a blue-water wilderness.

A liveaboard trip in this part of the world is unlike any other, with hundreds of nautical miles covered in the aim of finding isolation and solitude, and overnight crossings meaning you possibly start one day many, miles from where you dived the last. The geography is what shapes the Banda Sea adventure and with depths of more than 7,000m in places, this really is the 'deep blue'. Volcanic islands and atolls - such as the famous Nil Desperandum – can have shallow plateaus, as well as incredible steep drop-offs into nothingness.

And it is from this nothingness that divers may be granted one of the ocean's great spectacles - schooling scalloped hammerheads.

There are no promises here as the Banda Sea does not operate on a schedule. However, with luck and a good guide on your side, there is every chance of seeing the unmistakable silhouettes emerge from the blue and pass by with their silver flanks catching the light before disappearing back into the depths from which they came.

It is a different kind of shark encounter from the choreographed certainty of some global hotspots. Often yours will be the only boat nearby meaning no crowds - just you and your buddy enjoying a procession of oceanic hunters in one of the deepest seas on Earth. The isolation really heightens the moment.

It is not all about the hammerhead, though. This is the Coral Triangle, where diversity of marine life is greater than anywhere else in the world.

Banda Sea is a lot 'spongier' than most other areas, with huge varieties of many different species. Barrel sponges, for example, are bigger than a human and this is a place where it is possible to have the very rare experience of seeing them spawning. They 'erupt' like a volcano, pumping out clouds and when one starts, they all go off. The range of diving is wide with some interesting night dives also available – not least at Banda Neira. Here, once the sun has gone, divers can go looking for the elusive mandarinfish – a firm favourite of photographers. A magical experience as dusk settles, these brilliantly coloured little fish emerge to perform their brief, balletic mating dance. With patience and a careful approach, it is possible to witness one of reef diving's most enchanting shows.

Above the water at Banda Neira, Gunung Api (Fire Mountain) dominates the skyline but below the surface line its historical influence is equally evident. Past eruptions have sent rivers of lava down its flanks and into the ocean, creating the hard volcanic foundations on which some of Indonesia's healthiest reefs now thrive.

Diver looking over a large and healthy coral formation
© Adrian Stacey

The breathtaking BANDA SEA

Did you know?

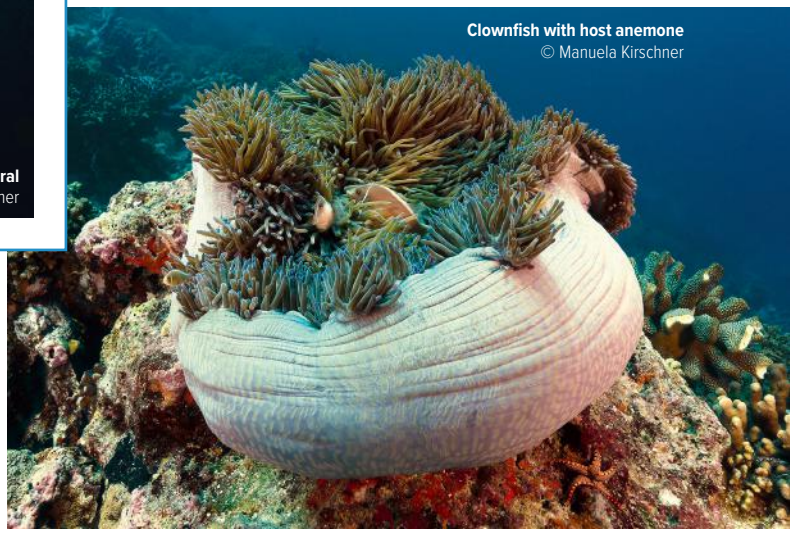
The Banda Sea, located in eastern Indonesia within the Coral Triangle, is a deep, remote, and ecologically rich marine region. It boasts extreme depths, pristine coral reefs, and high biodiversity, including migratory hammerheads.

There are dive destinations that are easy to find and easy to love, and there are those that require a little more dedication before they reveal their rewards. The Banda Sea belongs firmly in the latter category

Photographs courtesy of Emperor Divers unless credited

Whip coral
© Manuela Kirschner

Volcanic island in the Banda Sea



Clownfish with host anemone
© Manuela Kirschner

The irony that such destructive nature has created a habitat for abundant life is tangible. Elsewhere around the Banda Islands, sites such as Pulau Hatta offer similarly dramatic wall diving. The reefs here cling to the island's edge before plunging almost vertically into open water. Giant sea fans lean into the current, their branches home to cryptic life for those willing to look closely.

Reef sharks cruise the periphery. Fusiliers stream past in endless ribbons of movement. The sensation is one of suspension – as though you are floating beside a submerged mountain range that continues far beyond the reach of light.

What elevates the Banda Sea further is the sense that it remains lightly touched. There are no lines of dive resorts along the shore, no crowded moorings with boats jostling for position. Liveaboards pass through seasonally, navigating long stretches of open water between islands. Crossings can be lengthy. Weather and currents dictate the rhythm of the days. Mobile signals fade to nothing. The horizon is often empty in every direction.

When civilisation is in sight, land visits here are unlike those almost anywhere else in Indonesia. Banda Neira was once the epicentre of the global nutmeg trade, the ▸

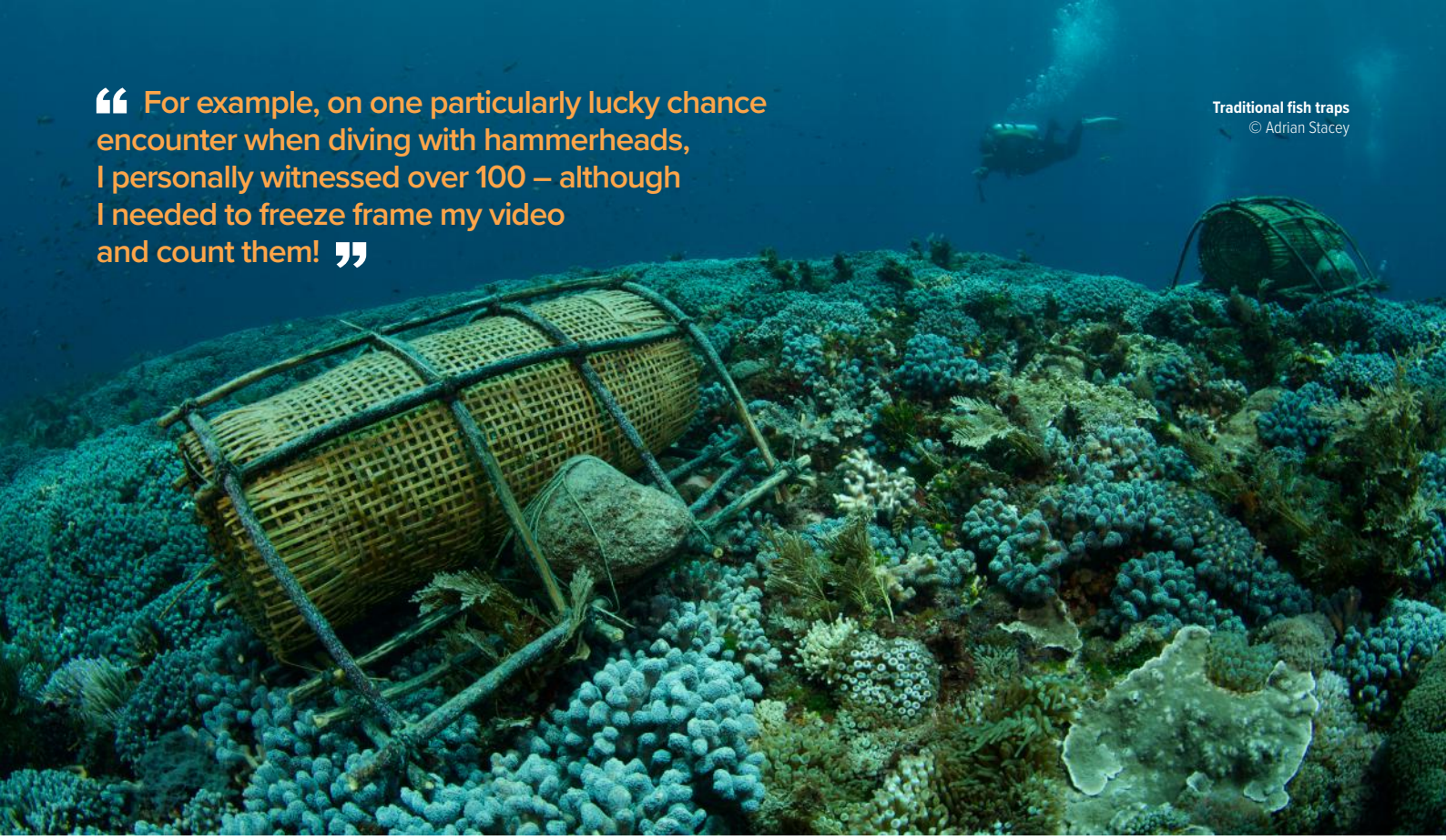
The cabins onboard Harmoni are luxurious

Did you know?

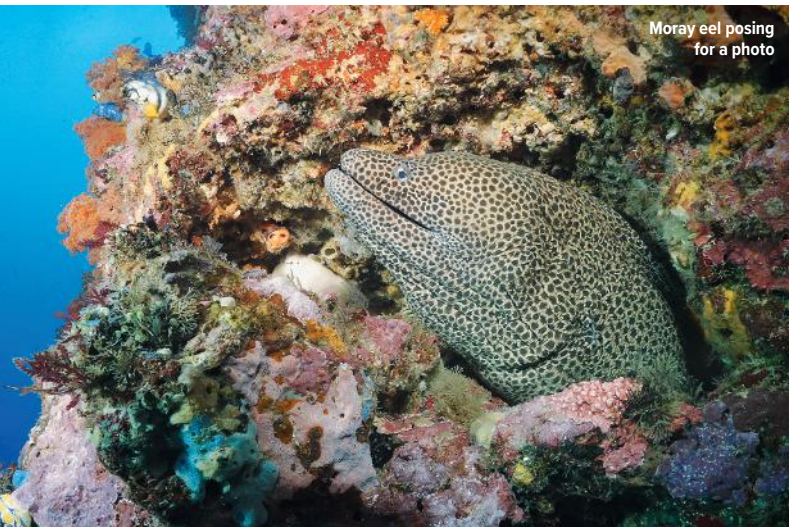
The Emperor Harmoni is a 48 metre liveaboard operating in Indonesia. The upper deck has four staterooms, and the lower deck has eight cabins, welcoming up to 24 guests.

Emperor Harmoni liveaboard

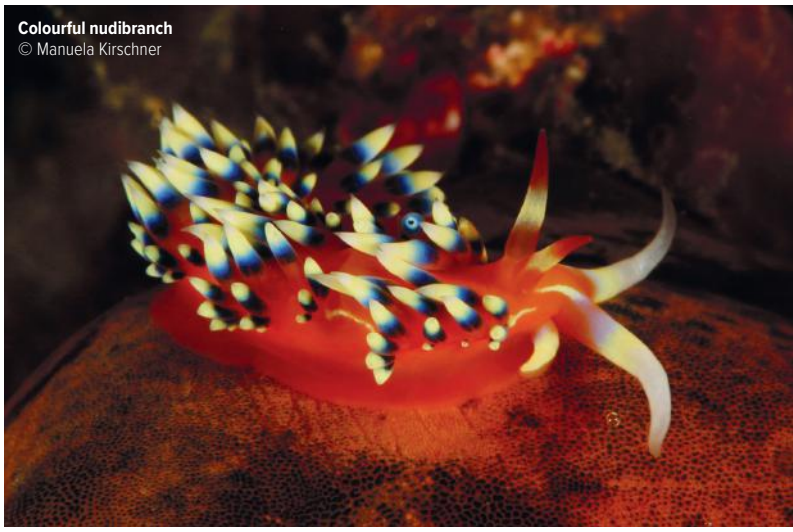
> For example, on one particularly lucky chance encounter when diving with hammerheads, I personally witnessed over 100 – although I needed to freeze frame my video and count them!



Traditional fish traps
© Adrian Stacey



Moray eel posing for a photo



Colourful nudibranch
© Manuela Kirschner

The Banda Sea – a first-hand account

Emperor Divers are one of the operators to take guests to this remote section of the world's largest archipelagic country. Their videographer, Steffan Kilby, has dived these waters on many occasions and was recently back onboard Emperor Raja Laut to take in the Banda Sea's vast wonder once again.

"It is the distance travelled that makes it such a special trip," he says. "You can really feel in complete isolation and that you are taking part in and adventure – and expedition – and not just any diving holiday.

"Its seasonal nature also plays a part in that. Because there are only a few months of the year when crossing the Banda Sea is possible it makes it feel like a special treat to be there. Even for those of us who have dived it before several times, it still has that exclusive element to it. From a diving perspective, there are no guarantees. This is open ocean and the fact you're out in raw nature gives drama to each dive. It's not a precise science where you can just turn up and be spoon fed a certain experience – you never know what you will see until you get underwater. For example, on one particularly lucky chance encounter when diving with hammerheads, I personally witnessed over 100 – although I needed to freeze frame my video and count them!"

He continued: "Above the water it is special, too. Because at times you are so far away from the nearest towns and villages there is zero light pollution. At night you get such an amazing display with the Milky Way so clear and shining down on you.

