January / March 2024

# OZ DIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

## SAFETY STOPS

## THE CROWN OF THORNS

## NEW WORLD RECORD

## SOLOMON'S

## NORTH STRADBROKE

# BIMINI-BAHAMAS

January / March 2024 Edition

# Editor's Deco

And so, 2024 begins. What happened to last year? It flashed past our lives like a runaway train, and it was difficult to stop it. We only had time to jump off the train a couple of times, to dive, and then, before we knew it, we were back on the train again, chasing life.

Great, summer is back. But that does not mean that I will only start diving again now, because I do not stop diving over the winter months.

It simply means that I won't freeze to death when I emerge from the water now.

Remember to visit OZDiver's website and ensure that you download your free copy of some of my dive books that I have published, as all the hard copies are sold out.

I decided to provide a free digital version for my readers to download.

If you want to publish your articles or photos in OZDiver magazine, do not hesitate to contact me.

Editor in Chief & Publisher

**Johan Boshoff**

But seek first the kingdom of God and His righteousness and...


# OZ DIVER

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Johan Boshoff



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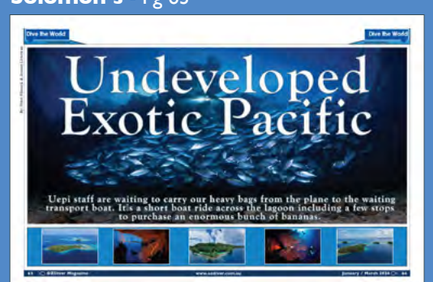


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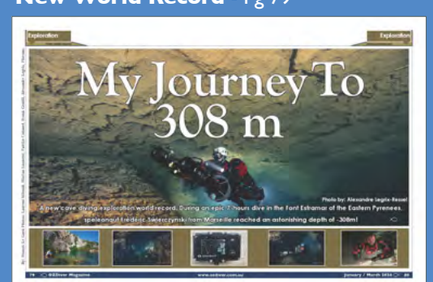



**Dampier Straits** - Pg 105


By: Trevor Howard

Trevor Howard works at a research and development company as an electronic engineer and scientific diver.

All jobs require sacrifices and Trevor's is no different, but in his business it can mean sacrificing your life.

A year ago, on a diving job, we needed to place high-tech measuring equipment in the water on a specific spot that would give us the most accurate results. The equipment is used to measure the reaction of certain objects' shapes in extreme weather conditions.

According to the weather info, that day was the last day before a storm would hit and we had to find the spot, get the large equipment in the water and strategically place them, all in one day.

Typically, Murphy had his say and the trip was delayed due to people forgetting equipment and the boat giving problems. Behind schedule, we eventually left Cape the harbour with one thing in mind: time was running out. We did a couple of bounce dives to determine the best place for the experiment, found one and at last the placing of equipment could start. Since a hectic storm was on its way, it was crucial to anchor the equipment to prevent it from being washed away.

The original plan was to use 1m-long steel rods, which experience has taught us will do the job. Four of the six divers had reach saturation levels, so it was left to Paul and I to finish the work.

Paul, a very experienced diver, was my dive instructor when I did my course four years ago. As a 26-year-old, reasonably experienced diver, I tended to get brave and cocky, thinking I am bulletproof. "Yes Paul, of course we are going to finish the job," was my famous, almost last, words.

The more experienced you get, the more risks you tend to take, and we split up at the end of the blob line, 25m down.

We each had his specific duty and set off in different directions. I was on a mission, hammering the rods into the sand at the main frame. That finished, the only thing left to do was to anchor another piece of equipment 20m away from the blob line. You are suppose to surface there, no matter what, if you don't want your head to be chopped off by passing Robin Island passenger boats.

On my way there I checked my pressure gauge, which indicated 60 bar. Usually, you start surfacing at 50 bar, but I was bulletproof, remember! At the spot I started hammering in steel rods again, not realising that I was breathing faster.

As I was smacking that last rod, something told me to check my air again. According to the gauge, I had run out of air! A million things went through my mind at 25m under water with no air left, but first I had to get back to the blob line and get air from Paul.

One thing that he had taught me was that in a jam you do not panic – if you panic, you die. As I got to the blob line, Paul was nowhere to be seen. With the DV still in my mouth,

I was screaming his name out loud. My last breath was taken with about another 22m to go before I could breathe again. That's a long way without air! Fortunately, a third of the way up, Paul appeared and gave me some air.

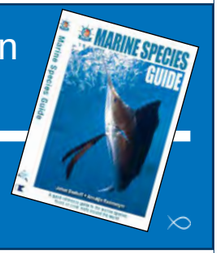
We buddy-breathed to the top and I lived to see another day. Thank God that Paul is an excellent diver and that sound travels far underwater.

I thought to myself afterwards that yes, work is important, but is it more important than my life? I realised that it isn't and that I'm not invincible.

I also learned that no matter how good you are, you are never stronger than Mother Nature.


**WIN** Send your letter to us and win a Marine Life Species Guide

Here is a chance to be heard! If you have anything that you would like to share with OZDiver Magazine and other divers, send an email to Log Book at info@ozdiver.com.au. Remember that letters have more impact when they are short and sweet. We have the right to edit and shorten letters. In every issue, the winning letter will receive a Marine Life Species Guide.



# OZ NEWS


IN CONJUCTION WITH

**OZTek ADEX**

## OZTek Advanced Diving Conference in combination with ADEX Australia

We are thrilled to announce the first fully recreational dive and travel show in Australia. The combination of two tried and trusted powerhouse shows have come together to create a show like no other seen in Australia.

March 15/16, 2025 will see the inaugural ADEX Australia recreational dive and travel show in combination with OZTek Advanced Diving Conference.

To be held at the Sydney International Convention and Exhibition Centre, Darling Harbour, Hall 2, on March 15/16, 2025 on the foreshore of Sydney City.

ADEX Australia - an established and trusted show will open its doors to welcome divers, non-divers, students and families, with its specially curated programmes and festivities designed to entice more and more people to take an interest in our oceans.

At the same time the show, in combo with OZTek will continue to serve as an invigorating platform for the diving community - giving them a voice and providing a space they can meet, foster relationships, exchange ideas and receive recognition for their achievements. ADEX celebrates 30 years in 2024.

COURTESY OF TIM DAVIS

OZTek Advanced Diving Conference will continue to focus on the latest developments in diving and the technology used by underwater explorers in their bid to unlock the ocean's secrets.

This amazing conference, celebrating 25 years, has become synonymous with diving excitement and adventure, featuring an international cast of speakers - each an acknowledged expert in their respective field of diving expertise.

Watch this space for more details
If you'd like to contact me directly, please do:
Email: Sue.Crowe@diveOZTek.com.au

# Protecting marine life in Jurien Bay

The beauty of Sandy Cape, located within the Jurien Bay Marine Park in Western Australia, just 220 km north of Perth, is undeniable.
The traditional owners and custodians of the land, the Noongar people, have occupied and managed this area for thousands of years and there are important cultural sites along the coast.

The waters around the area are home to the endangered Australian sea lion, our most beloved marine mammal as well as dolphins, and a diverse array of marine life and sea birds. Recognising the threat of marine plastic pollution to marine life, Sea Shepherd's Marine Debris team returned for the third year to clean up the beaches around Sandy Cape.

Our five volunteers spent three days scouring the beaches, removing more than 450kg of trash, which was counted, sorted, and logged into our database. This is vital data which is shared with local stakeholders and actively contributes to conservation efforts and raises awareness about the urgent need for action.

Sea Shepherd Marine Debris volunteers
While working, the team spotted a high-strength rope discarded by an industrial fishing vessel wrapped around rocks and buried by sand. The task to remove it began. Working against the rising tide, the team quickly began digging out the rope, realizing the implications the rope posed if reintroduced into the ocean. Eventually the rope was freed and the 50m - 120kg rope was hauled up the rocks and into the vehicle to return to camp.

Discarded fishing gear can result in migrating whales, resident sea lions and dolphins dying if they become entangled in the ghost gear. The crew were happy to be able to remove it and, with it, any possible danger to marine life.

Volunteers worked hard to remove the heavy fishing rope
Mike Dicks, a Sea Shepherd veteran crew member, has monitored sea lions around the waters of Perth and was part of the Jurien clean-up team.

"The Australian Sea lion is declining in numbers, and it is estimated that they are only 6500 left nationwide. The area around Jurien Bay plays a critical role in safeguarding the dwindling population as it is a vital habitat for breeding female sea lions and visiting males, and one of the few breeding place along the WA coastline. Given their endangered status and to protect these amazing creatures, the ocean and beaches in the area must be cleared of any rope and fishing gear to keep them safe. That's why we return each year to carry out this vital task. "

The clean-up effort highlighted discarded recreational fishing gear as the main pollutant found on the beaches. Included in the haul were a significant number of polystyrene fishing floats, broken-up bait boxes, cray and crab pots, lures, fishing line, bait bags and rope. In total, 450m of fishing rope was removed from the marine park's pristine coast.

Being a popular destination for boating and fishing it is imperative everyone is aware of how their actions directly affect the health and future of the marine park. It is disappointing that some fishermen who visit the area to enjoy this remarkable area are also responsible for trashing it and endangering the lives of local marine life.

"The Jurien Bay rangers gave us a warm welcome and a prime camping spot. We often lost count of how many kilometres of stunning coastline we walked along.
the beaches at Sandy Cape is so rewarding, knowing that you are further protecting animals such as the endangered Australian sea lion. "
It was a huge result for the ocean with 5,500 pieces of trash removed weighing over 450kgs.

Thank you to the local Rangers who stopped by daily to see the results and to the Shire of Dandaragan for supporting the Sea Shepherd crew for the third year. We will return next year to continue the vitally important work of keeping this special place safe and free of marine plastics.

We respectfully acknowledge the Noongar people who are the traditional Owners of the region and pay our respects to all Aboriginal elders and leaders past, present and emerging.


## *Dive Schools / Operators / Organisers / Instructors*

**Do you have any interesting, newsworthy info to share with the dive industry? If so, we would like to invite you to send us your OZ News section for possible inclusion in the magazine (please note that inclusion is FREE of charge).**

Here's what we need:
- Newsworthy stories (promotional material will not be accepted)
- Word limit: 100 words
- Text prepared in a Word document
- Accompanying high-resolution image(s) are welcome (please supply caption and image credit)

Please send to info@ozdiver.com.au

# Solomon Is. Diving


Solomon Is.

visitsolomons.com.sb

Dive the Continent
Dive OZ

By: Graham Willis

# Mantastic Mantas

## North Stradbroke

Another week…another road trip. This time up the East coast from Sydney, past Port Macquarie, Coffs Harbour and Brisbane as far as Stradbroke Island. We dropped in at Byron Bay on the way up, dived the ex-HMAS Brisbane out of Mooloolaba and on the way home dropped into Southwest Rocks to see if could spot the Hammerheads that hang around in November. The highlight of the trip was, without a doubt, North Stradbroke…Manta Bommie to be precise.





By: Graham Willis

Five of us (Me, Mathew, Kasia, Kamil and Adam with Barb wishing she had come) took the car ferry across to Stradbroke Island.

It leaves from Toondah Harbour in Cleveland (that's about 45 minutes East of Brisbane) and runs seven days a week. The trip itself takes around 45 minutes and the operation is well run.

Make sure you book your spot on the ferry, don't just turn up. Both our ferries out and back were 100% full. Most of us hadn't been to Straddie (it is Australia so the name must be shortened of course…I should have called Brisbane, Brissie!) and we were looking forward to it.

The island's original name, Minjerribah, reflects its indigenous roots, and the Quandamooka people have a rich oral history that recounts their ancestral ties to the island. In the early 19th century Stradbroke Island attracted European settlers.

The island became a hub for sand mining, providing a valuable resource for construction and development in Brisbane and beyond. With the advent of tourism in the 20th century, Stradbroke Island transformed into a popular holiday destination.

There was much more infrastructure there than I had assumed there would be. It is a popular spot with the mainlanders and the Café's, restaurants, stores, accommodation, and roads were a cut above what I had expected.

To give you some idea in 2022 the population was just over 2,200 people…living in just over 2,000 dwellings. It looks as though around 50% of the dwellings are occupied … that means at least 1,000 dwellings are holiday houses or places for let.

Somewhere north of 400,000 people per year visit Straddie, that averages over 7,000 extra people per weekend… much more in the holidays. The point is the infrastructure is good…but book ahead… it gets busy.

Anyway, we were now on Straddie and diving with Manta Lodge (not staying there although there is accommodation).

A couple of us had dived with them before but for the rest of us it was a new experience. All I can say is it is a very professionally run dive operation. They offer Nitrox as a standard and have a full testing station and process for testing your fill and recording the information.

There is a thorough pre-briefing about how you are going to get out to the dive site in preparation for a beach launch. Unlike some spots, Byron Bay Julian Rocks comes to mind, the boat is launched from the beach with you already in it.

No flopping about through the waves and ungainly entry into the boats. It's not an easy launch but our Skipper (Ian) did a first-rate job.

Likewise, the return to the beach is not straightforward but Ian had it nailed.

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By: Graham Willis

Again, you stay in the boat as it is driven back to the Dive Centre which is only 100 metres from the beach….so nice and easy.

Fair to say that James, who is all things to Manta Lodge, has a briefing style that will wake you up…we became closer doing some group stretches together!

It feels as though he starts the day with two energy drinks and a couple of double espressos…you could not accuse him of being low energy!

Santiago (no not from Santiago) was our guide and, with us being a pretty experienced group, he was very happy to let us roam. Sometimes we would see him patiently waiting, flashing his torch at us, just letting the photographers catch up.

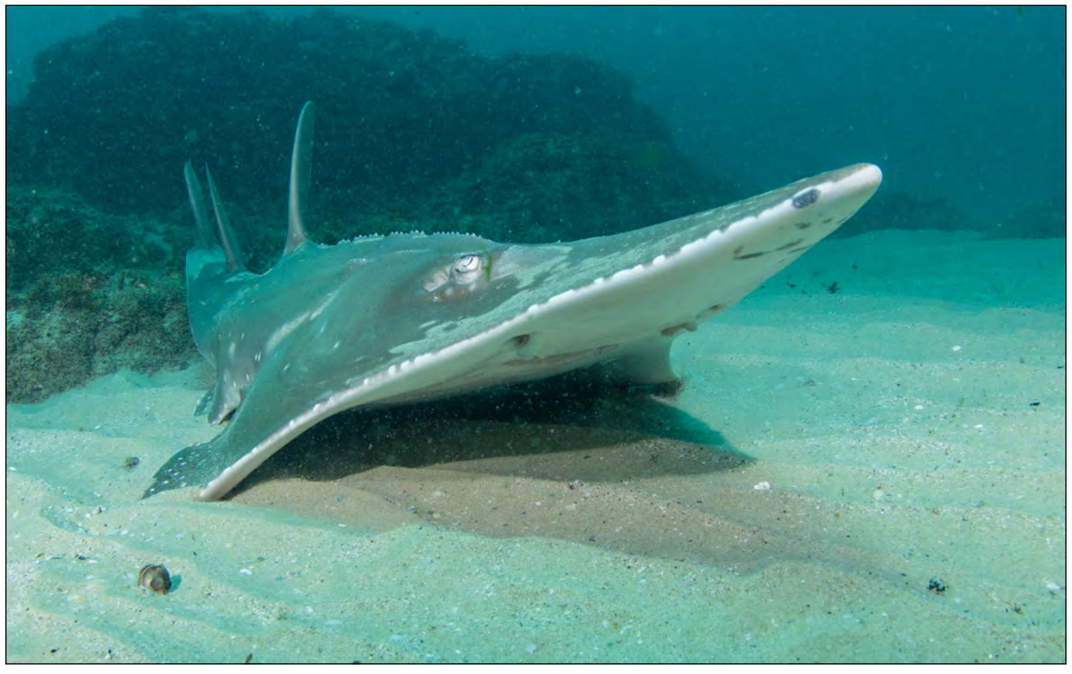
Santi got used to the fact that nobody was going to run low on air and that it would also be a little hard to hold us to the 50-minute dive time, including the safety stop. He was chilled and professional…rather like the rest of the operation.

Given average dive depth was in the 10-11 metre range and we were diving on 32% Nitrox surface the boat did not hold us to 60-minute surface intervals which was just sensible and meant less seasickness for some.

There are some different dive sites, but Flat Rock, Shag Rock and Manta Bommie seem to be the main picks. Ian tried to vary the dive sites but the weather and viz was against him… and besides we were having such good dives on Manta Bommie…we were happy to stay put.

The dive site at Manta Bommie can be a little 'currenty' and in some spots we did have to push a little across a couple of the channels, but overall, the depth of 6-16 m makes it good for beginners and you can always find a spot out of the current.

On one of the dives Ian moved the boat so that we ended up doing more



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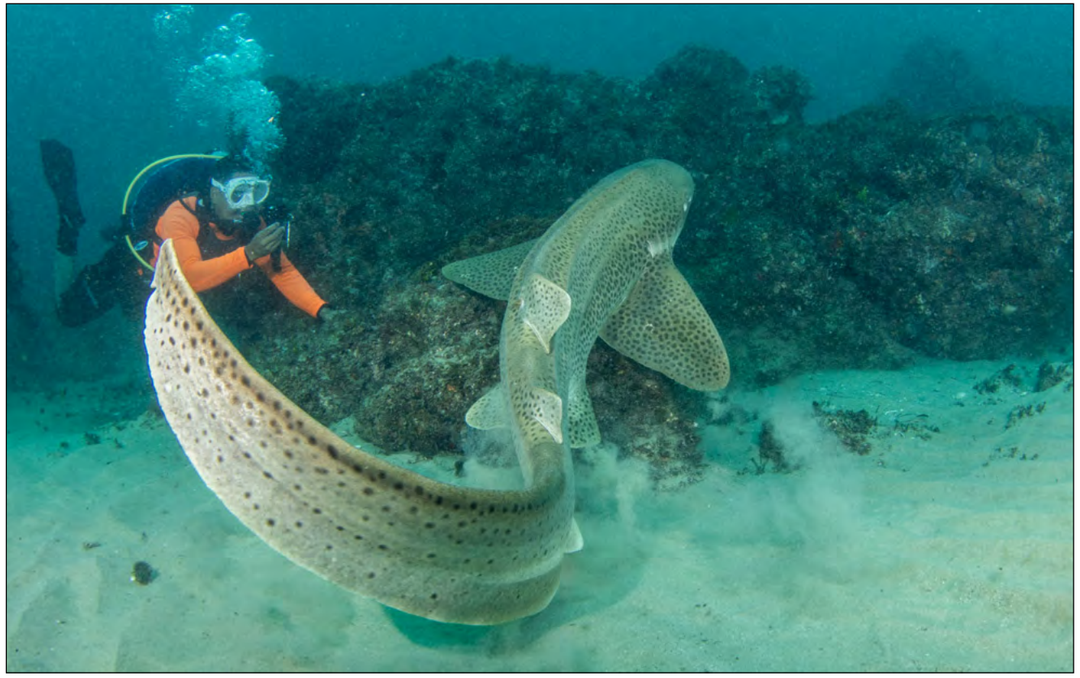


By: Graham Willis

By: Graham Willis

of a drift and not having to push into the current.

It turns out that Manta Bommie is a good name for this site! We had between 3 and 6 reef mantas on every dive and given we dived this in November the mantas had only recently started to arrive.

October through to April is Manta season and they are joined by the Leopard or Zebra Sharks as the Grey Nurse depart.

The Reef Mantas, or more properly Manta alfredi, are truly majestic animals that grace these bommies. These giants are a species of mobulid ray distinguished by their impressive wingspans, which can exceed 14 feet.

Their massive pectoral fins allow them to effortlessly glide through the water. Unlike their close relatives, the larger oceanic mantas, reef mantas are generally smaller in size, but both share an inquisitive nature and an ability for underwater aerobatics.

If you are sensible, you can get very close to the mantas. Lie on the bottom or wedge yourself into a rock and let them come to you.

Chasing them is guaranteed to make you tear through your air, resulting in them going somewhere else, where they are not being chased and annoying the rest of the divers…don't be that diver…even with a camera... there's no excuse.