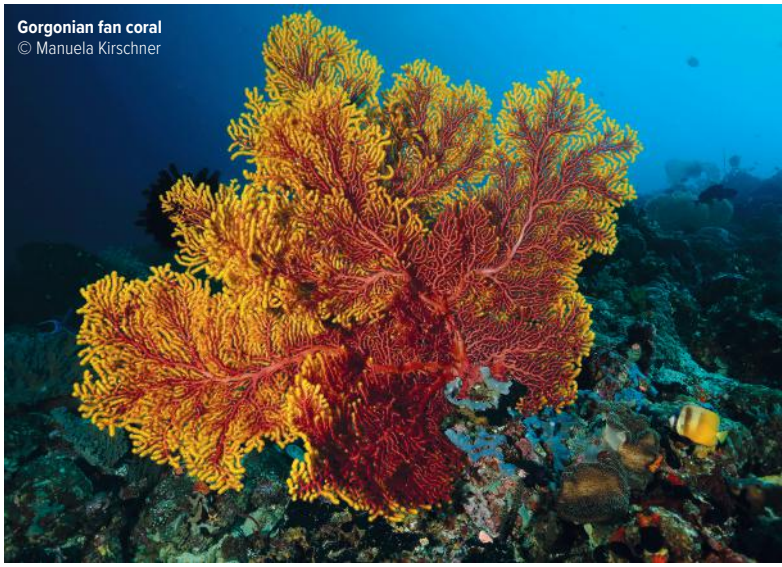
"The history of these islands also adds to the unique feel of a trip. Standing on a fort, looking at an active volcano over a natural harbour, you don't just feel like you've travelled a great distance but also travelled back in time. You can so easily imagine you are back in the 1700s when you visit the Spice Islands. Exploring the Banda area is a proper journey – a dive trip like no other."

Emperor Raja Laut at sea

The local Banda nutmeg

Emperor Divers

Emperor Divers offers two itineraries that take guests to the majesty of the Banda Sea. Their Alor & Banda Sea trip goes between Maumere and Ambon, while the Raja Ampat & Banda Islands itinerary journeys between Ambon and Sorong. Due to needing suitable conditions, these are only available a few times a year around September and October. The company have two liveaboards to choose from - Emperor Harmoni, and Emperor Raja Laut. Harmoni is a bespoke-made Phinisi-style vessel which launched in 2022 and offers extreme comfort to 24 guests. Raja Laut – meaning 'King of the Sea' – is a beautiful schooner with 12 berths, providing an intimate and exclusive travelling experience. They also offer liveaboard trips and have dive centres across Egypt, Maldives and the Solomon Islands.
www.emperordivers.com



Gorgonian fan coral
© Manuela Kirschner

tiny islands of the Banda group producing a commodity once worth more than gold – hence their nickname, the 'Spice Islands'.

Nutmeg trees grow in shaded groves, their fruit split open to reveal the vivid red mace wrapped around the seed. Colonial-era houses line narrow streets. Children play by the waterfront as fishing boats rock gently in the shallows. The scent of spice hangs faintly in the air. It is a powerful juxtaposition: beneath the waves, pristine reefs and roaming sharks; above them, centuries of history written in stone and seed.

European powers fought fiercely for control, building forts that still stand watch over the harbour. Fort Belgica rises above the town, its thick stone walls a reminder of a time when these remote islands shaped global economics.

Indeed, such was their importance and value that at the Treaty of Breda in 1667, the Netherlands exchanged the tiny island of Run – barely three kilometres long - for a patch of land which later became known as Manhattan! As the saying goes, they swapped a small nut for a big apple.

For those with energy to spare, a climb partway up Gunung Api offers sweeping views across the Banda Islands. From the slopes of the volcano, you can appreciate just how steeply the land falls away. The geological forces that created this landscape are ever-present - the Pacific Ring of Fire in action. The underground activity can literally be experienced on some islands just by putting a hand to the sand and feeling the warmth created by goings-on below.

What makes the Banda Sea a must-do itinerary is not a single marquee species or one headline dive site. It is the combination of elements - deep-ocean topography, exceptional hard coral health, high fish biomass, seasonal hammerhead potential and genuine remoteness. It is the knowledge that beneath you lies an abyss thousands of metres deep, and around you an ecosystem that thrives precisely because it is difficult to reach.

This is not the easiest diving Indonesia has to offer, nor the most predictable. Conditions can be dynamic. Currents can run strong. But for experienced divers ready to move beyond the familiar, the rewards are profound. Each descent carries a hint of the unknown. Each glance into the blue holds the prospect of an unexpected encounter.

In a country celebrated for marine biodiversity, the Banda Sea stands apart by virtue of its scale and spirit. It feels elemental - a meeting of fire, water and time. For those willing to venture into its wide horizons, the Banda Islands offer more than a dive trip. It's a journey, an adventure and an experience like no other. ■

THE TRAVEL EXPERT

Each month dive travel expert Deborah Dickson-Smith of Diveplanit Travel offers hints, tips and advice to help you plan your next trip!

BEST DIVE RESORTS FOR 'MIXED COUPLES' - DIVERS TRAVELLING WITH SNORKELLING PARTNERS

Travelling as a diver with a snorkelling partner can either be seamless - or frustrating - depending entirely on the resort you choose. The difference comes down to three things:

- A genuinely good house reef
- Snorkelling that's treated as an activity, not an afterthought
- Logistics that allow both people to have a great day

Here are some standout options across Indonesia, the Great Barrier Reef, Fiji, the Solomons and Vanuatu.

Lady Elliot Island – Southern Great Barrier Reef, Australia
Style: Award-winning eco island resort
Access: Scenic flight from Brisbane, Hervey Bay or Bundaberg
Snorkelling Highlights: shore-entry coral reef, guided snorkel tours, glass-bottom boat experiences, seasonal mantas.

Heron Island – Southern Great Barrier Reef, Australia
Style: Classic coral cay island resort
Access: via ferry or Helicopter charter from Gladstone
Snorkelling Highlights: Beginner-friendly support, strong reef diversity, easy self-guided access, high numbers of turtles and rays, with in season manta encounters and turtle nesting.

Wakatobi Dive Resort – Southeast Sulawesi, Indonesia
Style: Luxury eco-resort with private marine reserve
Access: Chartered flight from Bali
Snorkelling Highlights: world-class house reef accessible from shore, exceptional coral density in shallow water, clear, calm conditions for most of the year.

Siladen Resort & Spa – Bunaken, Indonesia
Style: Boutique island resort inside Bunaken Marine Park
Access: Via Manado in North Sulawesi
Snorkelling Highlights: coral walls accessible in shallow sections, turtle sightings common, marine park protection.

Coral Eye – Bangka Island, Indonesia
Style: Small eco-conscious resort and research centre
Access: Via Manado in North Sulawesi
Snorkelling Highlights: guided snorkelling trips, shallow coral gardens, island-hopping options.

Bunaken Oasis Dive Resort – Indonesia
Style: Luxury dive resort with spa
Access: Via Manado in North Sulawesi
Snorkelling Highlights: marine park reef access, turtle encounters, calm, clear conditions.

Misool Eco Resort – Raja Ampat, Indonesia
Style: Remote luxury eco-resort in private marine reserve, bucket-list biodiversity
Access: Via Sorong in West Papua
Snorkelling Highlights: private fully protected marine reserve, high fish biomass, spectacular shallow coral.

Paradise Taveuni – Fiji
Style: Boutique dive resort – barefoot luxury
Access: Via Matai Airport, Taveuni
Snorkelling Highlights: Rainbow Reef access, colourful soft coral gardens, relaxed boutique setting.

Sau Bay Resort & Spa – Fiji
Style: Small eco-friendly resort
Access: Via Matai Airport, Taveuni
Snorkelling Highlights: Rainbow Reef excursions, protected bays for snorkelling.

Uepi Island Resort – Solomon Islands
Style: Remote lagoon resort
Access: Seghe Airport, via domestic flight from Munda/Honiara
Snorkelling Highlights: easy shore-access snorkelling, diverse reef structure.

Fatboys Resort – Solomon Islands
Style: Casual, activity-based island resort
Access: Gizo Airport, via domestic flight from Munda/Honiara
Snorkelling Highlights: World War Two aircraft wreck snorkelling, island excursions, easy-access reef areas.

Turtle Bay Lodge – Vanuatu
Style: Casual lodge with onsite dive centre
Access: Direct flights from Brisbane to Espiritu Santo.
Snorkelling Highlights: Easy access snorkelling in front of the resort, nearby dugong encounters, small diver numbers, friendly, low-key atmosphere.

Barrier Beach Resort – Vanuatu
Style: Boutique luxury beachfront resort
Access: Direct flights from Brisbane to Espiritu Santo.
Snorkelling Highlights: Reef life off the beach, turtle and ray sightings, calm coastal conditions.

If you're looking for help to plan your next dive and snorkel trip, the Diveplanit team is here to help you plan the perfect trip: Diveplanit.com

DIVE THE ANDAMAN SEA

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The Andaman Sea boasts the most spectacular diving in Thailand, with vibrant soft corals and exciting pelagic action at stunning pinnacles such as Richelieu Rock, Koh Bon and Koh Tachai. There's no better way to explore the Similan and Surin Islands than by liveaboard. Diveplanit has curated a selection of liveaboards in Thailand to suit every preference, from flexible budget options like Sea Bees Stingray, to mid-range options like the Junk and the Thailand Master, to luxury cruising on the Thailand Aggressor.

amazing THAILAND

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Divers Alert Network, widely known as DAN, is an international non-profit medical and research organisation dedicated to the safety and health of divers.
WORLD.DAN.ORG

DIVING WITH DIABETES

The Divers Alert Network team take a closer look at diving with diabetes

Risks, Realities, and Responsible Participation

Diabetes is a common condition that affects the body's ability to regulate blood sugar. Although most people can manage their day-to-day activities without issue, diving can pose serious challenges. Patients with diabetes requiring treatment with insulin have long been encouraged to avoid diving. However, current guidelines encourage a more-individualised approach. While diving with diabetes should always be part of shared decision making with your physician, this article can provide an overview and potential topics for discussion.

Why Diabetes Raises Safety Concerns Underwater

Patients with diabetes may experience low blood sugar known as hypoglycaemia. Exercise, cold water, and increased metabolic demand of diving can all accelerate sugar consumption, exacerbating hypoglycaemia. Symptoms include shakiness, fatigue, confusion, or even loss of consciousness and seizures. When these symptoms occur underwater, they can be extremely dangerous. In addition, these symptoms may mimic conditions such as narcosis or decompression sickness making rapid recognition and treatment difficult.

Patients may also experience episodes of high blood sugar known as hyperglycaemia. While less likely to cause immediate cognitive impairment than hypoglycaemia, sustained high blood sugar levels can lead to dangerous levels of dehydration as increased blood sugar promotes loss of water in the urine. If hyperglycaemia is not managed, complications can quickly arise – a potential concern when diving far from shore or in remote locations.

Fitness to Dive and Reasonable Limits

Major diving medicine organisations — including the Divers Alert Network (DAN) and Undersea & Hyperbaric Medical Society (UHMS) - provide guidelines on which patients may reasonably dive including those who:

- Have annual fitness evaluations with their physician
- Have good long-term glucose control
- Delay diving after start/change medication for:
  - Three months with oral diabetes medications
  - One year after initiation of insulin therapy
- Have no history of hypoglycemic awareness
- Have no episodes of hypoglycaemia requiring third party intervention

Even for divers who are good candidates, a reasonable scope of diving is advised. This is because diving beyond these limits makes monitoring and responding to swings in blood sugar much more difficult. Guidelines suggest avoiding dives to depths greater than 30m and avoiding dives longer than 60 minutes, with no planned decompression or overhead environments, and any situation that may exacerbate hypoglycaemia.

Best Practices for Safe Diving With Diabetes

Risk mitigation and adequate preparation is the key to safe participation. Monitoring your blood sugar is critically important: A minimum of three pre-dive blood glucose measurements should be collected at 60 minutes, 30 minutes, and right before the dive to assess trends in blood sugar. If your blood sugar is 150 mg/dl and stable or rising, you can enter the water. Delay the dive if your blood sugar is below 150 mg/dl or over 300 mg/dl.

The Bottom Line

Diabetes is no longer an automatic barrier to enjoying the underwater world, but it remains a condition requiring thoughtful preparation and a more conservative approach. With stable glucose control, responsible planning, and transparent communication with dive professionals and buddies, many divers with diabetes continue to explore reefs, wrecks, and marine environments safely.

For more diving health and safety information visit **World.DAN.org**

DAN WORLD

EVERY DIVER SHOULD BE A DAN MEMBER

Michael Aw

Author, Explorer,
Conservation Photographer

I spend a great deal of my life underwater, often in some of the most remote corners of our planet.

No matter where I dive, one thing doesn't change - I never dive without DAN coverage.

Knowing DAN is behind me gives me peace-of-mind.

World.DAN.org

SAFETY – MEDICAL – RESEARCH – EDUCATION – DIVE ACCIDENT ASSISTANCE

From the DAN Medical Line

DAN medical information specialists and researchers answer your dive medicine questions

Q: I am a recently certified diver and have just completed my first dive trip. After completing my dives, I noticed what looked like a bright red patch of blood over the white of my eye. When I asked my instructor about it, he said it was probably due to mask squeeze. How does mask squeeze cause me to get a blood spot on my eye, and can this be a serious condition? What is the treatment for mask squeeze? Should I be concerned if this happens again?

A: Although you may look like you've been badly injured, mask squeeze is usually not serious.

© Sebastian Pena Lambarri / Unsplash

Q: What is mask squeeze?

A: Like the air spaces in your sinuses and ears, you must also equalise the air space in your mask as you descend. When you descend, failure to equalise, or add air to the air space in the mask, by exhaling through your nose can create unequal pressure between the mask air space and the vascular pressure within the blood vessels of the face. This can result in various degrees of facial barotrauma, or injury to the soft tissues of your face contained within the mask. Imagine your face in a suction cup. The soft tissues beneath the mask and especially around the eye swell and discolour, such as redness or bruising.