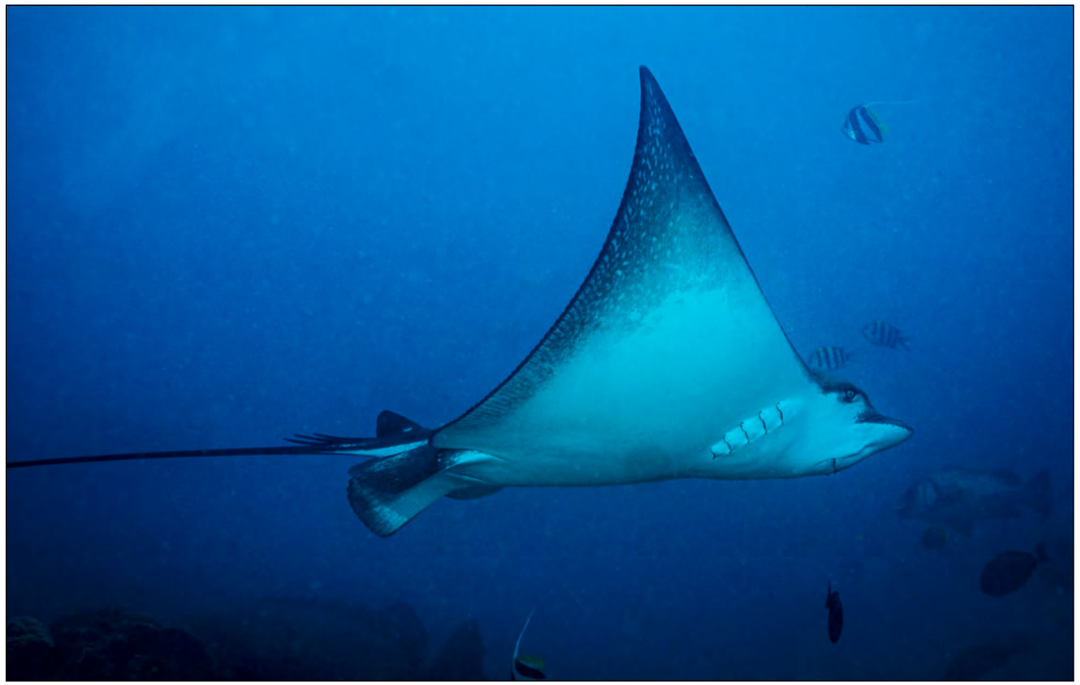
Just chill out, like the mantas seem to be doing, and wait for them to fill your mask or your camera's frame. One of the most iconic characteristics of reef mantas is their propensity for acrobatic displays, including somersaults and barrel rolls.

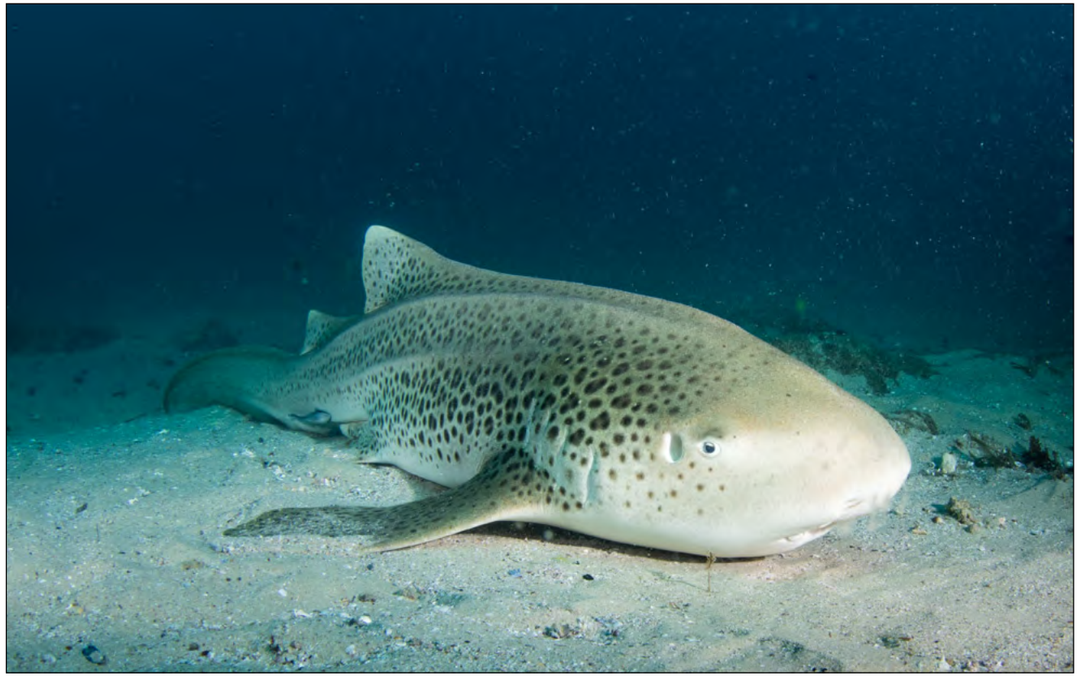
Quite often you get a train of mantas with three or four of them cruising along one behind each other and then peeling off like a well-practised aerobatic team.

The Mantas are often accompanied by their own entourage of Remoras.









By: Graham Willis

In fact, one of the Mantas seemed to have attracted a crowd of around 8 of them…which is probably a little annoying.

In case you are wondering this is a mutually beneficial arrangement. The Remoras help the Mantas get rid of parasites and loose flakes of skin and the Remoras pick up the odd scrap of food but also feast on Manta faeces… charming.

Despite their healthy presence in North Stradbroke, reef mantas face conservation challenges, including habitat degradation, entanglement in fishing gear, being caught in anti-shark nets and the impact of climate change on their food sources.

Witnessing these gentle giants in their natural habitat serves as a poignant reminder of the beauty and vulnerability of marine life and we should all come away from an encounter looking to protect this species and the environment they live in…or one day they will be gone.

In addition to the Mantas, which let's face it are the star of the show, there are the Leopard Sharks or Zebra Sharks. Leopard/Zebra sharks, scientifically Stegostoma fasciatum, are recognisable for their distinctive appearance.

Juvenile Leopard/Zebra sharks feature a striking pattern of dark stripes against a pale background, resembling the markings of a zebra—hence their name.

As these sharks mature, the stripes transform into a series of spots, and voila they are Leopard sharks.
The sharks are primarily nocturnal, exhibiting more active behaviour during the night when they hunt for small fish, crustaceans, and molluscs on the ocean floor.

Leopards are known for their docile nature and pose minimal threats to humans. Their calm demeanour and tendency to rest on the seabed during the day make them a good species to get close to. In case you are wondering their teeth are very small and very un-sharklike. Another supporting act was that of the Shovelnose Guitarfish, or Rhinobatos productus. This unique fish gets its name from its guitar-shaped body and elongated snout, resembling the head of a shovel.

The Shovelnose Guitarfish belongs to the family Rhinobatidae, and its flattened body allows it to navigate sandy and muddy seabeds.

They grow to over 2 metres in length and come in a range of colours from olive-brown to grey, providing effective camouflage in its sandy habitat.

Its ventral side is typically lighter, aiding in its ability to blend seamlessly with the ocean floor.

The species is renowned for its distinctive pectoral fins, which are fused to its head, resembling the wings of a ray. This fish feeds primarily on small fish, crustaceans, and invertebrates using its specialised, flattened teeth to crush and consume its prey.

These guys could be a bit skittish which made them a little harder to get close to. They were invariably lying in a sandy channel, so they are tricky to creep up on.

I found my best chance of getting close was to line up with one up current and just drift, unmoving, towards it…that seemed to work ok.

The other hint I was given by skipper Ian was to approach at a metre above them in which case they seemed content to let you pass directly over them...that worked too.

The final supporting role was played by the large (in some cases very large) stingrays that were hanging around, sometimes on top of each other.
These were largely Smooth Rays and Cow Tail Rays but there were also some Patterned Whiprays as well.

I reckon the largest one we saw was at last 2 metres across…maybe it thought it was a Manta?

These rays are obviously used to divers because in most cases they just sat there, and you could get very close to them.

As a hint don't approach the rays head on but slowly from an angle and not looking directly at them.

They feel less threatened, and you can normally get close and lie on the bottom very close to them. If you see their tail arch up…back off…that's their friendly warning and a jab from one of those is going to ruin your day.

So those four were the main game but there were also Turtles (they didn't get much of a look in), Octopuses, Frog Fish, Eagle Rays, Morays, and a wealth of smaller stuff.

Trouble is when there is so much big stuff to have a look at, I tend not to be looking for the small stuff…however interesting it is.

So, there you have it a quick trip over a long weekend to Stradbroke Island. Four dives, all on the same dive site which I have to say is definitely in my top 10 dive sites in Australia …and for just one site, rather than an area, pretty close to a world top 10.

We will be coming back in winter to see the Grey Nurse and Humpbacks as well as hopefully a little better viz.

Oh I didn't even mention the Dolphins that accompanied us out to the dive site and back.

We could hear them underwater…but alas we did not see them. We also didn't get to see the Hammerheads at Southwest Rocks in case you were wondering…atrocious viz. Until next time then.

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Weird and Wonders
Marine Life Facts

By: Jill Holloway

# Nudibranch & Sea Slugs

**Sea slugs are molluscs that have been given the technical name of "Nudibranch". Nudus means naked in Latin and branchia meaning gills in Greek. When these two are combined, you are left with "naked gills", or Nudibranch.**

The gills of most marine animals are well protected and tucked away out of sight. This is not the case with nudibranch - they breathe through part of the exposed skin on their backs.

To increase this oxygen-absorbing surface area, some slugs have knobs, flaps or shaggy tentacle-like growths on the top of their bodies. Some species even have feathery gills growing in a ring around an opening along their back through which waste is expelled.

Some families of nudibranch are able to retract their gills into a pouch when threatened or disturbed. In other families, the gills are positioned in a groove between the mantle edge and the foot along the sides of the animal.

Some species have finger-like gills that project from the body and perform other functions besides respiration. On the head are two tentacles (rhinophores) that are used to taste and smell - these help the nudibranch to find food.

The sea slug walks around by using a flat, muscular foot in much the same way as a land slug does. However, the nudibranch can spread out its foot and use it to "swim" by undulating the muscle. Swimming along gracefully, one brightly coloured red and white species is called the Spanish Dancer, as it closely resembles a Spanish lady dancing and swirling her skirt.

Nudibranch are hermaphroditic - one animal acts as both male and female, making simultaneous fertilization possible. This self-fertilization means the animal are not forced to go out and locate a partner in order to reproduce. The reproduction organs are situated on the right side of the neck of the animal. When mating with another animal, the slugs line themselves up next to each other, facing opposite directions. The organs touch each other and sperm packets are exchanged.

Nudibranch store the sperm until it's time to fertilize the eggs. The eggs are most commonly laid in a spawn ribbon, but vary in shape, size and colour.