Q: What treatment do I need?

A: Unless you are experiencing eye pain or visual problems, there is no treatment for facial barotrauma except time. Because it is a bruise, your body will eventually reabsorb the effect of your mask squeeze. Your physician or an eye specialist should address eye pain or visual disturbances such as blurred vision or loss of part of the visual field immediately. These symptoms would be extremely rare in mask squeeze, however. The signs and symptoms of mask squeeze can take up to two weeks or more to resolve. Unfortunately, it is one of those conditions where you will probably look worse than you'd like before it gets better. Not only will blood and oedema need to be reabsorbed, but it tends to be gravity-dependent, which means it will spread downward on your face.

Q: Who gets mask squeeze?

A: Mostly new divers get squeezed - they tend to be overwhelmed by all the skills they need to remember, such as buoyancy control and equalising their ears and sinuses. More-experienced divers tend to have mask squeeze when they are concentrating on some new activity or focused on a task that diverts their attention from clearing their mask. Changing to a new mask or to a low-volume mask may also lead to mask squeeze, because the diver may not be accustomed to when to add air. Finally, poor-fitting masks or other issues such as facial hair may lead to problems with equalising.

Q: How do you prevent a squeeze from happening again?

A: The solution to preventing mask squeeze is to remember to keep your nasal passageways open during descent. By exhaling through your nose and using a properly fitted mask, you will minimise the risk of facial barotrauma. A mask should fit comfortably against your face and you should be able to achieve an appropriate seal by gently placing the mask on your face and inhaling through your nose. The mask should seal to your face and not fall off even without the mask strap in place. It is not unusual for a small amount of leakage to occur while diving, especially if you have facial hair. Exhaling through your nose and tilting your face towards the surface while cracking the lower seal of the mask will generally remove any unwanted water from your mask.

Got a medical question? Send an email to medic@dan.org. Our team is standing by to assist you.
World.DAN.org

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Mustard's MASTERCLASS

Alex Mustard turns his attentions to one of the most-instantly recognisable fish in our tropical oceans – the sweetlips

Photographs by Alex Mustard

Simultaneously charismatic and handsome, sweetlips are irresistible to underwater photographers. Their oversized, botox lips and confident poses have long made them favourites, yet I've not seen an article dedicated purely to photographing them, so for the 50th instalment of Masterclass, I thought I'd redress the balance.

Sweetlips are found across the reefs of the tropical IndoPacific, and have close relatives, the grunts, living on Caribbean reefs and in the Eastern Pacific. There are about 30 recognised species, but only around a third are the colourful, photogenic standouts that consistently attract our lenses.

There are plenty of reasons sweetlips are treasured subjects. They are among the larger reef fish, yet many species boast the vibrant hues and bold markings more typically associated with smaller reef inhabitants. The ribbon sweetlips of the Coral Triangle, with their sharply defined stripes and lemonyellow fins, are particularly striking. Diagonallined and oriental sweetlips, a fish that forever remind me of the Maldives no matter where I see them, are equally eyecatching. Whereas, the other head-turner, the harlequin sweetlips trades stripes for spots, adorned with dramatic dark blotches over a greenish body.

For us, though, their real charm lies in their behaviour. Sweetlips are nocturnal feeders, spending their days resting on the reef, often in cooperative clusters, as if waiting for their portrait. They gather beneath jetties, around coral heads, and at cleaning stations, and when approached with care, will often hold formation.

Their unhurried daytime nature allows us to perfect our settings, refine compositions, and work angles in a way that few other reef species permit. Few reef fish seem as dedicated to getting a good clean, offering us some standout shooting opportunities.

While sweetlips can be found throughout the IndoPacific, as soon as I think of them, certain dive sites immediately come to mind. Classic sweetlip spots are the Ribbon Reefs of the Great Barrier Reef, the Dampier Strait in Raja Ampat, and numerous kandus and thilas across the Maldives, all of which are wellknown for delivering photogenic clusters. By contrast, the blackspotted sweetlips of the Red Sea, endemic to that region, rarely gather in the neat formations favoured by their eastern cousins.

Photographically, think of all sweetlips shots as portraits, remembering that eye contact is the foundation of success. Sweetlips have large, soulful eyes (an adaptation to foraging at night) and, combined with their rubbery lips, project plenty of character. However, because their eyes sit on the sides of their head, fronton shots rarely provide satisfying engagement.

Instead, we should aim for more sideon compositions, framing to get a strong connection with one eye, rather than going for both. Often the most-cooperative sweetlips are at cleaning stations and, even if shooting this behaviour wasn't your goal, it inevitably becomes a feature of the shots. When it comes to cleaners, timing is everything. Wait for the peak of the action, with the wrasse actively working or hovering in an aesthetically pleasing position.

Because sweetlips are usually in clear water, I prefer photographing using a longer macro lens and shooting through a little more water to keep the fish comfortable. This underwater telephoto approach, with strobes extended forward to shorten the light path, usually yields the best poses.

The facial features look great in profile and in vertical compositions. That said, species such as ribbon, oriental, and diagonallined sweetlips possess stunning yellow fins that they fan gracefully as they hover. Horizontal frames can capture this motion beautifully, if you time your shots to when the pectoral fins are fully extended.

Sweetlips are compelling subjects, but we turn them into compelling pictures by taking charge of the background. Many shots fail not because of the subject, but because of distractions behind it. Taking a moment to reposition, adjust depth, or frame more carefully makes all the difference whether we are shooting a group or an individual.

Sweetlips love being cleaned

A 1/10th of a second exposure is ideal to catch one sweep of the dancing fins

Sweetlips usually look their best when gathered in groups. As with any schooling species, cohesion is key to a strong image. The challenge is approaching closely enough to fill the frame without scattering the formation. I usually find that the fisheye is too wide, and I prefer a wide-angle zoom. This wide, but not too wide, view gives the spectacular view and maintains the neatness of their gatherings. One other tip is to shoot horizontally, rather than up at the sweetlips. An upward angle serves to emphasize pale lips and bellies at the expense of their colourful flanks. When in groups sweetlips constantly jostle for position, and the neat formation one second can be messy the next with one fish going completely the wrong way. Wait for the moment when the formation settles into a pleasing rhythm before pressing the shutter.

Striped species are especially powerful group images because the repetition of pattern amplifies unity within the frame. Ribbon sweetlips often pack together tightly and are among the most dramatic to photograph. Their schools frequently attract interlopers such as snapper or squirrelfish. These can clutter a shot, although when the current aligns the mixed group into a cohesive shape, the result can be visually compelling.

Finally, we have the juveniles. Baby sweetlips look nothing like their parents. Adults are mellow, thicklipped, and sociable; juveniles, by contrast, are solitary, boldly patterned, and hyperactive, performing a constant defensive dance that makes them both enchanting and challenging to capture. The youngsters are usually found in shallow or silty habitats, and often seen on muck dives. Their gyrating dance is a defence mechanism, the motion makes them difficult for predators to target and may be them mimicking poisonous flatworms.

Photographers have long enjoyed capturing this dance, especially with long exposures that emphasise movement. Creating such images requires combining a long exposure with a burst of flash. Use a small aperture and low ISO to balance ambient light during the longer exposure, then rely on the flash to freeze the subject. I find a slow, but not too slow shutter speed of around 1/6th to 1/10th is best. This is long enough for just one undulation and gives the best result. Although rearcurtain sync is often used for motion effects, these young sweetlips move in every direction, so I prefer standard frontcurtain flash, because it means the juvenile is definitely in focus when the flash freezes the action. ■

Z 8

Nikon

"The Nikon Z8 paired with the NIKKOR 14–24mm f/2.8 is my absolute dream underwater setup for producing insanely sharp and vibrant professional photography." — *Evie Hall*

DIVING WITH... TIANI DUN

PT Hirschfield chats with the marine biologist and underwater photographer about sailing and diving for months at a time and leading future expeditions

Photographs courtesy of Tiani Dun or as credited

After growing up in Melbourne, underwater photographer, marine biologist and content creator Tiani Dun relocated to Upstate New York on a college tennis scholarship. There, she completed a Bachelor's degree in Psychology, before moving back to Australia to complete a Masters in Marine Biology in north Queensland's James Cook University (JCU).

'My motivation for undertaking a Masters of Marine Biology was curiosity to learn about the animals on the reef. With my background in psychology, I was also interested in how humans value nature and the ocean. For my final thesis, I wrote about 'visualising marine conservation in a new world.'

'I found it interesting how humans put value on photogenic animals like dolphins, whales and coral reefs, and how this impacts funding towards conservation and scientific research.'

'Through literature review, I found a vast difference between funding towards the Great Barrier Reef and the Great Southern Reef. While the federal government allocates billions towards conservation for the GBR, the kelp forests of the Great Southern Reef remain largely unprotected.'

Tiani scuba diving in the caverns of Kauai, Hawaii
© Francesca DeWeerdt

Tiani did her dive training in Koh Lanta, Thailand after finishing a Tropical Marine Biology class for her Masters in Phuket: 'After years of freediving, I finally got scuba certified so I could participate in underwater field work. I loved being able to spend a whole hour underwater, seeing the details of the reef and finding small animals like nudibranchs.'

Tiani completed her Advanced course with the JCU Dive club, her rescue course on Magnetic Island, and her Divemaster internship on Stradbroke Island: 'After pandemic restrictions eased, I flew to Malaysia to do my IDC Instructor training with Scuba Junkie. Mabul Island had some of the best muck diving I've ever done.'

Since graduating from JCU, Tiani's lived and travelled around Australia and Asia, most recently settling in Lennox Head, NSW. Here she works as a photographer and marine biologist on local diving and whale-watching boats.

'I sell my photographic prints, initially at markets, but since I've started travelling more, I've been moving towards online sales. Each year I create a marine wildlife calendar that's available online and in my local stores.' Tiani has also created content for local businesses and international brands, including PADI and AKASO Action Cameras.

Oceanic whitetip shark photographed in Kona, Hawaii

Dolphin pod photographed on the Ningaloo Reef, Western Australia

Humpback whale breaching in Byron Bay, Australia

Tiani diving in Western Australia
© Francesca DeWeerdt

Sea lions sleeping on
Kangaroo Island, Australia

Whale shark photographed
in Sumbawa, Indonesia

While living and working on Magnetic Island after graduation, Tiani hosted marine-themed painting workshops for adults and children: 'I combined these workshops with educational talks, bringing in local scientists to share their knowledge.' After relocating to the Gold Coast, she began co-hosting similar workshops in collaboration with a friend's pottery studio: 'Since my housemate taught me how to use clay, it became a new obsession that I wanted to share, a way to gather like-minded people together in the community.' Before finishing her Master's degree, a friend put Tiani in touch with the Captain of Expedition Drenched. They were embarking on an epic adventure, sailing from the Gold Coast to Lord Howe Island for a few weeks, and were looking for new crew.

Tiani had been offered a fully-funded PhD as well as a full-time research assistant role at JCU: 'I said no to both opportunities to go on a travelling and sailing expedition instead. We spent our time diving, surfing, hiking, taking photos and creating videos for the boat's YouTube channel.'

A couple of years later, Tiani rejoined Expedition Drenched for another period of months, sailing from Perth to Exmouth, up to Indonesia and across to Timor-Leste.

This time, Tiani moved from the 'creative team' to the 'core crew': 'We were always doing exploratory dives in places not many people ever visit.' She learned more about sailing, dive instructing and life at sea, swimming with whale sharks, blue whales, humpbacks, and even a mola mola. ▸

Tiani diving in the Rowley
Shoals, Western Australia
© Francesca DeWeerdt

‘Imagine living with 15 crew members sharing one bathroom, having no air conditioning and being stuck in the middle of the tropics because the dinghy broke down. Life at sea definitely had its challenges, but also brought some of the most-incredible experiences I’ve ever had.’

Tiani rates Lord Howe Island (which she calls ‘the Australian Hawaii’) as her favourite place she’s ever travelled to: ‘ The island looks like a postcard, lying in the intersection of the East Australian and Southern currents. It supports the southernmost coral reef in the world.’

‘Sailing to the iconic dive site Balls Pyramid, we were escorted by a pod of friendly dolphins. Descending beside the towering sea stack was like diving on another planet. The rocks were teeming with life, from schools of fish to rays, octopus, nudibranchs and painted lobster. Hundreds of Galapagos sharks surrounded us on our safety stop in the blue. I can’t wait to return in December 2026 to lead an expedition and explore even more of this magical place.’

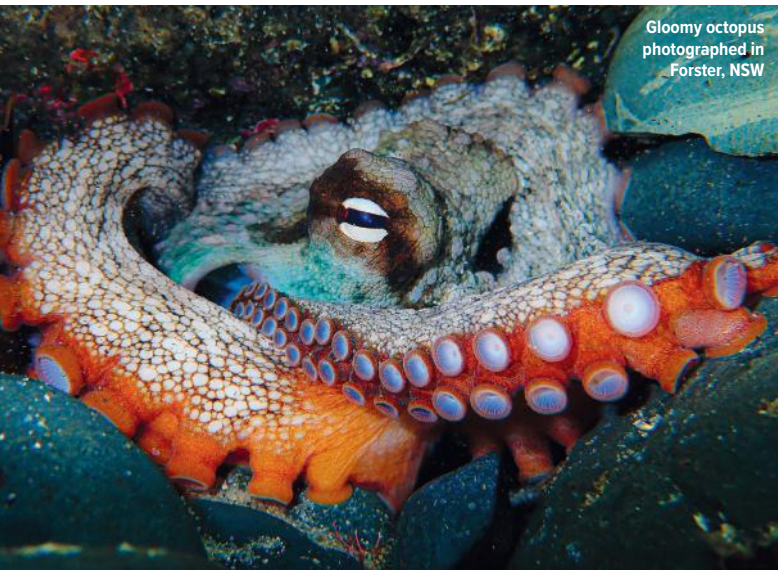
Tiani is now based in Lennox Head, with Byron Bay’s Julian Rocks as her local dive site. She’s a business partner, marketing manager and underwater photography trip leader for Dive and More - the ‘more’ alluding to a conservation and underwater photo focus.