Sea slugs are carnivorous and devour animals that can't flee from them. Some nudibranch are known to eat sponges, which are avoided by other animals because of their sharp little spikes.

Soft corals, anemones and hydroids are also part of the diet of some nudibranch. Most nudibranch have a rasp-like tongue, called a radula, and a strong pair of jaws.

Tiny teeth found on the tongue are arranged in a unique pattern – this structure is one of the factors taken into consideration when identifying and classifying these animals.

Nudibranch that feed on hydroids and sea anemones have the curious ability to use the stinging cells of these creatures for their own defence. These cells are little capsules that house a barb inside and are sealed with a lid. This lid must receive both a mechanical and a chemical stimulus before it will spring open.

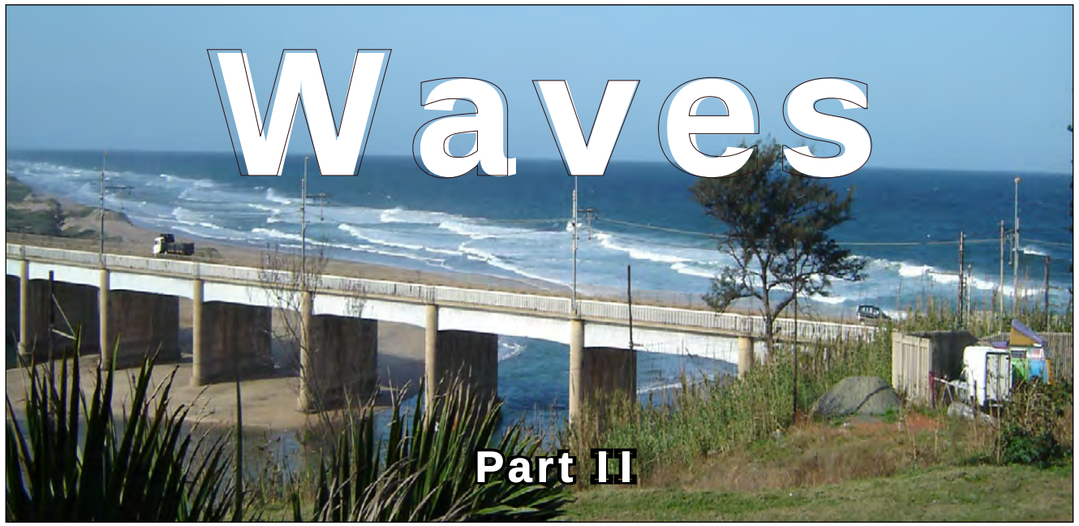
The barb then shoots out and injects poison into the victim. When eaten by a nudibranch, the stinging cells fail to discharge and do not sting the mouth or stomach of the nudibranch.

The slug's digestive juices do not even break them down. Instead, the stinging cells pass through the intestinal wall and migrate through the body to the nudibranch's skin.

If the nudibranch has knobs or flaps of skin to increase its breathing surface, the cells travel to the ends of these. Even more amazing is that these stinging cells orientate themselves so that their lids are facing outwards, ready to open and fire off into an attacker.

The nudibranch replaces old stinging cells with new ones every three to twelve days. Not all nudibranch use this type of defence though – some can discharge poison potent enough to kill fish.

By: Niel Swart



# Waves

## Part II

How does the water movement in a wave affect us as divers? The first point to note is that when waves move over the ocean it is not water that is travelling, but rather energy. Therefore as wave energy travels, new waves are constantly being created while the older waves disappear.

If you were to observe a group of waves generated in a pool or sink, and focused attention on an individual wave crest, you would see that as the crest moved further away from its source, it became slowly smaller and eventually disappeared. You would also be able to note that a new wave had been formed behind the crest which you observed to decay.

Thus the total number of waves in the 'group' remained the same, even though individual waves were constantly created and destroyed. The same is true of waves in the ocean. If groups of waves are then simply travelling forms of energy, what is the motion of water particles in individual waves?

The easiest way to visualise the water motion in a non-breaking wave is to imagine the motion of a cork floating in a pool when a wave passes by. As the crest approaches, the cork moves upwards and forwards to its highest point, after which the cork moves down and backwards to its lowest point in the trough. Essentially the cork has travelled in a circular orbit, and has hardly moved forward at all. This then confirms the idea that there is little net transport of water by waves.

The motion of the cork is the same as the motion of a water particle in the upper part of the wave. Waves decay rapidly with depth, and therefore deeper particles have smaller orbits. This fact means that on deeper dives, or on days when there are smaller waves, there may be no influence on divers at depth.

The actual depth to which a wave reaches is equal to half the wavelength of that wave. For example a wave with a 20 m wavelength will only be felt to a depth of 10 m, below which it will be undetectable. If a wave does reach to the bottom, the water particles there must move horizontally, since they cannot move up and down through the ground, and similarly at middle depths the orbits of the particles are elliptical.

The movement of water particles at different depths beneath a wave dictates how we as divers experience the force of that wave. Divers near the surface will experience both vertical and horizontal forces, as the water particles carry out their circular motion with the passing of a wave. While at your safety stop, large waves can therefore cause you to undergo large and unwanted vertical (and horizontal) movements. While at the bottom, the affect of the waves is felt only as a horizontal force, inducing forward-back motion, provided that the waves reach that depth.

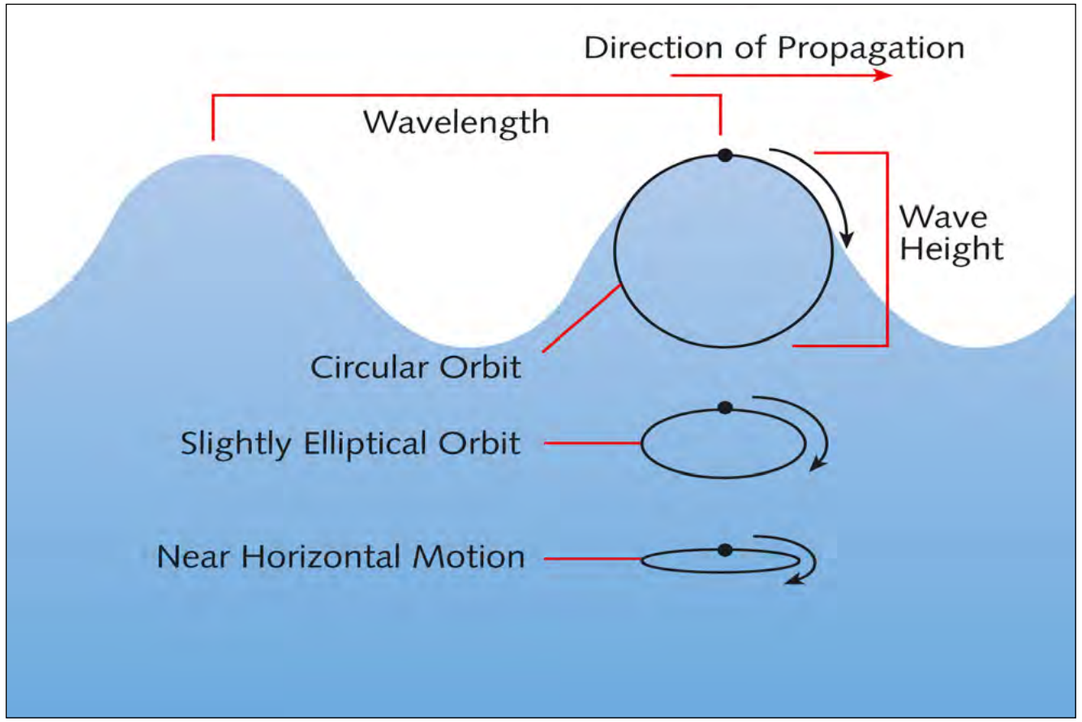
It should be noted that the above information applies to so called 'deep water waves', which are waves which cannot 'feel' the bottom (i.e. according to the relationship given above, if the water depth is greater than half a wavelength).

For example our wave with a 20 m wavelength will be a deep water wave at water depths greater than 10 m, however, as the wave approaches the coast and the water depth becomes less than 10 m the wave becomes a shallow water wave. When waves become shallow water waves and can feel the bottom they undergo dramatic changes.

Firstly the waves slow down, and their wavelength decreases. The fact that the waves can feel the bottom means that they are guided by the undersea topography, an effect called refraction. As the wave moves shoreward and decreases its wavelength, the height of the wave steadily increases.

This continues until the point where the water depth is approximately 1.3 times the wave height, at which point the wave becomes unstable and breaks. The instability occurs because at that point there is not enough water ahead of the wave to support the wave crest, and as a result it collapses.

When a wave undergoes its final act of breaking, it dissipates the energy that it gathered from the wind - possibly thousands of miles away.



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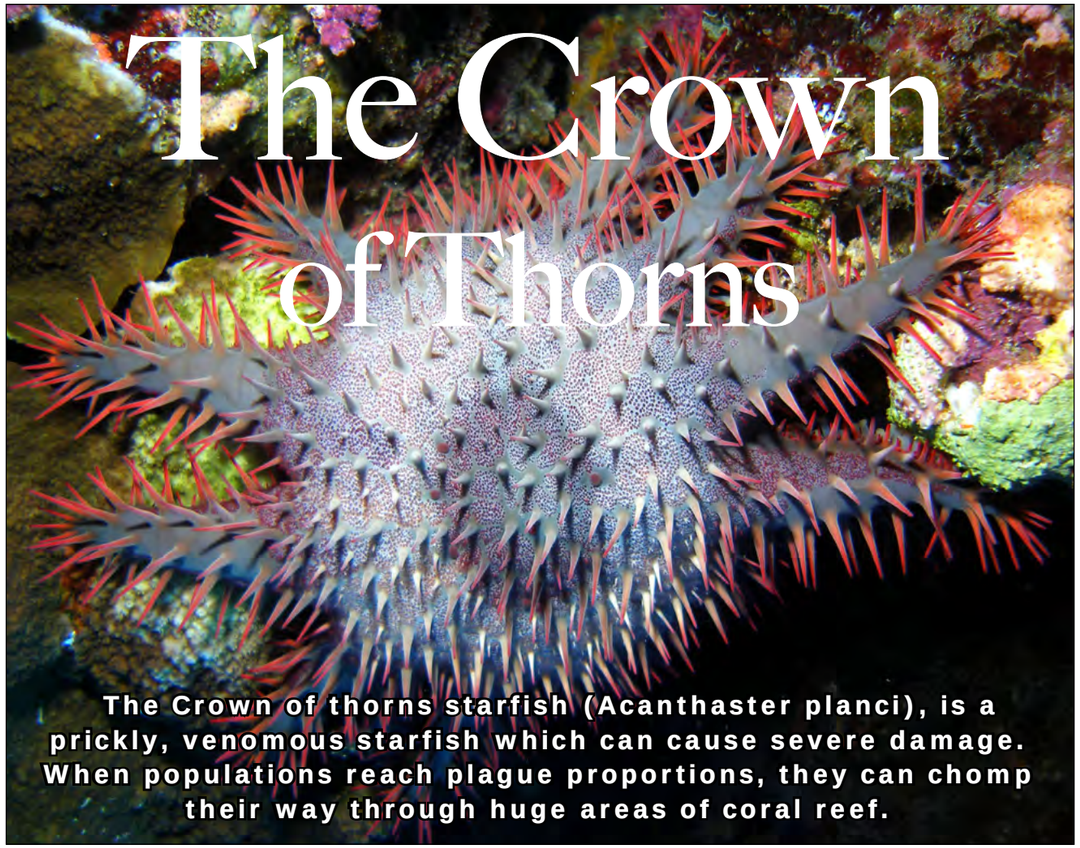
By: Hermien Roelvert