In 2025, Tiani led expeditions to Palau and the Maldives. In 2026, she has trips planned to Raja Ampat for a coral reef conservation liveaboard, Timor-Leste to swim with blue whales, and back to Lord Howe Island.

‘I’ve found such creative joy and purpose in planning new trips, organising groups, teaching marine conservation and underwater photography to fellow divers.’

Golden cuttlefish photographed in Exmouth, Australia

Grey reef sharks photographed at the Blue Corner in Palau



Gloomy octopus photographed in Forster, NSW

Leopard shark photographed on the Ningaloo Reef, Western Australia

‘We often partner with local conservation NGOs to provide divers with extra education about the local region. Anyone who’s interested in joining our trips is welcome to make contact.’ Tiani is passionate about epic diving experiences: ‘One of the most-incredible dives I’ve done was on the Ningaloo reef. We were drifting, and as usual I was looking for nudibranchs when two humpback whales swam past.’

‘A few minutes later, they returned and circled our group. My best friend and I were crying into our masks. We had to do our safety stop soon after as we’d sucked through most of our air in excitement.’

An orca encounter is at the top of Tiani’s Dive Bucket List: ‘I’d also love to visit Baja California for the mobula ray aggregation. And I’d love to dive with marine iguanas in the Galapagos.’ ▸

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Nudibranch photographed in Sulawesi, Indonesia

Pygmy blue whale photographed in Timor-Leste

Schooling barracuda at the Blue Corner in Palau

Tiani's prints (available online at www.tianidun.com)
© Francesca DeWeerdt

But when it comes to conservation, Tiani says: 'I like to see what's happening locally where I feel I can make a positive difference. Since moving south, one of the biggest issues I've noted are the shark nets along the coast of QLD and NSW.'

'Many marine animals like turtles, dolphins and whales get entangled in the nets. Animals trapped in the nets actually attract sharks. As a diver, it's so sad to see such outdated technology still in place. I'd love for us to move towards newer, less destructive methods such as drones and shark education programmes.'

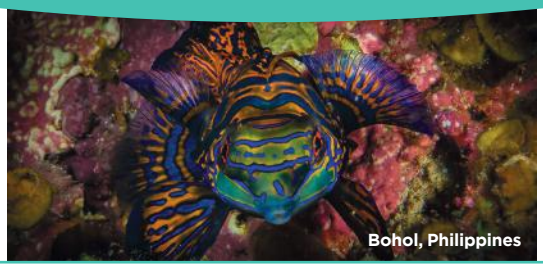
Tiani acknowledges: 'It can be disheartening to stand behind a message or send an email on your own, to have no response from those in leadership. I've found the most motivation and support comes from attending organised rallies and conservation events. It's a great way to meet like-minded people, form a community and stand together for what you believe in. It's also here that I've had the most success advocating for change on a local scale.' ■

For a deeper dive, check out Tiani's Insta @tianioceani and Facebook: Tiani Dun Ocean Photograph. To learn photography or join one of Tiani's expeditions, visit diveandmore.com

Manta ray photographed in Palau

DIVE ADVENTURES


Palau, Micronesia


Bohol, Philippines


Raja Ampat, Indonesia

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DIVE ADVENTURES

CONSERVATION CORNER

Practical conservation at Bunaken Oasis

Bunaken is best known among divers for its steep walls, clear water, and consistent encounters with turtles, reef fish, and pelagics. Situated within Bunaken National Marine Park, it is also an environment under constant pressure - from plastic pollution, coastal development, and the wider effects of climate change. Against this backdrop, Bunaken Oasis Dive Resort & Spa has developed an approach to conservation that is less about slogans and more about day-to-day operational decisions.

The resort was designed with the realities of a small island setting in mind. Fresh water is produced and treated on site, allowing guests and staff to rely on refillable bottles rather than single-use plastics. Wastewater is processed through dedicated treatment systems before release, reducing the risk of nutrient or chemical discharge into the surrounding reef. These measures are not especially visible to guests, but they are critical in a location where infrastructure is limited and the reef begins just offshore.

Waste management is another area where the resort has taken a systematic approach. Plastics, glass, and cans are separated and transported to the mainland for recycling through partnerships with local organisations, while organic waste is reused locally. On small islands, waste often ends up burned or dumped; avoiding this requires time, coordination, and ongoing cost. Bunaken Oasis has chosen to absorb that effort as part of normal operations rather than treating it as an optional extra.

Underwater, conservation is closely tied to diving practices. The resort is a member of the Green Fins programme and follows its guidelines for sustainable dive tourism. Dive briefings consistently emphasise

> “The resort was designed with the realities of a small island setting in mind. Fresh water is produced and treated on site, allowing guests and staff to rely on refillable bottles rather than single-use plastics”

> **“Underwater, conservation is closely tied to diving practices. The resort is a member of the Green Fins programme and follows its guidelines for sustainable dive tourism”**

buoyancy control, situational awareness, and non-contact diving. Gloves and reef hooks are discouraged, and reef-safe sunscreen is available on all dive boats. These are straightforward measures, but when applied consistently across hundreds of dives, they reduce cumulative impact on fragile wall systems.

Divers are also encouraged to take part in Dive Against Debris, collecting and recording marine litter encountered during dives. While this activity does not solve the broader issue of waste entering the marine park, it provides useful data and removes debris that would otherwise persist on the reef. It also gives divers a more-direct sense of the pressures facing the environment they are enjoying.

Conservation at Bunaken Oasis extends beyond the water. The majority of staff are recruited locally, and the resort places emphasis on long-term employment, skills development, and internal promotion. Access to clean drinking water is provided to neighbouring communities, and the resort supports local schools and small infrastructure projects. These initiatives are framed not as charity, but as part of maintaining a stable relationship between tourism and the island communities that host it. One distinctive feature of the operation is Oasis Explorers, the resort’s technical and CCR diving centre. While primarily focused on advanced and exploratory diving, this facility allows access to deeper reef zones that are still relatively understudied. Observations from these dives have the potential to contribute to a better understanding of mesophotic reefs, which may play an important role in future conservation strategies.

None of these measures are presented as a solution to the challenges facing Bunaken National Marine Park. They are, instead, incremental responses - ways of reducing impact, improving local outcomes, and encouraging more responsible diving behaviour. For visiting divers, the experience remains focused on the quality of the diving itself. The conservation work largely stays in the background, where it arguably belongs.

In a region where tourism can easily outpace environmental safeguards, Bunaken Oasis offers a case study in how a high-end dive operation can integrate conservation into everyday practice - quietly, consistently, and without overstating its role. ■

Standing on a crumbled slate floor in a vast chamber with perfectly cut edges, rusty chains hanging motionless from the ceiling, and water steadily dripping and echoing around the room, you can't escape the feeling that you've stepped into a quest-like computer game, or a scene from a sci-fi movie.

Only moments ago we were following a loud stream through rugged tunnels, tree roots protruding from the side walls, emerging into an open space filled with emerald ferns and roaring waterfalls - a stark contrast to now, standing beside turquoise-teal water, where turmeric-coloured rust stains surround rail tracks disappearing into the darkness. An awe-inspiring sense of entering another world before the dive even begins.

The surreal atmosphere and mystery keep drawing me back to mine diving time after time, compelling me to retrace my steps and revisit these ever-changing yet static underground places. I've dived in many mines across the UK, and a few have quickly become personal favourites.

Cambrian Slate Mine, Llangollen, North Wales

Cautiously following the reassuring handline we secured earlier that morning down a steep, uneven slope, the imposing entrance of this multi-level 17th-century mine creeps ever closer. I pause momentarily, listening to the rhythmic trickling of water seeping through the rock, finding its way along the cracks in the grey slate slabs.

Slate mined here until 1946 is more prone to laminating and crumbling, I remember reading. Fully aware that we are now beneath a highly questionable multi-ton slate slab hanging from the ceiling above the derelict workings at the West End entrance of the mine, I pick up the pace.

Letting go of the rope, I start climbing across broken slate slabs the size of a small car, passing a vertical rock that fell from the ceiling and wedged itself like a dagger into the floor, resembling a gigantic Gothic gravestone - immensely impressive, but also a reminder of the risk of imminent collapse. With renewed appreciation of the dangers of my chosen hobby, I continue - swiftly and not so elegantly - along the tunnel to the right, walking past scattered rusty tools.

> "I start climbing across broken slate slabs the size of a small car, passing a vertical rock that fell from the ceiling and wedged itself like a dagger into the floor, resembling a gigantic Gothic gravestone"

Did you know?

The Cambrian Slate Mine near Llangollen, North Wales is an advanced, extensive flooded mine diving site featuring cold, low-visibility water (often two-15 metres) and historic artefacts, requiring complex navigation and specific training.

The multitude of dive bases and the labyrinth of interconnected passageways undoubtedly make it my favourite mine dive. A very close first place, with the Croesor slate mine less than two hours away.

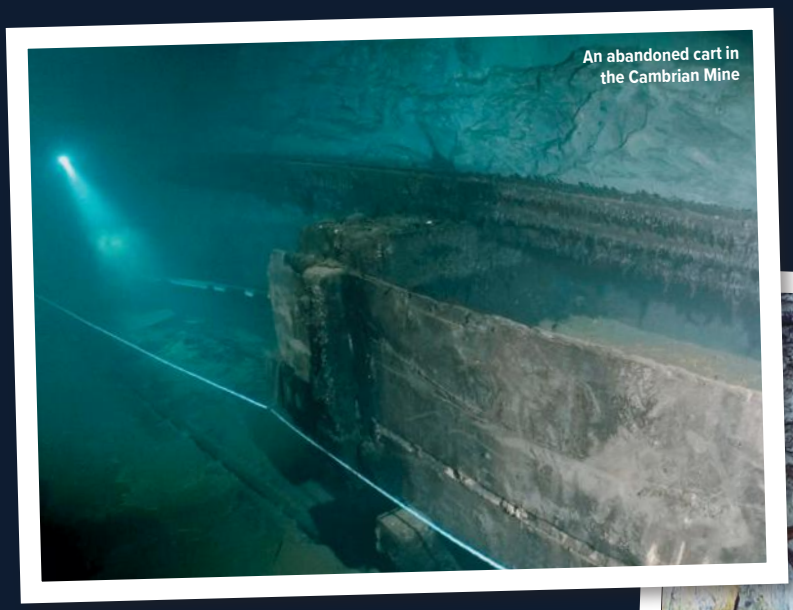
We reach Dive Base Two. The water is so impossibly clear, the outline of the steps fading downwards is perfectly visible beneath a thick layer of silt. In a few moments, as we kit up, we will disturb it and erase the perfect clarity. Descending down the steps into the alluring unknown, with anticipation and mild trepidation of a four-hour rebreather dive, we escape the cloud of silt and enter a mildly milky tunnel. The opaque haziness is always there. Almost immediately we come across wooden carts and abandoned machinery with cogs covered in fluffy moss-like growth.

We continue, in search of an old abandoned lantern, zig-zagging between the levels and tunnels, reaching the end of the lines, and surfacing in different dive bases. Undoubtedly, I will be returning to this mine multiple times.

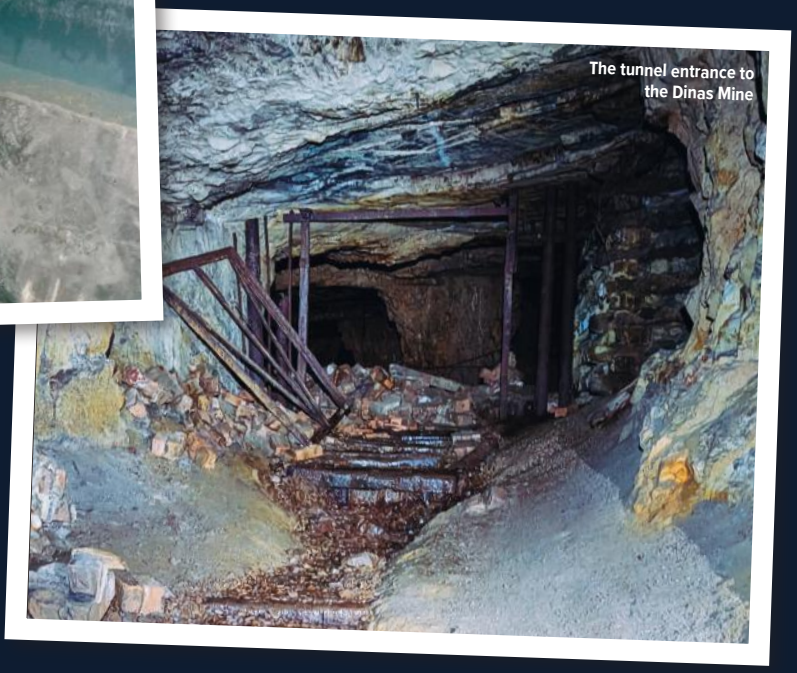
Diving Britain's INDUSTRIAL UNDERGROUND

Yana Stashkevich continues to explore Great Britain's flooded mines and caves, and urges fellow adventurers to follow her footsteps and rediscover these industrial time capsules

Photographs by Yana Stashkevich Ari Linna, Scott RG and Simon Perkins


An abandoned cart in the Cambrian Mine

> "Once abandoned, they continue to decay, collapse, and deteriorate further, as opposed to caves created by nature, and are somewhat random and chaotic"


The tunnel entrance to the Dinas Mine

Dinas Silica Mine, Pontneddfechan, South Wales

A winding rocky path, dramatic views across the valley, and fairytale-like trees with twisting roots above the River Nedd Fechan - this panoramic backdrop provides a welcome distraction from the semi-strenuous 20-minute walk uphill while carrying rebreathers and bailout cylinders. If I had to choose the most-scenic walk to a mine entrance, the Dinas Silica Mine would be at the top of the list.

For over 180 years, from the 1780s until 1964, high-purity silica rock was extracted here to produce refractory (heat-resistant) bricks. The famous 'Dinas firebrick' was used to line the industrial furnaces in which copper and iron smelting took place during the Industrial Revolution.

After conquering the final twist of the path, we finally reach the underground entrance. We head straight towards a slab the size of a large office desk, conveniently located at the mine's threshold, with just enough daylight filtering in to assemble our gear.


Yana at the dive base in Dinas

We wander through the dry section, admiring the almost grotto-like chambers resembling a medieval wine cellar in an old Italian restaurant, with round brick-covered pillars left standing to support the ceiling.

The sheer size of the mine - over 5,000 square metres of dry and flooded passageways - seemed intriguing and incredibly promising. With mild disappointment, we discover the underwater tunnels are painfully similar. Without DPVs (underwater scooters that, in my view, add excitement to any dive that doesn't necessarily require them for practical purposes), the three-hour swim reminded me of Groundhog Day. Was it an exhilarating dive? Probably not. An entirely enjoyable immersion into the underground world? Absolutely.

Roscobie Limestone Mine, Dunfermline, Scotland

Parking in an easy-to-miss lay-by along a busy road, I'm brimming with excitement to dive the most-northerly UK mine diving site on the UK mainland.

We kit up at first light at 6.45am (what better way to start the day!), and make our way along the overgrown gently sloping path, soon catching a glimpse of the rippling water reflecting the sunrise. A much-needed break from the usual challenge of carrying diving kit in the dark and somewhat intimidating underground.

Unlike many diveable mines in England, Roscobie is a flooded quarry with a relatively shallow open-water lake, and even a 'mini beach' perfect for kitting up. The mine closed in 1954, only 44 years after its opening.

We make a conscious decision to avoid silty, tight, and hazardous passageways potentially blocked with wire fencing and debris, and choose the route that offers the best balance between being scenic, but relatively easy and safe.

Descending down the line and I can't ignore the resemblance to the entrance of Jailhouse Cenote in Mexico. We make our way through vast, dark, eerie seemingly benign and un-impressive passageways that slowly reveal hidden rooms and fascinating artefacts - wooden dynamite boxes, pitchforks, and hammers.

After multiple T-junctions we reach the end of the line and find ourselves in a completely different underground world. Slight murkiness in the water has dissipated and it feels as if someone has cut and pasted a section of Mexican cenote in place of a 4 degree C Scottish mine. My buddy Scott effortlessly places the video lights and after trying to capture the surreal scene on camera, we continue our navigation through the maze, placing and collecting over 20 navigation markers along the way.

Descending here feels less like diving and more like trespassing into another abandoned industrial world. This isn't just a dive - it's a step into history, sealed underground and waiting in the dark to be rediscovered.

Roscobie Mine head pool

Diver exploring in the Roscobie Mine

Yana investigating a dry section of a cave

Final thoughts

I've always been drawn to diving mines (a desire often fuelled by the fear of missing out and an urgency to experience the mines before they disappear). Those man-made, somewhat structured, predictable and functional underground workings resemble life on a downwards spiral. Once abandoned, they continue to decay, collapse, and deteriorate further, as opposed to caves created by nature, and are somewhat random and chaotic. Developed over thousands of years, but remaining constantly ever-changing.

Having spent the start of winter embracing the UK cave diving across the familiar Yorkshire sites such as Hurtle Pot and Kingsdale Master Cave, among others - who can resist the thrill of your drysuit freezing while you walk back to your car after the dive? - I could appreciate the appeal of both. Venturing into Britain's underground is deeply rewarding.

It's about re-touching the human history and rediscovering the building sites locked in time and preserved underwater. But the effort required to reach these sites should never be underestimated. Slippery and muddy long hikes with heavy kit. Climbing down ladders and ropes. Crawling through narrow entrances. Acquiring required permits and landowners' permissions to dive. Yet with the right training, equipment, procedures, and techniques, these extraordinary remnants of industrial history deliver experiences that fully repay the effort. Dive safe, stay curious, keep rediscovering. ■

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Never believe folks who tell you that nostalgia doesn't have a future - there's still much to be learned from a study of the past. And diving is no exception. Scattered around the world, and riding a growing wave of interest in diving's rich and sometimes bloody history, an increasing number of enthusiasts are breathing fresh life into old technology; one that, after almost 200 years, has become the iconic and universally-recognised symbol of diving - the standard diver's helmet.

Now a 'collectable', rather than just an interesting curiosity of days long past, diving helmets have become sought-after items that reflect the status that divers – and diving – once enjoyed.

Some 100 plus years ago, in 1924, David Masters (son of a prominent salvage expert of the time) wrote, in his book, 'The Wonders Of Salvage': "Without the diver, treasure hunting beneath the waves would be impossible. The salvage expert may make the most-brilliant plans, collect the most up-to-date and scientific plant to assist him, but in the end it is the diver who carries the work through, and upon the courage, determination and skill of the diver the success of the expedition depends...".

Now a regular Sydney-based event - one that attracts members of Australia's Historical Diving Society trained and qualified in the use of Standard Dress diving equipment, to travel from around the country to attend the themed Diving Day's organised by former New South Wales Police Diver Phil McGowen – the 'Hard Hat' diving days allow enthusiasts and dive helmet collectors an opportunity to better appreciate the technology of diving's golden age. Usually named after the manufacturer, or country of origin, of the main helmets to be dived, (as in the 'Siebe Gorman Helmet Dive Day', the, 'American Mark V Diving Day', the 'Australian Robison Dive Day') each event features a variety of the copper, brass and bronze helmets that, between them, represent great moments in diving history. Lovingly restored to working order - and retro-fitted with a modern communications system that allows speedy and intelligible conversation between the diver and the surface support team - a majority of the helmets are far, far older than the most mature of those divers taking an environmental journey back in time.

Held at Clifton Gardens, on Chowder Bay - one of Sydney Harbour's more-scenic beauty spots - the jetty and its landing stage, where a former ferry service disgorged and took on passengers, has proven the perfect location for each of the themed diving days. The gently sloping sea-floor towards, and just beyond, the end of the jetty offers a reasonable depth of water between, say, 7m-12m, while the landing stage itself is the perfect platform for attaching the custom-built diving ladder. Designed and built by one of the diving members, Stephen Roe, the ladder's rungs have a narrower distance between them than is usual. This allows a diver wearing heavily weighted boots to effortlessly descend

David Strike gets to grips with the 'Simplex' Mk1 SWD helmet on a themed Diving Day at Clifton Gardens in Chowder Bay, Sydney

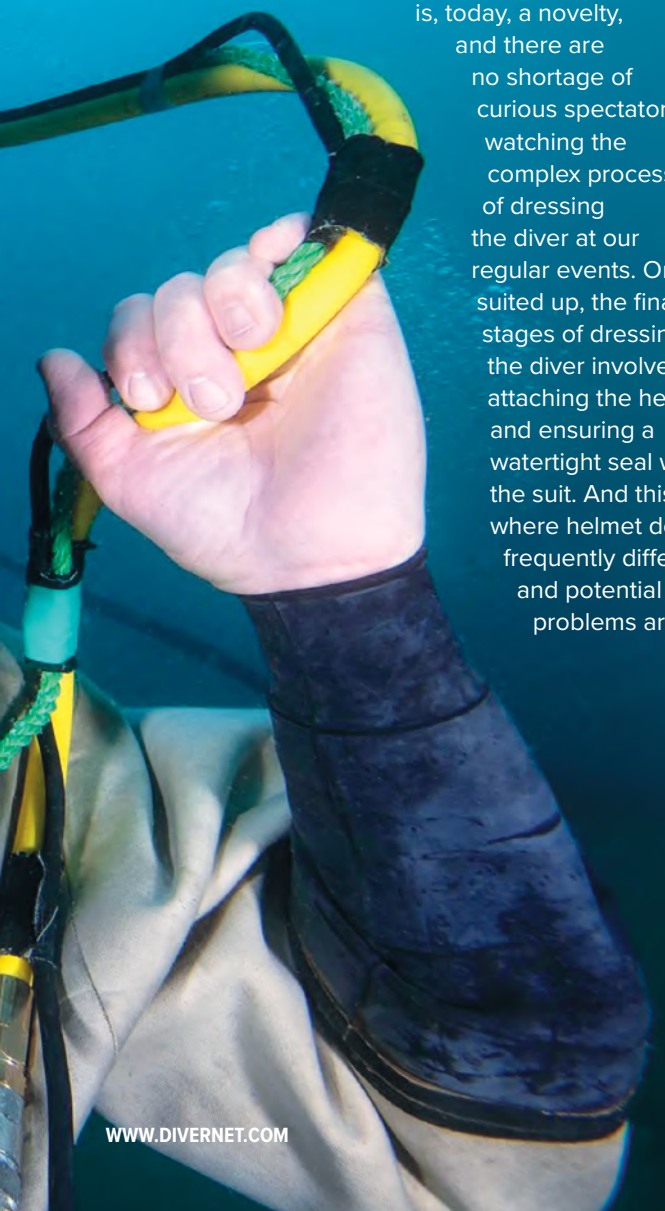
Photographs by Lisa Delpeoples & Tricia Roe

SOME LIKE *it hot*

and, even more importantly, to easily ascend the ladder at the end of a dive. A feat that, for a working diver wearing standard dress with helmet, corselet, breast and back-weights, heavy weighted boots and a thick canvas-twill-and-rubber-cuffed suit weighing in total around 82kg-plus, would have been no mean task after spending several hours at depth, in usually cold and murky waters, carrying out a heavy-duty assignment.

In today's world, the sight of wet- or drysuit-clad scuba divers gearing up for a dive at popular shore-diving locations has become commonplace. In that regard, little would appear to have changed in the past 100 years since the author of 'The Wonders Of Salvage', wrote: "So commonplace is the diving dress that it no longer excites curiosity. Yet it remains one of the wonders of modern civilisation...".

But what might have once been considered commonplace is, today, a novelty, and there are no shortage of curious spectators watching the complex process of dressing the diver at our regular events. Once suited up, the final stages of dressing the diver involves attaching the helmet and ensuring a watertight seal with the suit. And this is where helmet designs frequently differ... and potential problems arise.



David heading off on the dive

Makers plate

The helmet consists of two main parts, the bonnet – enclosing the diver's head – and the corselet, or breastplate, that sits on the diver's padded shoulders and to which the bonnet is then attached. Depending on the manufacturer, the corselet features a series of threaded bolts that correspond to holes in the heavy-duty rubber neck of the suit. With the suit and the breastplate securely clamped together, and the bonnet locked into place, the entire unit is, theoretically, watertight.

It then only remains to provide the diver with sufficient air to support life and prevent increased water pressure from crushing the suit. This is accomplished by a surface-supplied hose through which air, maintained at a pressure above that of the surrounding water, was once pumped down by hand but which, at today's events, are managed by a control panel and plugged-in air cylinders, whose pressure gauges are monitored by the supervisor and surface support team.

The whole dressing process, even though sounding remarkably simple, is time consuming and occasionally fraught with problems when a suit designed to be used with a traditional 12-bolt helmet, is matched with a helmet having just six-bolts; a design favoured by the British Admiralty to speed up the dressing process, but one treated with suspicion by old-school commercial divers who frequently complained that the only reason that the six-bolt helmet had been adopted so readily by the Navy was that sailors had to use both hands to count to ten, and were incapable of counting to 12 without first removing a shoe and sock.

Commenting as a former Royal Navy rating, there may have been an element of truth in the claims of those commercial divers favouring the 12-bolt helmet. However, even the dressing procedure using a six-bolt helmet took time, especially when the only requirement was for a quick 'look-and-see' task in shallow water depths.

This was something better accomplished by use of the 'Shallow Water Diving Helmet'; essentially a simpler, negatively-buoyant version of the better-known standard dress diving helmet, consisting of a single surface-supplied unit that sits directly onto the diver's shoulders.

Seldom considered by actual commercial divers as a valid piece of equipment, in particular the fact that should the wearer bend over to more easily recover an object from the sea floor, the helmet - open at its base where it perches on the diver's shoulders - would quickly flood with water and, conceivably, drown the user, the Shallow Water Diving Helmet is still enormous fun to use.

The Simplex shallow water diving helmet

Diver in standard dress

A keen collector of diving helmets and artifacts – and unable to find an actual Shallow Water Diving Helmet - HDS member, Stephen Roe's engineering skills prompted him to design and build his own. Having an old hot water heater whose basic shape lent itself to helmet design, he added a large viewing face-plate, an internal comms system, and a 'belly-valve' controlled surface supplied air system.

No longer measuring up to the fitness demands of diving (as nominated in, David Masters, 1924 book,'The Wonders Of Salvage' when he wrote, "...deep diving is very arduous, and seldom are men found with the physique that will enable them to dive 100ft and over. The deep-sea diver must be trained like an athlete, perfectly sound in wind and limb and heart, and in tip-top physical condition.") I was privileged to be one of two - the other being talented underwater photographer, Lisa Delpeoples - Ocean Test Pilots for Steve's 'Shallow Water Diving Helmet' design.