# The Crown of Thorns



**The Crown of thorns starfish (Acanthaster planci), is a prickly, venomous starfish which can cause severe damage. When populations reach plague proportions, they can chomp their way through huge areas of coral reef.**

**Statistics**
They are 25-40cm in diameter.

**Physical description**
The Crown of thorns starfish is covered in long, very sharp venomous spines measuring about 4-5cm. It has 12-19 arms. Their colour depends on where in the world the starfish dwells, but they are typically red.

**Distribution**
The Crown of thorns starfish can be found throughout the Pacific and Indian oceans.

**Habitat**
Although they sheltered areas such as lagoons and the deeper water along reef fronts, the Crown of thorns starfish can also be found in shallow waters on reefs where humans may come into accidental contact with them.

**Diet**
The Crown of thorns starfish feeds on coral polyps. It climbs onto the coral and then pushes its stomach out through its mouth so that it covers its prey. It then dissolves the polyps into a liquid with its digestive juices, and absorbs the result. One starfish can eat up to 20km² of coral per year.

**Behaviour**
These starfish are normally found on coral reefs either feeding or resting. They move from reef to reef along the sandy bottom of the sea. They are venomous, and this venom contains toxic compounds called saponins.

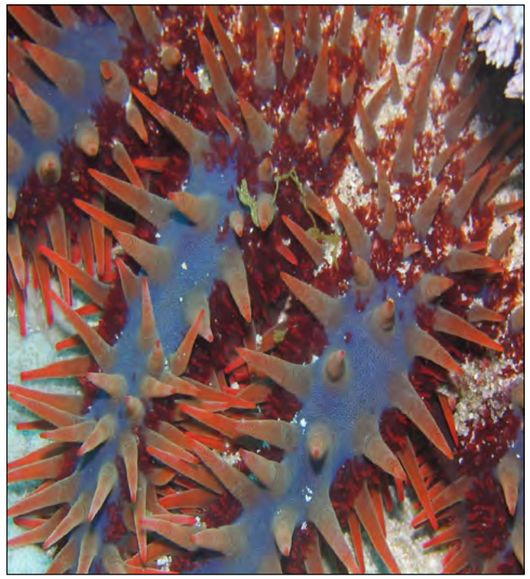
Weird and Wonders
Environmental Affairs

Contact with the starfish gives rise to intense pain and vomiting.

In 1963 populations of the starfish rapidly increased on Australia's coral reef. The cause was originally thought to be due to the starfish's main predator, the Pacific triton, being over-harvested by shell collectors.

Scientists and conservationists feared that the coral would be irreplaceably destroyed by the species, and a large scale attempt to destroy them began. This included removing the starfish from the water and injecting them with formaldehyde.

In the 1970s, research showed that the starfish had previously undergone similar population explosions, followed by a massive drop, suggesting that the explosion in the 60s was a natural part of the animal's cycle.



*"We are thrilled to be returning in a few months! The reef systems here are the most unspoiled we have seen in our travels around the world and the resort is paradise. We can't wait to see all our friends at Wakatobi." ~ Robert and Barbara Hay*

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# GLOBAL NEWS


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Dive the World
Global News

## DAN Announces USCG Approval of Its First Aid Courses

DURHAM, NC – October 10, 2023 – Divers Alert Network (DAN) has announced that its first aid courses have been recognized as approved training courses by the United States Coast Guard.
The current version of DAN's first aid and CPR courses, Version 3.0, was determined to meet or exceed the first aid and CPR training requirements for a merchant mariner credential.

Developed by dive medicine physicians and diving educators, DAN's courses provide divers with the skills and confidence needed to respond in emergencies. All courses meet current ILCOR and AHA guidelines and are applicable to everyday life as well as diving.

Earlier versions of DAN's courses were previously recognized by the Coast Guard, and the Version 3.0 courses were approved this summer following their launch a little over a year prior.

In addition to offering instruction in CPR and first aid, DAN courses cover emergency oxygen administration, AED use, neurological assessments, and first aid for hazardous marine life.

If you hold a certificate under the old version (V2.1), it is still valid for two years following the date of course completion. When you take your next course, you will train with the new materials.

If you are a DAN Instructor, Instructor Trainer, or Examiner and haven't yet completed the V3.0 upgrade, contact DAN Training at oxygen@dan.org to complete it by the end of this year. If you will be at DEMA Show, you can complete the upgrade there. Contact us in advance of the show to secure your spot.

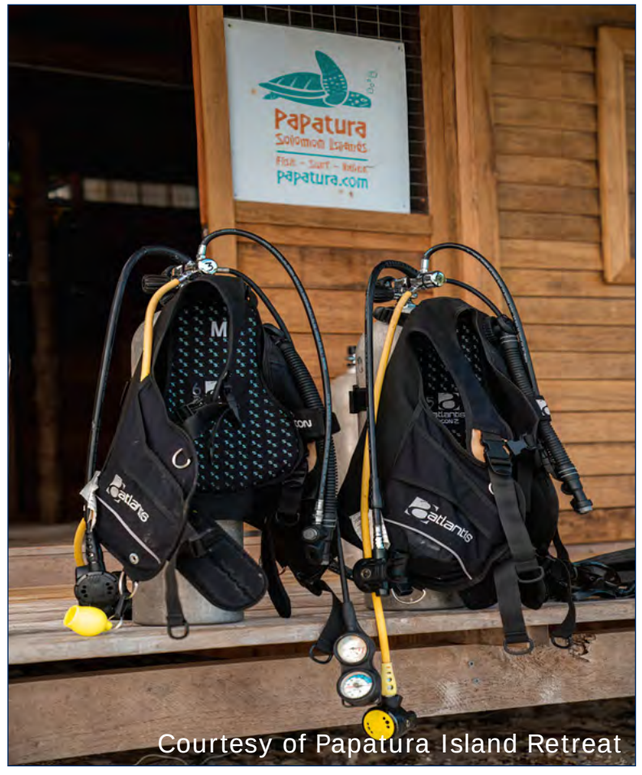
If you would like to become a DAN Instructor, go to DAN.org or contact us to find an Instructor Trainer near you.

# Dive Papatura – the new ‘dive destination within the destination’

Building on the Solomon Islands’ reputation for world-class diving, and opening up a whole new underwater realm for the destination, Papatura Island Retreat on Santa Isabel has opened its new dive operation – Papatura Dive.

To date very few divers have had the opportunity to explore the area which, already renowned as one of the Solomon Islands’ best surf and fishing locations, offers SCUBA enthusiasts a ‘beyond spoilt’ choice of options in a plethora of amazing dive spots.

Shore dives from the main beach offer access to huge fan corals and giant barrel sponges while a five-minute boat ride will take divers to a wide variety of technicolour reefs and marine life, and easily accessed sites including Dolphin Wall, Dolphin Garden 1 & 2, Rolly’s Reef and Blanche’s Coral Garden boasting a huge array of species - Moray eels, colourful passionfruit trout, big GTs and Blue spotted trevally, Black tip reef sharks, Spanish mackerel and barracuda to name just a few.



Courtesy of Papatura Island Retreat

And what would a dive in the Solomon islands be without a WWII wreck, in this case a coral-encased Douglas SBD Dauntless aircraft lying in 28 metres of crystal-clear water.

Papatura Dive is also the perfect spot for those novice divers looking to achieve a full dive certification.






Courtesy of Papatura Island Retreat


Courtesy of Papatura Island Retreat

Dive the World
Bimini

By: Peter de Maagt & Theresa Guise

# Getting Hammered

## Bimini

Vinnie holds up 4 fingers... 4 fingers?? We can only see two hamerheads... We carefully scan 360 degrees. Indeed, even underwater you have a blind spot;  2 more sharks are closing in on us from behind. Which sharks take priority?

By: Peter de Maagt & Theresa Guise

By far the biggest shark is in front of us, but it is relatively far away. The ones behind us are approaching fast.

We instinctively turn around. The small male does not know how to behave and he mimics the larger female.

At about a meter from the baitbox they make a swift turn. The male is moving its T-shaped hammer from side to side, as if he is looking for food in the sand.

A split second later, he darts away and shows us his belly. Like he is trying to show off. The female is clearly used to the routine.

No-nonsense, a direct approach to the baitbox. That is how it is supposed to be done.

Great hammerheads have been on the list of endangered species of the International Union for Conservation of Nature and Natural Resources for some time now.

Despite the fact that its living area covers large area of the oceans, they are rarely encountered. Then rumours of sightings in Bimini abound.

Why was Bimini a hotspot for these magnificent creatures? Indeed, it was a well-kept secret amongst the research team of the Bimini Shark Lab for some time.

They knew that from mid-December to mid-April the sharks regularly visited the waters around Bimini. It was not until the well-known operators started promoting Bimini that it became common knowledge that this was a hammerhead aggregation site.

Some of our diving friends returned with enthusiastic stories and confirmed that they had multiple encounters. That was such a great opportunity that we could not pass up.

We began our pilgrimage to this new shark Mecca.

Dive the World
Bimini

By: Peter de Maagt & Theresa Guise

Bimini is tiny: two small islands (North and South), covering a surface area of 25 square kilometres.