With a nose-clip firmly in place (to help equalise the helmet's air pressure build-up on descent), I negotiated Steve's ladder – both going up and going down – trod the ocean floor, and viewed the ocean in a very different way to that of either a scuba diver, or a standard dressed diver. It was great fun. Not least for the fact that the helmet managed to successfully support meaningful life – mine. But it did seem to lack a certain something... an accepted name, perhaps?

While traditional diving helmets will usually proudly carry the manufacturers name on the breastplate, Steve's SWD Helmet remained anonymous. Until recently when – given its original provenance – Steve discovered a suitable name tag; a brass plate that once adorned an Australian electric hot-water heater, the 'Simplex'.

Now a regular feature of the Standard Dress Dive days, the 'Simplex SWD Helmet' is a reminder that, in so many respects, diving is still in its infancy when it comes to technology. ■

ABOFA

Aqaba Blue Ocean Future in Action

About the Event

ABOFA – Aqaba Blue: Ocean Future in Action 2026 is a comprehensive international exhibition & experience platform dedicated to Diving, Marine Technology, Water Sports & Adventure, Tourism & Ocean Lifestyle.

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The event brings together global brands, innovators, researchers, divers, investors, & marine professionals to connect, collaborate, showcase technology, conduct demonstrations, & engage in Themed Activities & B2C experiences.

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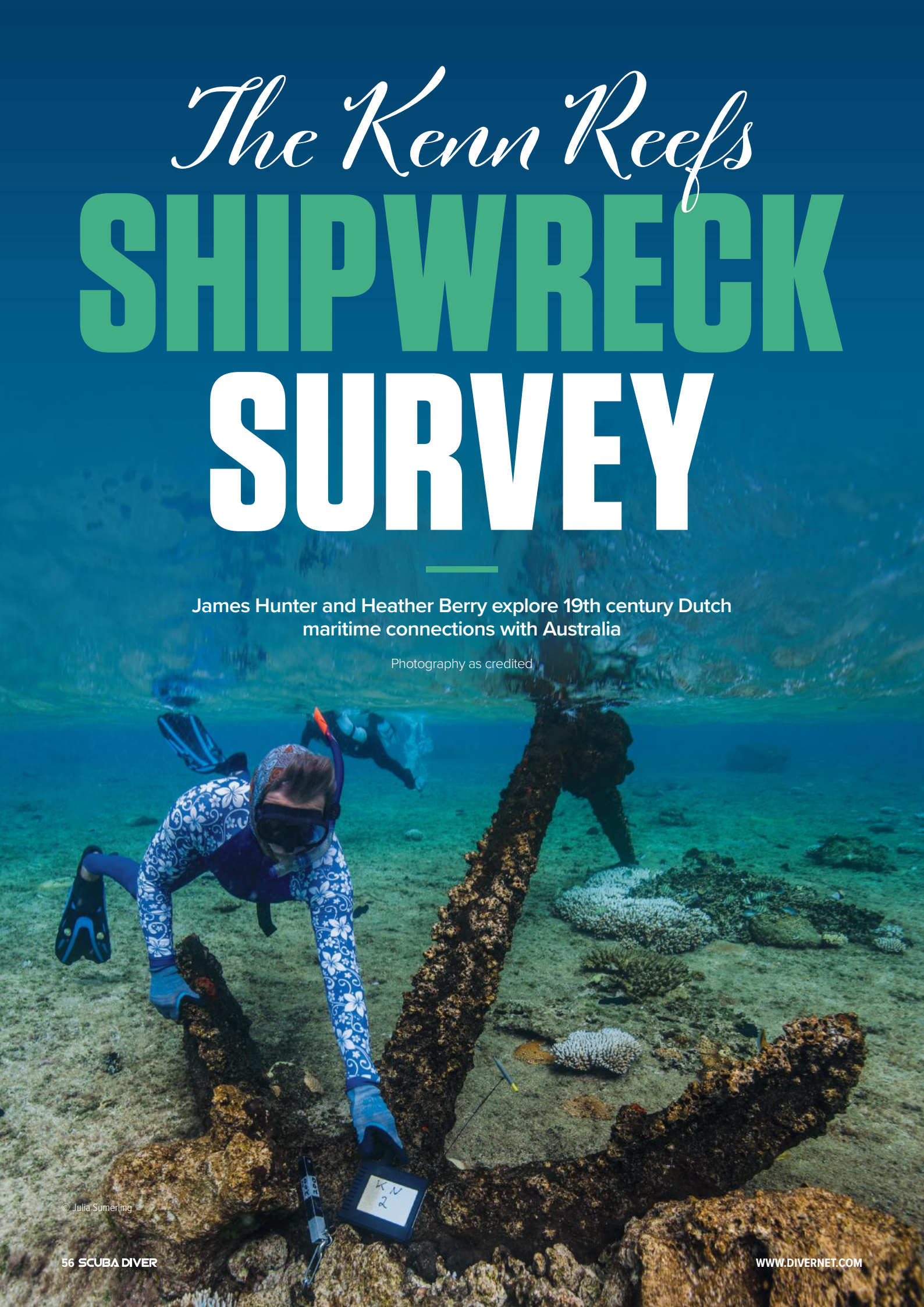
The Kenn Reefs SHIPWRECK SURVEY

James Hunter and Heather Berry explore 19th century Dutch maritime connections with Australia

Photography as credited



© Julia Sumerling

This 'picked in' anchor is also present at Hesther's wreck site but features palms more characteristic of the traditional Admiralty-pattern design
© Julia Sumerling/Silentworld Foundation

The other Delta cannon is located a short distance away also appears to be of 3- or 4-pounder calibre
© Julia Sumerling/Silentworld Foundation

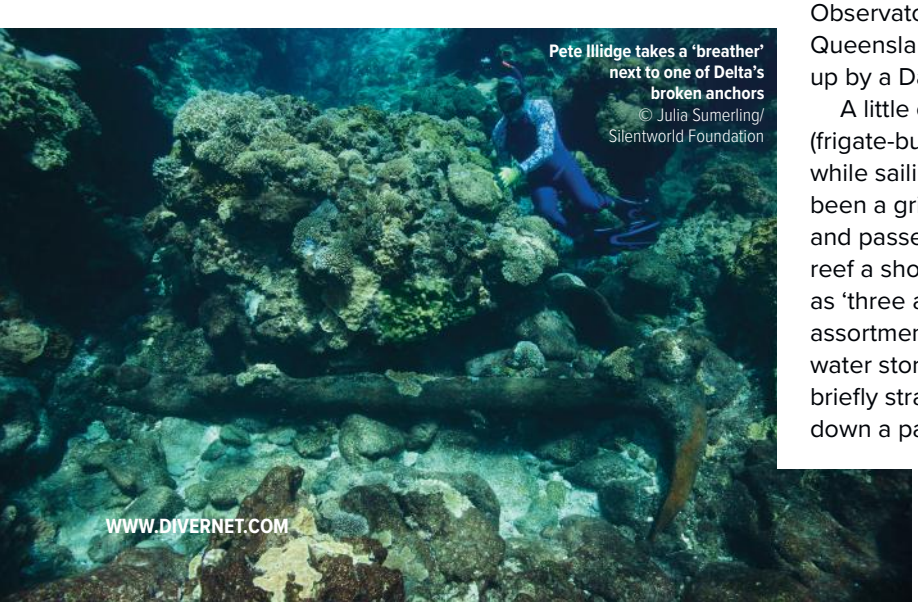
In January 2017, the Silentworld Foundation and Australian National Maritime Museum (ANMM) led an expedition to the Australian Coral Sea Territory to conduct an archaeological survey of historic shipwrecks lost at Kenn Reefs during the 19th century.

The Kenn Reefs expedition was a continuation of an ongoing collaborative project between ANMM and Silentworld Foundation that commenced in 2009 and led to the discovery that same year of the wreck of the colonial government schooner Mermaid (lost in 1829 on what is now known as Flora Reef). No less than eight vessels are known to have wrecked at Kenn Reefs between 1828 and 1884, and most grounded relatively close to one another on the largest of the southernmost reefs in the chain, as it was located within an oft-travelled shipping route that was poorly charted until the mid-19th century.

Kenn Reefs are located outside the extreme eastern edge of the Great Barrier Reef and comprise a large coral seamount reef system created by part of a submerged geological feature called the Kenn Plateau. The complex covers an area of approximately 40 square kilometres and consists of four main reefs that together have the appearance of a backwards capital letter 'L'. All known shipwrecks occurred on the reef that extends east-to-west and forms the bottom of the 'L'. Four sand cays are present at Kenn Reefs, three of which are at least partially exposed at high tide. Observatory Cay is the only named cay and the second largest of the group. It also features the highest point above sea level in the entire reef complex, which made it the locale where shipwreck survivors sought shelter.

Of the eight recorded vessel losses at Kenn Reefs, six occurred during the 1850s, and of that number four were Dutch merchant ships. When people associate Dutch shipwrecks with Australia, most think of 17th- and 18th-century vessels lost on the coast of what is now Western Australia while transiting between the Netherlands and the former Dutch East Indies (modern-day Indonesia). The association is warranted, given wrecked Dutch vessels from Australia's pre-colonial period have been the subject of extensive historical and archaeological study.

Lesser known is the Dutch maritime presence in Australia during the 19th century. By the 1850s, the Dutch were again traversing Australian waters, this time aboard merchant ships carrying goods and passengers directly to and from the continent. Most of these voyages were between Sydney and Amsterdam by way of Batavia (modern-day Jakarta). During the 19th century, several Dutch ships were lost among the labyrinth of shoals and coral outcrops that make up the Great Barrier Reef and Australian Coral Sea Territory, with the majority meeting their end at Kenn Reefs.



Pete Illidge takes a 'breather' next to one of Delta's broken anchors
© Julia Sumerling/ Silentworld Foundation

Kenn Reefs' first Dutch victims were Hesther and Doelwijk. Hesther was a wooden-hulled ship of 856 tons built at Amsterdam in 1833. It was on a return voyage from Sydney to the Netherlands (via Batavia) while under the command of Captain Viëtor. Doelwijk was a wooden-hulled barque of 721 tons and under the command of Captain Zeeman at the time of its loss. Doelwijk embarked from Sydney on the return voyage to Batavia at the same time as Hesther; consequently, both vessels were travelling in convoy with one another when they struck Kenn Reefs at almost the exact same moment on the night of 21 April 1854. Incredibly, the crews of both vessels survived - those aboard Hesther took to the boats and scrambled ashore at Observatory Cay before eventually making their way to the Queensland coast, while Doelwijk's survivors were picked up by a Danish brig and brought to Batavia.

A little over a month later, the 902-ton Dutch fregatschip (frigate-built merchant ship) Delta grounded on Kenn Reefs while sailing from Melbourne to Batavia. In what must have been a grim realisation of their predicament, Delta's crew and passengers noted that a shipwreck was spotted on the reef a short distance from their own wrecked vessel, as well as 'three almost already completely rotten wrecks', and an assortment of ship's fittings, including anchors, chains, and water storage tanks strewn across the reef top. Although briefly stranded on Observatory Cay, they were able to flag down a passing British ship and were rescued.

The last Dutch vessel to fall victim to Kenn Reefs was the 607-ton barque Olivier van Noord. Under the command of Jacob Timmermans, it was sailing from Sydney to India when it fell into company with three northbound British ships. Timmermans joined the convoy with the belief the British captains were more familiar with the route and would guide Olivier van Noord safely through Torres Strait. His gambit proved illusory, as both his vessel and the British ship Rodney slammed into Kenn Reefs and were wrecked on the night of 7 June 1858. In a fortunate twist, the crews of the other two British ships, Northumbrian and Sea Park, took evasive action and just scraped by the reef. They then rescued the crews of the stricken vessels and safely transported Olivier van Noord's officers and men to the Dutch East Indies.

When the sites of these wrecked vessels were investigated nearly 160 years later, time and tide had reduced their once-impressive hulls to discrete scatters of large, robust iron artefacts such as anchors, anchor chain, deck winch components, iron frames and hawsepipes (iron pipes in the bow of a vessel through which anchor cables passed). Most of this material was found on the reef top or in nearshore shallows, although some smaller artefacts - such as clusters of copper-alloy ship's fasteners and other hardware - were found in deeper 'gutters' created by the reef's natural spur-and-groove formation. At least one iron mast section from Olivier van Noord - the only vessel lost at Kenn Reefs known to have been fitted with iron masts - was found in the shallow lagoon formed by the reefs that together comprise the corner of the 'L'.

The largest and most-visible of the reef top sites is that of Hesther, which is characterised by three Admiralty-pattern anchors approximately three metres in length - one of which has its iron stock installed and a fluke 'picked in'. In addition to the anchors, the site features a 20-metre length of stud-link chain attached to a hawsepipe, an iron anchor stock, iron frames, scattered deck winch components, and several large unidentified corroded iron objects. Two of Hesther's anchors also feature 'Dutch Palms', which are leaf-shaped palms (or flukes) that lack the 'bill' or protrusion that extends from the fluke tips of practically all Admiralty-pattern anchors. Dutch Palms are mentioned in 19th-century naval treatises and were typical of Dutch-designed and manufactured anchors of the period.

Dutch Palms also feature on another large anchor found on the shipwreck site of Delta, which is located about 100 metres east of Hesther's wreck site. The anchor was among observed artefacts and hull remains associated with Delta found in nearshore shallows and two parallel gullies. The palm and part of the arm of the anchor with the Dutch Palm had been snapped off, while another anchor located nearby was missing its entire lower section (including the crown, both arms and both palms), attesting to the catastrophic forces associated with Delta's wrecking event. Two iron cannons were found nearby in a shallower section of reef. Both were relatively small (3- or 4-pounder) muzzle-loading long guns, one of which appeared to retain its tampion, the wooden plug placed in the muzzle to prevent seawater and sea spray entering the bore and causing internal corrosion.