Nevertheless, there are several celebrities linked to Bimini. Martin Luther King wrote his famous Nobel prize-winning speech at the Bimini Big Game Club and Ernest Hemmingway called it home.

He based his book “the old man and the sea” on his Bimini fishing trips. Our home-away-from home was the Bimini Big Game Club Resort & Marina, coincidently the harbour from which Hemmingway made his fishing trips.

This is not a four star hotel but the rooms are large and perfect for anglers and divers. A concrete floor might feel less cosy but is very functional..

A few signs indicate “shark-free marina” and ironically, the water is filled with bull sharks. We used Epic diving, an





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By: Peter de Maagt & Theresa Guise

operator with a strong reputation for shark diving; run by Vinnie and Deb Canabal. Skipper Michael completed the crew.

Ready for our adventure, we arrive in a positive spirit at the "Thresher", but Vinnie's face speaks otherwise. Today will be a bad weather day.

The wind is picking up and it is not possible to take the boat out. What can we say? Even in Bimini it is wintertime in January.

The temperature can approach 20 degrees, but wind and rain are not a rare occurrence. Much to our embarrassment, we have to admit that we packed too many T-shirts instead of warm sweaters.

However, there was no reason to despair, the weather forecast showed a significant improvement with sunshine dominating the sky in the days to follow. Looking at it very objectively, diving with large hammerheads is a very relaxing activity.

Apparently, these sharks do not wake up early, and the boats do not leave the harbour before 10 o'clock. The travel time to the site is about 15 minutes, and upon arrival, the relaxed pace continues. Vinnie and Deb throw a few frozen barracudas in a cooler.

A hose pumps seawater in the box on one side, which runs out to the ocean on the other side, making a very thin slick trail. That is it. Michael is on the lookout and he stares at the horizon through his large sunglasses.

Three quarters of an hour pass before Michael spots the first hammerhead. He hardly manages to complete the word "hammerhead", and everybody jumps to look in that direction.

A vague shadow is visible indeed; all

Dive the World
Bimini

By: Peter de Maagt & Theresa Guise

credits to Michael and his keen eye that spotted this shark. We kit up and are ready to go. Vinnie is already in the water, taking a baitbox to the bottom to ensure that the shark remains interested. Shortly after, we descend in groups of four. We already agreed what our respective position would be.

The first part of the dive Theresa would be sitting next to the baitbox and Peter would be on the outside, while the second part of the dive we would swap positions.

The location makes a huge difference in the type of images you take. Action packed shots are possible next to the baitbox, while cleaner shots are possible if you are further away.

The briefing had properly indicated that we had to be significantly overweighted to fight the effect of the swell. Despite jumping in with 16kg of lead, we could still feel the surge. We also wore the black suit, black gloves, black hood, which are highly recommended for shark diving.

The shark continues to swim in circles until she has enough confidence and takes the decision to examine the little humans up close. What a magnificent creature! Vinnie puts up two fingers to indicate that there is another shark.

Another grand lady enters the scene. They are super relaxed, but appearance should not fool you. You cannot assume that they maintain their course as they can turn duddenly, on a dime.

The muscular body just switches gears and with one quick flick of their tail, they can turn 180 degrees. A dive of 45 minutes ends before it has even started, but the next group of divers is eagerly waiting to jump in.

Three groups of divers rotate like this the entire day. With a depth of only 6


Dive the World
Bimini

By: Peter de Maagt & Theresa Guise

meters, nitrogen loading is not an issue after all.

Debbie enthusiastically points towards a specific shark. It is one of her favourites called Chocolate. Chocolate got her name due to the very distinct pigmentation on its brown belly.

It is obvious that that is not the most common colour for camouflage and that a uniform white belly would do a much better job. Debbie offers the girl a treat and Chocolate allows us to look straight into her gaping jaws. We can think of some less exhilarating moments in life.

It is amazing to see that Debbie has no problem to push even the largest sharks in every direction that she wants.

During the surface interval, Debbie talks passionately about this shark. She was featured on the cover of some diving magazines; as a supermodel, she started to behave like a Diva. Debby smiles and tells us that now, Chocoalte only accepts Barracuda, rather than the standard macarel.

Returning to the harbour, we observe a spotted eagle ray jumping out of the water, over and over again. We were not daydreaming were we? A nice addition to our logbook!

What a treat. The food in the Big Game Club just tastes better that evening and the sunset looks even better than usual.

The next days the same ritual repeats itself, even with improved visibility. Who wouldn't be in the best of spirits? As soon as the first hammerhead shows up, the routine of four divers down repeats itself.

We are all ready to load up on close-

By: Peter de Maagt & Theresa Guise

ups. From the boat it is clearly visible that three sharks patrol the area, but that only one at a time gets within eyesight of the divers.

But when that happens, it offers very close passes. They allow you to see their rows of teeth. Sharks have this specific feature that simply allows to renew a teeth when a previous one gets lost. Nice and easy. Sometimes you could even see some fresh wounds were teeth had just been lost. You can't get more up close and personal than that.

A young male appears on the scene and he is obviously bolder than the others.
He even tries to wriggle his hammer underneath Peter's knees. There is only one option left and Peter gently push him to the side.

Note to self: if you lift the hammer, you will look straight into his open mouth! The sharks remain faithful and stay in the vicinity all day. However, late afternoon, the behaviour changes abruptly.

The hammerhead sharks disappear and a bull shark comes to check us out. Apparently, hammerheads and bull sharks are not the best of friends and the hammerheads show deep respect for the muscular bull.

The behaviour of the bullshark is like any other shark; simply curious. She decides that the scene is hers and she swims back and forth for an hour.

Dusk starts setting in and Vinnie allows us to try one more time. This is a much more eerie atmosphere and it starts to look like a night dive.

The distance at which you can spot a hammerhead is reducing. But what a sight when they appear out of the dark. We definitely did not waste any daylight.

After returning to the harbour we can put our heads down and dream of hammerheads. The news of the abundance of great hammerhead sharks around Bimini has reached the dive world.

We go home with plenty of images of these iconic animals.

**FACT FILE**

**Transport:**
Only one airport serves Bimini: South Bimini Airport (BIM). Daily scheduled air service is available from Nassau, Grand Bahama Island and Florida.

As several of the companies flying into Bimini use small airplanes, it can happen that your luggage arrives later. Just take that into account in your planning.

**Diving:**
There seems to be a rule that boats cannot leave the marine before 10, but we have seen some (local) boats depart earlier. Diving continues until 5 PM and is very shallow, between 6 and 10 meters. The tanks are filled with air.

**(Water) Temperature.**

The coldest month in Bimini, The Bahamas, is January, with an average high-temperature of 24°C and an average low-temperature of 15°C. Warmest months are July and August, with an average high-temperature of 32°C. February is the month with the coldest seawater in Bimini, with an average sea temperature of 24°C, while August is the month with the warmest seawater in Bimini, with an average sea temperature of 30°C.

**Currency:**
The local currency is the Bahamian dollar.

**Electricity:**
US plugs

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Dive the World
Solomon Islands

# Undeveloped Exotic Pacific

By: Peter Pinnock & Jeanne Liebetrau

Uepi staff are waiting to carry our heavy bags from the plane to the waiting transport boat. It's a short boat ride across the lagoon including a few stops to purchase an enormous bunch of bananas.





By: Peter Pinnock & Jeanne Liebetrau

"Uepi is a raised coral reef. Its 2,5km long and 600m wide. It is one of a few double barrier reef systems in the world. On the one side of the island we have New Georgia Sound or „T

Grant elaborates "The Slot is a large body of water situated between the two island chains. Under the cover of darkness the Japanese Imperial Navy used this protection to transport supplies to their garrison on Guadalcanal. The allies referred to this route as the Tokyo Express".

He checks his cue card and continues "Uepi is shaped like a hammerhead." He drifts off for a minute as he thinks of „his hammerheads". He smiles proudly at the thought. Uncannily, it"s at this moment that I notice the distinctive triangular shape of shark fins cutting through the shallows in the water in front of me. He notices my expression.

"We have friendly sharks here. We mostly see black-tip and graceful whalers but we occasionally see oceanic white-tips and once we even saw a whale shark in the passage".

With the nearest village or store 10km away Uepi is remote. In Marovo Lagoon there is no electricity and very limited telecommunications. This is the place to chill out, dive exotic reefs, eat copious amounts of seafood in a modest, yet extremely comfortable, setting.

Think fresh rain water showers with spacious bungalows facing picture-perfect palm tree sunsets. We soon discover that Marovo Lagoon may be undeveloped but the reefs certainly are not.

Uepi Point and Charapoana Point are similar dive sites located on either side of the channel entrance. Enormous sea fans span the sandy channel entrance filtering the currents rushing in and out of the channel. Resident long-nose hawk fish nibble on nutrients

trapped in the sea fans lattice work. Crinoids cling to the outer edges of the

Dive the World
Solomon Islands

By: Peter Pinnock & Jeanne Liebetrau

sea fans hoping for the best vantage point to catch passing food particles. A spur leading out from wall of Uepi Island itself stretches into the deep water of the slot. This is where the shark action happens with black-tip and grey reef sharks milling about in the depths.

A large school of barracuda moves like a rolling thunderstorm in the distance. A trail of bump-head parrot fish heads across the channel entrance and mobula rays move in an entrancing snake dance formation. There is a non-stop stream of action happening in the depths.

The spur on Charapoana Point has large bunches of colourful soft corals concealing artful lionfish using ambush techniques to feed on smaller fish that are preoccupied with picking tidbits from the current.

Along the wall of Uepi Point the incredible blue, unfathomable depths and infinite visibility is overwhelming. Feelings of euphoria settle in. We tear our eyes away from the captivating blue and turn our attention to a sea fan clinging onto the steep wall.

The sea fan is home to perfectly camouflaged pygmy seahorses. We struggle to see them. Eventually with the help of my magnifying glass I find a matchstick sized pygmy seahorse. Excitedly I point it out, but it drifts away like a piece of fluff and I lose sight of it instantly. The challenging search is time consuming and the associated depth is detrimental to nitrogen levels.

The shallows of the channel wall are propagated with pristine hard corals all the way from Uepi Point back to „Welcome Jetty“. The sandy channel floor holds a multitude of interesting critters. We watch as a colony of shy garden eels peer out of the pitted sand terrain all sinking surreptitiously back into their holes at a hint of danger.

Dozens of blind commensal shrimps perpetually shovel sand from their holes while their goby partners keep an eye out for danger. Sea cucumbers and starfish roam indiscernibly around while a variety of fish seek out sheltered cleaning stations. This is an excellent place to rid those noxious gasses. Inside Point is a dive in the channel itself.