In addition to the anchors and cannons, Delta's wreck site features copper-alloy pintles and gudgeons with dimensions indicative of its substantial tonnage. One pintle measured nearly two metres in length and was one of several identical large metal

On the night of 21 April 1854, the barque Doelwijk became the first Dutch vessel wrecked at Kenn Reefs. This painting by Jacob Spin shows it at Rotterdam in 1853

Delta's bell, as found on the seabed
© Julia Sumerling/ Silentworld Foundation

Following recovery, conservation and analysis, Delta's bell was put on display at the Silentworld Museum in Sydney
© Heather Berry/Silentworld Foundation

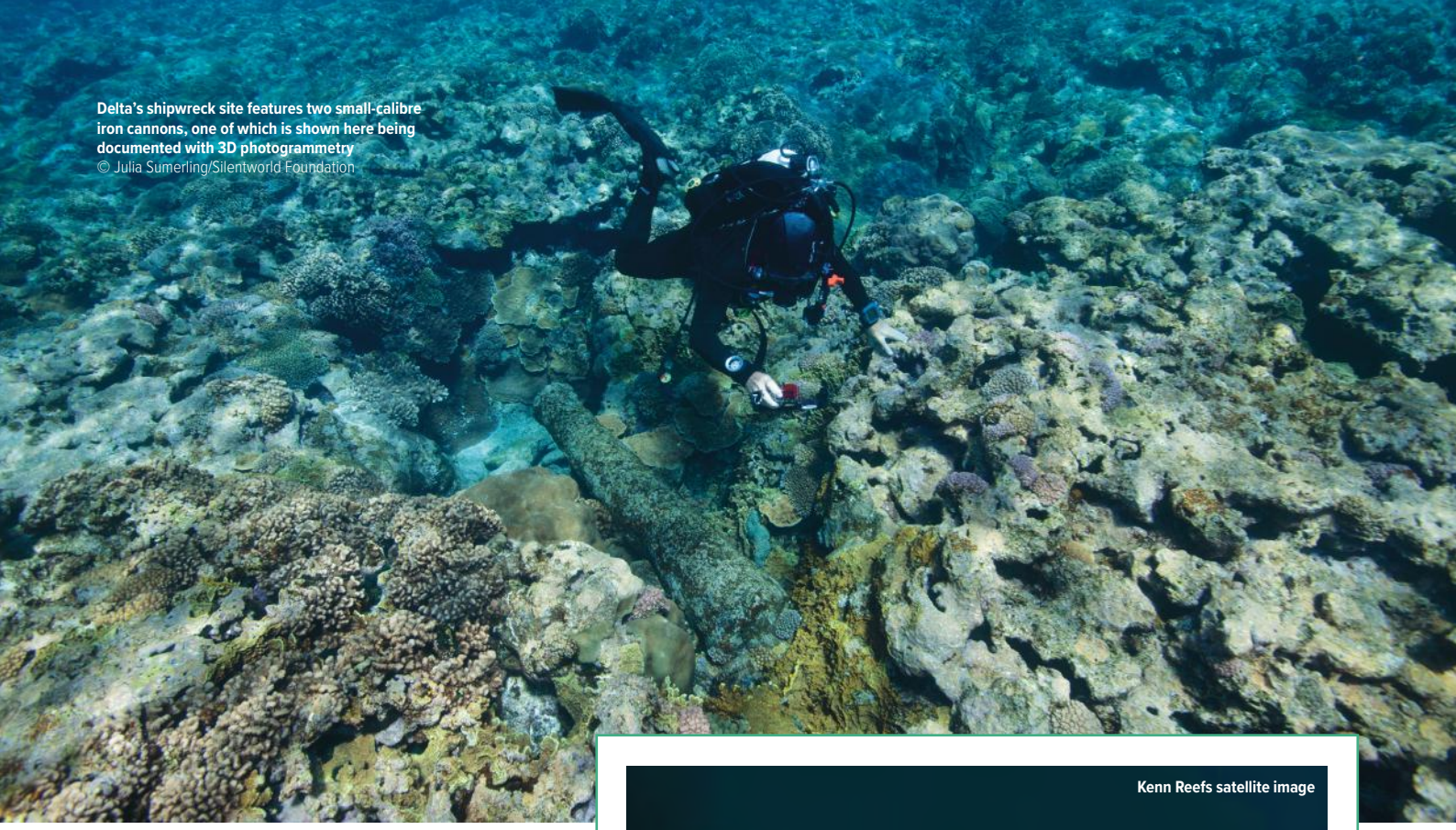
> "Conservation of maritime archaeological artefacts is difficult, owing to an abundance of three requirements necessary for metals corrosion: water, an electrolyte, and oxygen"

brackets attached to Delta's rudder. It featured a vertical pin at one end that was inserted into the socket of a corresponding bracket attached to the ship's stern called a gudgeon. Together, pintles and gudgeons formed a hinge upon which the rudder rotated from side to side. A short distance away from the pintles and gudgeons was a copper-alloy ship's bell, found lying on its side with approximately one-half of its circumference exposed among chunks of broken limestone and coral rubble. A series of embossed concentric lines were cast around its top and base, but a name, date, and other identifying marks were not present. However, there is little doubt it was Delta's bell, given it was found in direct association with the shipwreck's other artefacts. Following consultation with the Commonwealth's Underwater Cultural Heritage Programme, the team was granted permission to recover the bell for further analysis, conservation and eventual display.

Conservation of maritime archaeological artefacts is difficult, owing to an abundance of three requirements necessary for metals corrosion: water, an electrolyte, and oxygen. The maritime environment can paradoxically provide perfect conditions for either total loss, or near total preservation of, ship's timbers. Oxygenation, microbial activity, and marine animal activity (such as shipworm or gribble) can lead to total loss of timbers within a relatively short time. Conversely, shipwrecks that are immediately buried in fine silt can be preserved almost intact (as in the case of Vasa and Mary Rose), as they are deprived of oxygen, which results in lower microbial activity, and less predation from water-dwelling animals.

In the case of Delta's bell, it appeared to be in excellent condition when found. It was assessed as a valuable cultural heritage object that was also likely to be unlawfully removed due to its relative portability (it weighed 44kg). Consequently, ANMM and Silentworld Foundation were granted permission to safely recover and conserve the bell.

Once recovered, the bell was immediately submerged in a container of sea water, as keeping an artefact wet until proper conservation can be administered is crucial to a good outcome. Typical conservation of metals recovered from a marine environment involves slow desalination. Drying of artefacts found in the ocean without a monitored desalination process results in expansion of salt crystals, causing cracking, warping, flaking, and loss of surface



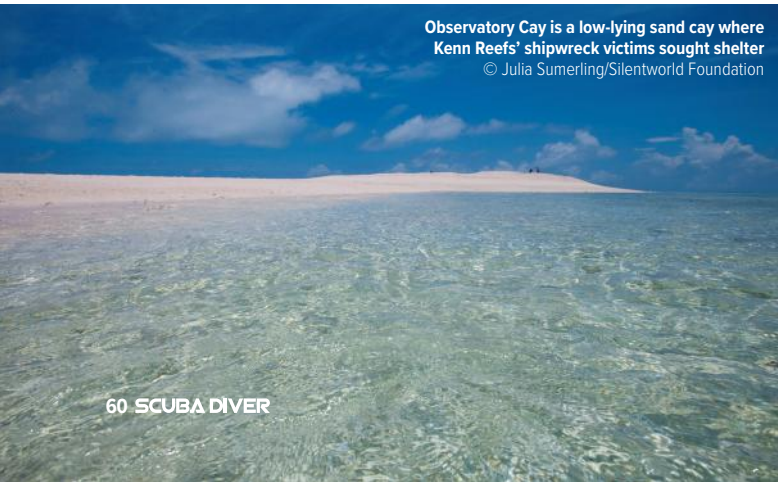
Delta's shipwreck site features two small-calibre iron cannons, one of which is shown here being documented with 3D photogrammetry

Kenn Reefs satellite image

details. For metallic objects in particular, damage is not limited to the drying-out period, and corrosion can continue for years and result in severe damage to their overall stability. Therefore, Delta's bell was appropriately desalinated by conservators and 3D imaged to ensure thorough documentation. Following conservation treatment, Silentworld Foundation arranged for neutron imaging of the bell at Australia's Nuclear Science and Technology Organisation (ANSTO).

It was hoped this technique might generate clearer imagery of structures inside the bell and provide further information about its provenance and techniques used in its manufacture. Unfortunately, thick encrustation of passivated corrosion product (ironically, ideal for long-term conservation outcomes) on the bell's exterior impeded the imaging technique, and little extra information was gathered from the analysis. While advanced imaging techniques can, and often do, reveal fascinating insights about objects, it is also important to document those instances in which archaeologists and conservators do not find helpful diagnostic markings etched into artefacts, or follow clues from advanced analysis and imaging techniques that lead to a specific manufacturer from a specific time period. However, responsible recovery of artefacts by archaeologists necessitates a well thought out conservation regimen, and a thorough investigation of materials as, of course, 'excavation without conservation is vandalism' (Pearson 1987). The result of this bell's recovery is an artefact professionally conserved, in excellent condition, and digitally available for further research. ■

NB: Recovery and conservation of artefacts from submerged underwater cultural heritage sites should only be undertaken by professional archaeologists and conservators, with appropriate permissions.



Observatory Cay is a low-lying sand cay where Kenn Reefs' shipwreck victims sought shelter

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Cave dwellers of PALAU

Palau is one of the most-amazing dive destinations in the world with its wonderful variety of dive sites and impressive marine life. Divers visiting Palau can explore World War Two shipwrecks, colourful reefs, imposing walls and a surprising number of ocean caves. These caves are particularly spectacular to explore, decorated by colourful corals and providing extraordinary vistas, and they are also home to some fascinating cave dwellers.

I have been fortunate to explore the brilliant dive sites of Palau on three dive trips, and with direct flights from Brisbane now available this amazing destination is very easy to reach on a six-hour flight. For my latest trip I was leading a group of underwater photographers, and Ocean Hunter III was the perfect vessel for our group.

Owned by Fish 'n' Fins, Ocean Hunter III is a 29-metre-long liveaboard that caters for 16 guests in eight spacious cabins with ensuites. The vessel has a camera set-up area, a roomy dining and lounge room, and a shaded sundeck with two spas. The dive deck is not large, but is uncluttered of dive gear, as this is kept on the chase boat that takes you to the dive sites. The crew are very professional, the dive guides excellent and the food is incredible.

On each visit to Palau I have been mesmerised by the nation's stunning caves, from the stalactites of Chandelier Cave to the majesty of Silas Tunnel to the mystery of the Blue Holes. On my first two trips I explored these incredible caves with a wide-angle lens on my camera, trying to capture the epic scale, magnificent corals and

Nigel Marsh heads underground to explore the relatively unknown cave systems of Palau

Photographs by Nigel Marsh
www.nigelmarshphotography.com

overwhelming grandeur of each cave. Unfortunately, doing these caves justice with a wide-angle lens is near impossible, so on my last trip I switched to a macro lens to concentrate on the smaller, unusual inhabitants of these caves that are easily overlooked.

Palau has amazing caves because of its limestone foundation. The porous limestone forms the mushroom shaped rock islands that Palau is famous for and the caves, caverns and blue holes that riddle the reef walls. These caves were formed by erosion thousands of years before the last ice ended and sea levels rose. On a week-long dive trip to Palau, you will generally dive two or three of these caves, however over a dozen can be explored.

Blue Holes was the first cave we explored on our most recent trip. This massive cavity is accessible from four small holes in the top of the reef in only 2m of water, before you descend into a huge chamber with two exits onto the reef wall. With a maximum depth of 30m and so much to see, you need to watch your bottom time.

The play of light in this cave is stunning, however with the macro lens on my camera I explored the many ▸

Did you know?

Chandelier Cave is a famous, shallow, five-chamber system near Koror with stunning stalactite formations, air pockets for surfacing, and, at times, shrimp and cardinal fish. It is popular with both beginners and experienced divers.


Electric fire clam


Paddlefin cardinalfish


Burgess butterflyfish


Banded pipefish

> On each visit to Palau I have been mesmerised by the nation's stunning caves, from the stalactites of Chandelier Cave to the majesty of Silas Tunnel to the mystery of the Blue Holes

ledges and cracks that cut the walls of this cave. I quickly spotted several small angelfish, including regal, Herald's and pearlscale angels. I also found numerous squirrelfish and soldierfish, basslets, rock cods and a group of four juvenile whitetip reef sharks resting under a ledge.

However, I was looking for more interesting and unusual subjects for my camera and was rewarded with a banded pipefish. These pretty pipefish like to hide under ledges or in caves and make for a wonderful camera subject. In another recess I found a flashing fileshell, also known as the disco clam, pulsing colours across its mantle. I also found several pretty nudibranchs as I slowly searched the nooks and crannies.

I then spotted a fish that I always love to see in these caves, a harlequin hind. A type of rock cod, these small fish have lovely blue stripes and are only found on oceanic reef walls with lots of hiding places. A shy fish, I only managed two quick photos before the fish darted into a recess.

The next day we explored lovely reef walls around Peleliu and looked for manta rays in German Channel, before a late afternoon dive at Turtle Cove. While Turtle Cove doesn't have any massive caves, there are numerous smaller caves that are always worth exploring. With the sun low, and the light very dim, it was almost like a twilight dive as we drifted from cave to cave. I found lots of reef fish, a giant moray eel, a slipper lobster and a group of hingebeak shrimps. However, the big find was a weird-looking fish deep in a recess.