It is dived on an outgoing current which results in reduced visibility forcing one to focus on macro subjects such as banded pipefish, nudibranchs and electric clams.

Throughout this dive small sharks swim back and forth in the channel, sometimes swimming between divers. These are the friendly sharks Grants spoke of.

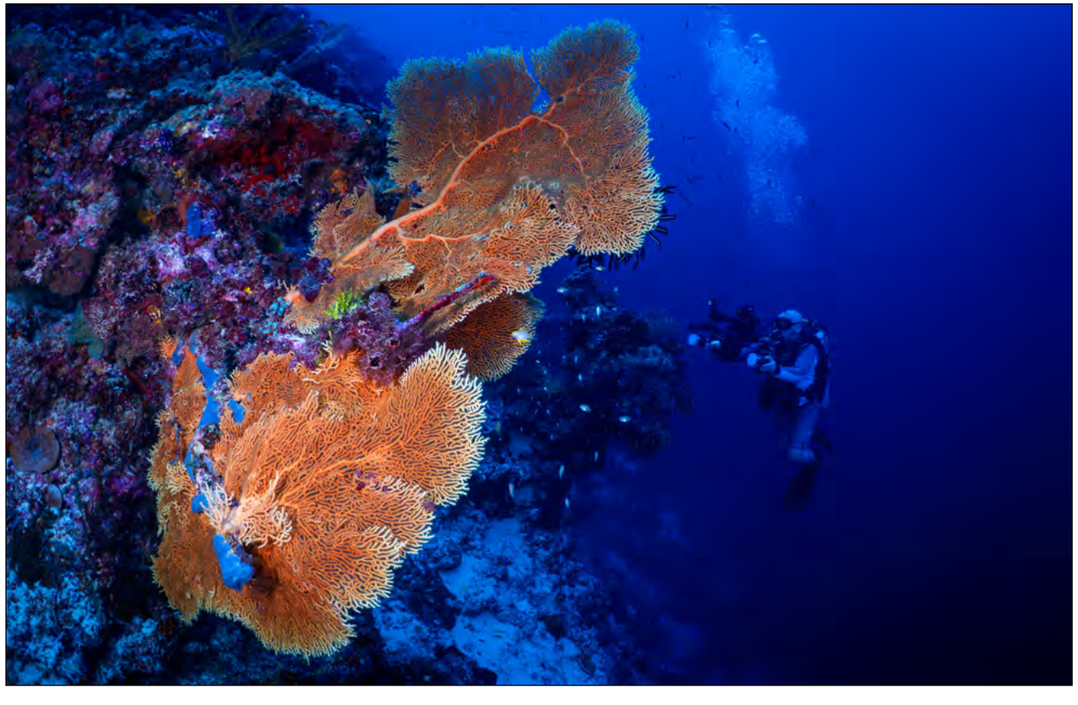
Opposite the Welcome Jetty, on the far side of the channel is a dive site named „DD“. Ever inquisitive, I ask Grant how this got named. He chuckles and doesn“t answer. This leaves me thinking it must have something to do with personal assets. We investigate further. One section of the sandy slope sports huge sea fans juxtupositioned as they vie for the chief filtering spot. Further on massive barrel sponges take over as they too, filter the current for nutrients. Deep in the sponges“ grooves funky hairy squat-lobsters and juvenile mantis shrimps dwell.

Scattered between the barrel sponges and the sea fans are pincushion starfish, blue sea stars and sea cucumbers. A tiny red crab hides amongst the protective façade of aboriginal art on a pincushion starfish while a blue and white periclimenes shrimp lives harmoniously amongst the white sucker feet of a blue starfish.

There is certainly interesting marine life to be found if one has time to look but I am still confused by the name. Later, Grant confesses that „DD“ is Daniels Dive, a previous guest. I am disappointed.

Dives in „The Slot“ include the Elbow which is at the back of Uepi Island and others on nearby islands. The Elbow has a combination of wall, caves and a deep water action filled spur. Mongo Passage is a phenomenal dive.

Dive the World
Solomon Islands




QR Marks the spot

By: Peter Pinnock & Jeanne Liebetrau

One section of an almost sheer wall is covered in white soft corals and short white whip-corals creating an unusual snow white wall but it“s a section in the deep water with sunset orange soft corals that is truly stunning. Nearby, the dive site General Store has the most magnificent canyons cutting into the shallows of the island.

Sunshine flickers off the walls of these canyons creating mirror-ball disco lighting in the absolute stillness of the chasm.

Tamalile Island is a few islands away from Uepi. It used to be known as Billy Ghizo. I question Grant as to the reason for the new name.

He gives another chuckle and an unsatisfactory answer “It“s political”. I don“t pester him again but tackle the dive guides - Billy Ghizo who owned the island died and the new owner renamed it.

Locals still call it Billy Ghizo but politically, Grant can“t. Tamalile is famous for pygmy seahorses which once again, we struggle to find. Grant“s wife, Jill, once photographed 18 pygmy seahorses on a single sea fan over a period of a few weeks as they matured from birth to disappearance.

The challenge proves too great so we divert our attention to a sunshine yellow crinoid that has a similarly coloured clingfish. As we photograph it we notice tiny orange claws appearing amongst the crinoids arms. These belong to a pair of yellow periclimenes shrimps that are only 1cm long.

More claws appear. A yellow and white striped crinoid squat lobster is hiding amongst the feet of the crinoid. This crinoid is a generous host.

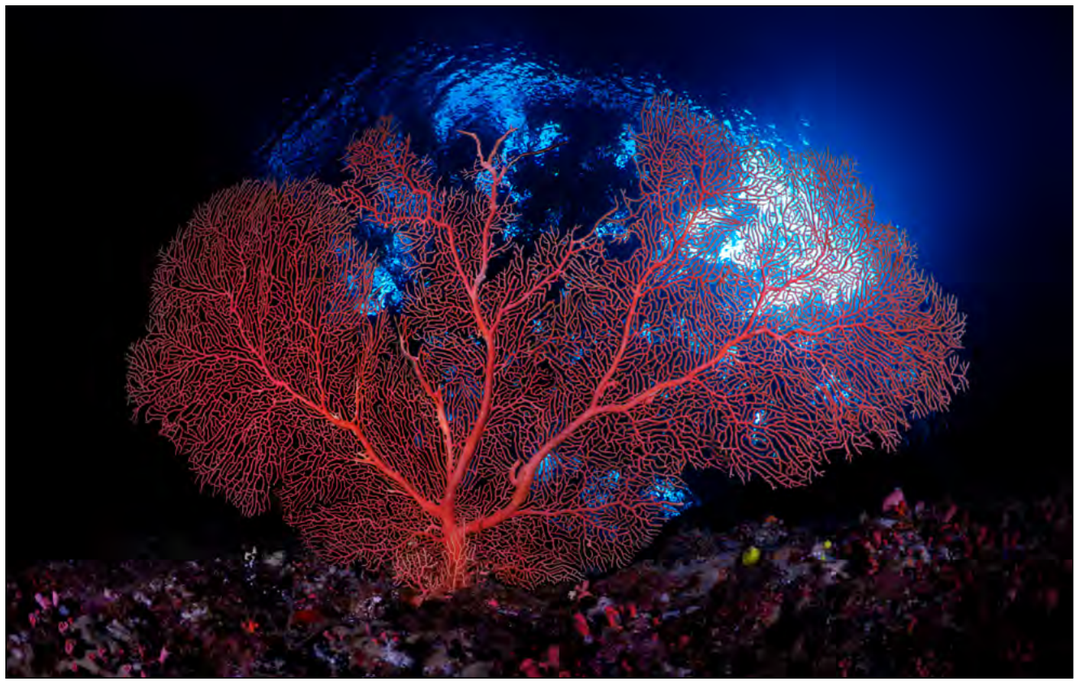
There are no dive sites in Marovo Lagoon near Uepi itself however the Bapita Trip into the lagoon is a highlight of an Uepi stay. The trip starts with a 45 minute boat ride through the scenic lagoon. The first dive is a short dive on the Taiyo Fishing Boat wreck.

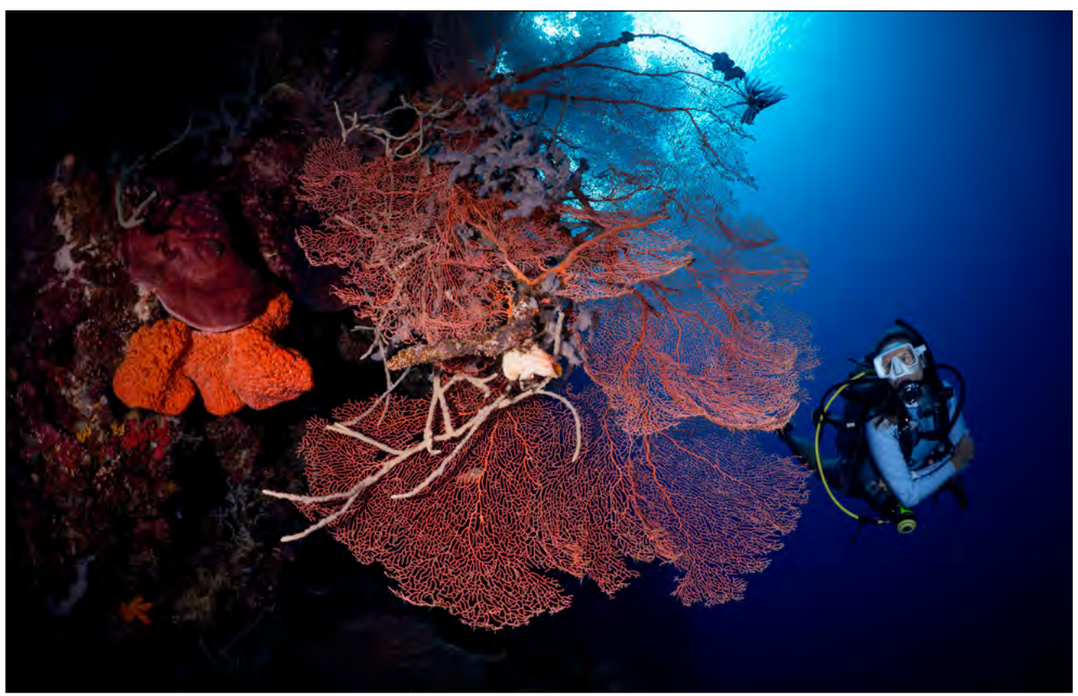
This tuna fishing boat was on her maiden voyage from Honiara when she struck reef. An unsuccessful salvage attempt left her sitting vertically on a ledge with the bow a few meters beneath the surface. The fairly new wreck is fully intact with new coral growth emerging on the masts and struts.