This strange fish had an oversized head with large eyes and a transparent body. I took a few quick photos, before it disappeared to get away from my light. I then waited for it to reappear so I could get a better look at this bizarre fish. Dimming my light it finally reappeared, and I captured a few more photos before I moved on. It took me a while to get an ID on this fish, which looked like a cross between a cardinalfish and a jawfish, and finally discovered it was a glassy cardinalfish.

Virgin Blue Hole was our first dive the next morning and it was stunning. This L-shaped tunnel starts with an opening in the reef top and exits on the reef wall, with a maximum depth of 35m. Once again, I bypassed the magnificent view that captivated the other divers and explored the many crevices in the wall. I couldn't find anything unusual until I explored a dark side passage that I had previously ignored on other dives at this site.

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This side passage went more than 20 metres, narrowing the deeper I got in. I saw a few shrimps and then a strange group of cardinalfish captured my attention. They were rare paddlefin cardinalfish, an elongated member of this family with large round fins that I had always wanted to see. There was easily a dozen of them hovering in front of my camera, and curious of me, they were obviously not use to divers exploring this side passage.

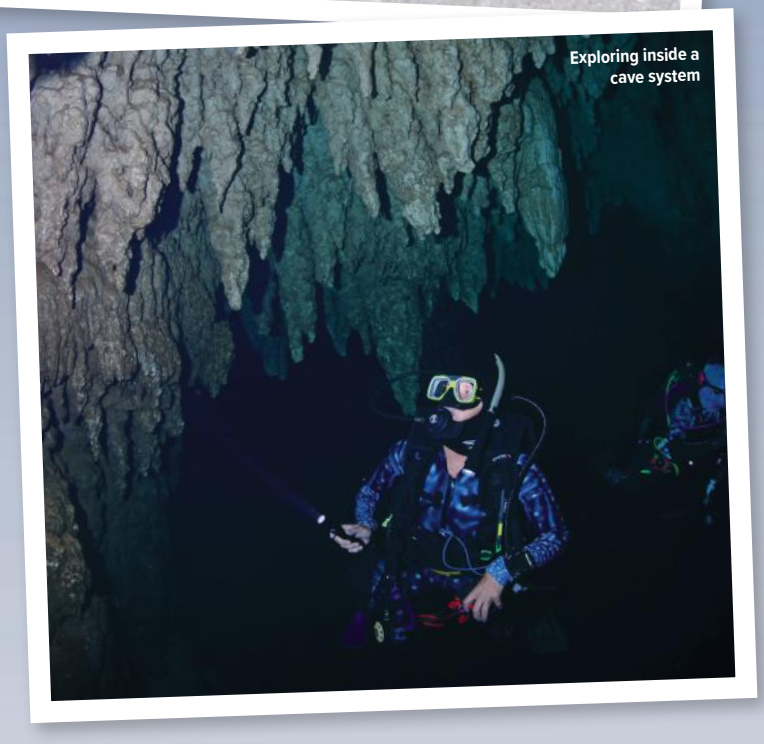
The next day we explored my favourite Palau cave, Siaes Tunnel. This epic cave is huge, with an opening at 27m and another at 15m. The sandy rubble bottom of this cave drops to over 40m, so watching your depth is very important. While the other divers pointed their cameras at a swirling school of bigeye trevally, I went straight to the rubble bottom to look for dart gobies and shrimp gobies. I quickly spotted flagtail shrimp gobies, purple dart gobies, red dart gobies and several nudibranchs. Unfortunately, the rare Helfrichi dart goby, that is sometimes found here, eluded me.

I then explored the recesses of the cave for other rare fishes I known are only found in this impressive cave. I spotted all the usual cave dwelling fishes, including a good variety of pygmy angelfish, with one special one milling among them, the Cocos-Keeling angelfish. This lovely small yellow and blue angelfish is only found in a few locations and is locally rare, so I was delighted to see three in the recesses of this cave.

However, that wasn't all, as I was also fortunate enough to spot an uncommon black and white butterflyfish. This small butterflyfish is rarely seen as it normally lives at depths below 40m. Fortunately, a number seem to like the dark waters in Siaes Tunnel, allowing me a chance to photograph this unusual butterflyfish as it flittered from recess to recess.

A trip to Palau is not complete without a dive in the incredible Chandelier Cave. While I am sure there are critters hidden in the darker recesses of this cave, this is one cave that I dive with a wide-angle lens on the camera to capture the impressive stalactites in the four cambers of this cavern. With air pockets in each chamber and stalactites poking into the water, this is diving experience unlike anything else in the world. All the unusual fish and invertebrates that dwell in Palau's spectacular caves make for a unique dive experience. ■


Whitetip reef shark


Exploring inside a cave system

Nigel Marsh Photography

Each year Nigel Marsh leads special photography group trips to dive destinations across the globe. On these trips Nigel is on hand to help improve your underwater photography and does regular talks on photography and marine life – visit his website for details.
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Ocean Hunter III

GEAR TEST EXTRA

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SUUNTO NAUTIC | SRP: $1,399

Mark Evans: Suunto were THE name in diving when it came to wristwatch-style computers back in the 2000/2010s, with pretty much any instructor worth their salt sporting a Stinger, D6i, D9 or DX (depending on the year), and their wrist-mounted and console-mounted units also gained a devoted following. But then a number of competitors came into the market strongly with well-specced full-colour wristwatch-style and wrist-mounted computers / smartwatches and stole a march on the Finnish powerhouse.

An attempt to get back into the market with the D5 full-colour wristwatch-style dive computer didn't make much of a splash, but Suunto finally hit a home run last year with the all-singing, all-dancing Ocean, which boasted an amazingly-bright AMOLED display, fantastic battery life, and more modes – both dive/water-related and topside – than you could shake a stick at.

Now Suunto are capitalising on this upward trajectory with the launch of two more dive computers, dedicated diving-only, well-priced units - the wristwatch-style Nautic S, and the larger wrist-mounted Nautic. We got the bigger Nautic on test first, and safe to say we were impressed.

Suunto enjoyed some market-penetration in the past with the EON Steel and the EON Core full-colour wrist-

mounted units, and the Nautic is set to go even further and put up a sporting fight against established competition from Shearwater in particular, as well as Garmin, Scubapro and Mares, among others.

The large 3.26” AMOLED display ensures excellent readability in all conditions – even at medium brightness, it was clearly visible to buddies who were several metres away in a rather-milky British quarry. It is certainly among the brightest and clearest displays I have seen on a dive computer, with incredibly sharp definition, and that screen – it is like having a mini-widescreen telly on your arm.

With it being long and thin, as opposed to a big square, it is far more streamlined and less-obtrusive than some of the larger competition when it is strapped on your forearm. The Panda glass is a durable high alumina silicon glass, but you get a screen protector as well – Suunto know how divers treat their equipment! Talking of straps, you have a variety of options when it comes to the Nautic.

You can either opt for a wide elasticated strap, a straightforward piece of bungee cord, or stick with the ▸

GEAR TEST EXTRA

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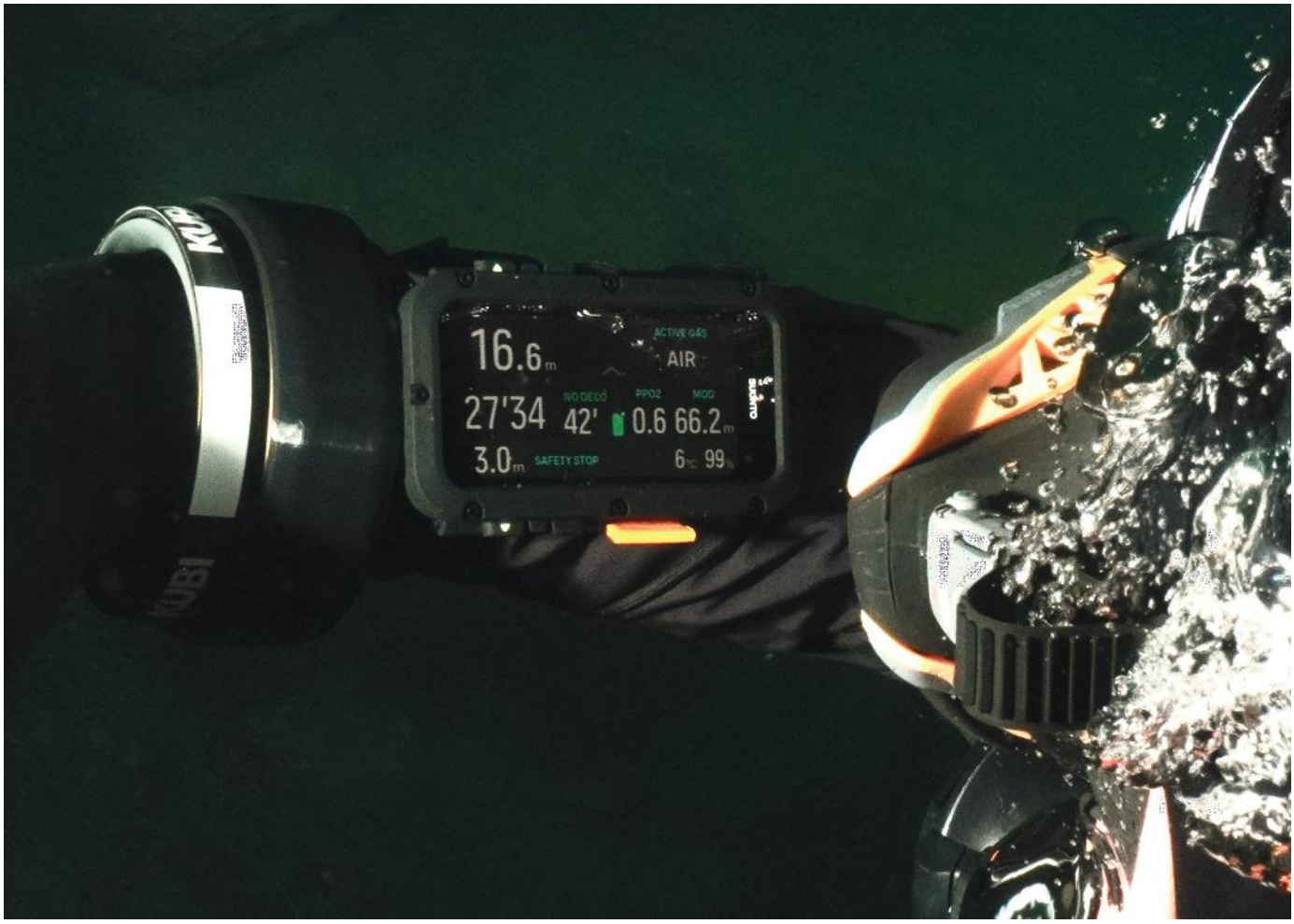
SUUNTO NAUTIC | SRP: $1,399

fitted option, which is a clever contraption that incorporates bungee cord and a piece of moulded plastic. There are bright orange tabs on the bungee on either side, and you pull on these, and then loop the bungee over the plastic clip. We found just doing one side made it nice and secure over a drysuited arm, but over a bare arm, or when wearing a wetsuit, you can do both sides to make it tighter.

Of course, you can further adjust it for fit by shortening/lengthening the bungee. It is efficient and easy to use even when wearing thick neoprene gloves or drygloves.

While on the subject of using the computer

when decked out in full cold-water exposure protection, the innovative button design means you can easily operate it even wearing thick neoprene gloves or drygloves. There are two buttons top and bottom of the fibre-reinforced polymide body, and when you get into the menus, it shows on the display what each button does, which is handy while you are getting used to it. Thankfully, like previous Suunto computers, the menuis very intuitive and after just a few minutes you will be navigating around like a pro. If you are one of those types who like to digest the instructions, fair play to you, but it passed my 'can I use it without reading the instructions' test with flying colours!



The Nautic, which is depth-rated to 200m, has a rechargeable battery, and the charging cable attaches securely with magnets. The lithium-ion battery has a phenomenal capacity, and can deliver up to a staggering 120 hours of dive time, meaning you wouldn't have to worry about charging it even on a dive-heavy liveaboard trip.

The computer has another neat addition – a built-in flashlight! This is actually quite bright, and while it is not something you are going to be using to find your way around on a dive, it was useful for when foraging around in the depths of your dive bag looking for an errant glove.

The Nautic is suitable for everyone from entry-level divers wanting an easy-to-use computer that does straightforward recreational diving, but will also grow with them as their experience and skill level develops, and more-advanced divers wanting a unit that can cope with multiple nitrox mixes and sidemount configurations.

With the tried-and-tested Bühlmann 16 GF (Gradient Factor) algorithm, it offers single- and multi-gas support, sidemount compatibility, a clear and easy-to-operate tilt-compensating digital compass, and customizable alarms and views for those who like to add a degree of personalisation to their dive computer.

The Nautic is also set up for air integration, and can display wireless tank pressure for up to five gases using Suunto's Tank Pods (available separately). In the sidemount setting, it can display both cylinder pressures simultaneously on the display, which provides peace of mind at a glance, as the colour-coded visual shows the level of gas left extremely clearly. The Suunto Nautic boasts a full decompression planner built into the device, which is the norm on something of this calibre, but it also has some more-unexpected features, such as outdoor tools like tide, weather, GPS, and offline maps, which means it has all of your dive planning needs pretty much covered.

The computer can be paired with the Suunto App, for underwater route and distance tracking, logging of equipment, buddies, and dive conditions, and other information. Coming in at a smidge under $1,400, it represents stunning value for money. It is supplied in a heavy-duty padded and zipped case, with the charging cable, screen protector, and the three strap options. Great to see Suunto getting back into the game with some strong units.

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