Penguin Reef is the next stop. A colony of birds (not penguins) inhabits an island that barely scratches the surface. Underwater the entire perimeter of the island is covered in pristine hard corals with prolific staghorn corals, plate and table corals, brain corals and encrusting corals.

It“s spectacular but not very colourful. The 3rd dive on the trip is the most exciting and to enhance the „wow“

Dive the World
Solomon Islands





By: Peter Pinnock & Jeanne Liebetrau

factor little is mentioned during the briefing. The dive boat is tied to a tree alongside a cliff in a shallow lagoon. It takes courage to roll off the boat in such shallows. But it"s an optical illusion.

Beneath the boat is a sinkhole that leads down through a narrow gap and tips into the deep lagoon. Looking upwards, the cliff and tree is seen miraged in the still water above while ahead a sliver of deep blue is framed by the sinkhole walls with cathedral shafts of light flickering off the walls.

The final dive in the lagoon is on a P38 fighter plane lying just off the end of the runway of Seghe Airfield. The P38 is a very distinctive WW2 fighter as it has twin fuselages. The nose is covered in a soft coral profusion hiding the 20mm cannon but the machine guns are exposed showing their fully loaded ammunition.

The props are slightly bent at the tip otherwise the plane is still in good nick despite 60 years underwater. Apparently the pilot landed safely but was rear-ended by another plane pushing it off into the lagoon where it drifted before sinking.

We have explored all sides of Uepi Island – Charapoana Passage, The Slot and Marovo Lagoon. It"s time to leave.

I ask Grant my final question "What does Uepi mean?"

This time he answers seriously "There are 200 dialects in Marovo Lagoon and none of them have a meaning for Uepi". I think about this while the skipper throws off the tie lines.

I decide that it should stand for „Unexplored Exotic Pacific Island but it"s too late to tell Grant - the boat is already moving.

I watch as he and Jill do a farewell dance on „Welcome Jetty". I wonder if he is really that happy to see me go. I know that I am not.

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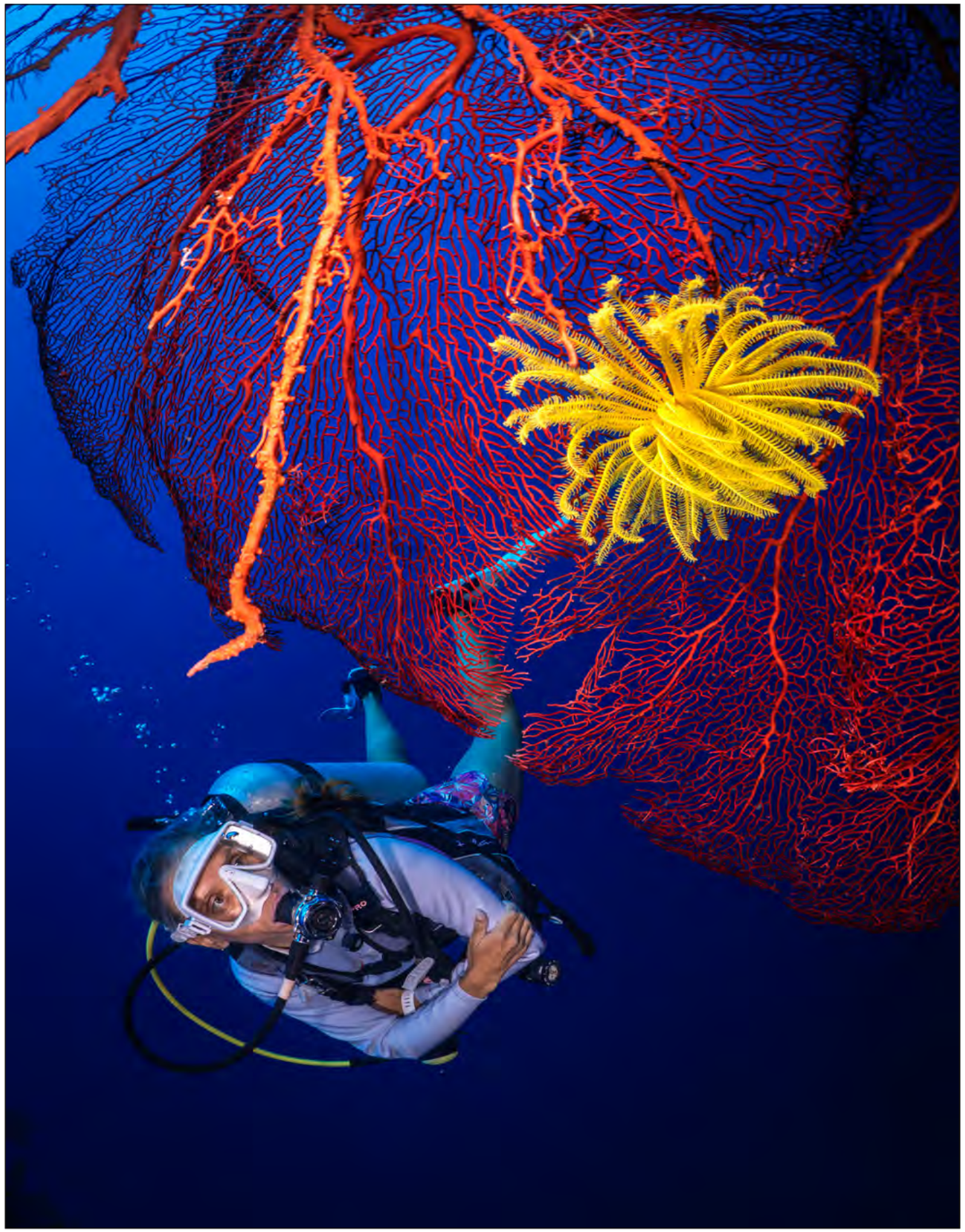
Dive the World
Solomon Islands



By: DAN

# Safety Equipment

## A Necessity Even in Paradise

My first use of an emergency action plan occurred during the first dive of an international trip. My wife and I were travelling together for a weeklong holiday and had prebooked our diving with an operation that had a good reputation from online forums, featured fast boats and large nitrox tanks, and would split divers into groups according to experience and skill.
After arriving on the island on the first day of our trip, we dropped off our gear at the dive shop — the dive operator was responsible for bringing every diver's equipment onto the boat each day.

While at the shop I met a retired man, who I'll refer to as John, and we chatted like divers do. In our conversation I discovered he was a regular on the island with hundreds of dives there and was returning after an absence of several months.
After having my logbook checked, we headed back to the resort, excited for the week of diving. This was the only time I'd had my logbook checked while diving internationally, which reinforced my confidence in the dive operator and their reputation.

**Challenging currents**
On the boat ride out to the dive site the next morning, we were reunited with John. He was alone on the boat that day and buddying with the divemaster.

We listened to the routine dive briefing regarding currents at depth (this was drift diving after all) and learned there had been changing currents and unpredictable site conditions the past few days. The five of us plus our divemaster geared up and splashed on a deep site well known for large and beautiful coral swim-throughs.

On descent we found that the current was fast and changing directions throughout the water column. This wasn't my first time drift diving, but it was my first time experiencing currents this intense.

The only shelter we could find from the constantly shifting conditions was within the large swim-throughs. My big blade fins were barely able to push me up a sand hill between two swim-throughs, and the current blasting down the hill toward me felt akin to being sandblasted.

When I made it to the second swim-through, I knew I was overworking myself and felt a bit gassed at that point. John noticed that my wife's fin strap had come loose and swam over to get her attention and help her with it. Our group then entered another swim-through and upon exiting started moving up to a shallower part of the reef, hoping to encounter less current.





**Struggling and Distressed**
As we ascended to this next area, I saw out of the corner of my eye that John was struggling and appeared to be in distress. He was about 5 metres below me and a bit down current and was clutching his chest while attempting to swim up toward the divemaster.

The divemaster immediately released his surface marker buoy (SMB), motioned to all of us to ascend, and kicked hard while swimming toward the gentleman. Collectively we were about 18 metres down, and the group was spread out.

The current was difficult to fight against, but the divemaster eventually reached John, and together they began their ascent. I released my SMB and began to ascend as well. The third dive pair had gotten separated as they tried to assist the divemaster.

One diver reached the divemaster and helped John get to the surface, and the other stayed below with me and my wife. As the three of us hit the surface, the dive boat was pulling up to the divemaster, and the other diver was helping him get John onto the boat.

**The boat was loaded and took off quickly**
Despite the surface current, the boat was loaded quickly, taking only about two minutes to get all three divers on board. Before taking off, the captain yelled to us to stay put and that they would send another boat for us. We watched as our dive boat disappeared into the distance with John, now unconscious, receiving CPR.

Being adrift in the open ocean and seeing your dive boat disappear is initially terrifying. Other boats were in the vicinity, but would they see us if we were in distress? Or would we drift away and never be seen again? No boats were close enough to hear us yelling for help in an emergency. It would have been an impossibly long swim to the shore as well.

**Only I had signalling equipment**
I discovered that out of the three of us left in the water, I was the only diver with any safety or signalling equipment. I always carry a DAN delayed surface marker buoy (DSMB), a mirror, and a whistle. While my wife owns this equipment as well, she had forgotten to bring hers to the dive shop when we dropped off our gear the day before.

The three of us had plenty of time to chat while we waited for 30 minutes at the surface for a boat to come get us. We were all anxious at being left adrift but talking to each other helped keep us calm. Another boat from the same operator eventually returned to pick us up, locating us due to my DSMB. We were then transferred between two other boats before making it back to our original boat.

**Undisclosed change in medical history**
Despite the quick response and effort from the divemaster and crew, John unfortunately died. Upon cutting open his wetsuit, the crew discovered visible scars from a major heart surgery.

Despite John's many dives with this specific operator in the past, he had not disclosed this recent change in medical history to the dive operation — he had arrived at the boat that morning already wearing his wetsuit.

**Are you prepared?**
Hiding medical conditions puts not only you at risk, but also other divers in your group. A physician must clear you if there is any speculation regarding your fitness to dive.

This incident changed my protocols on any ocean diving. I now carry a personal locator beacon (PLB) on every dive and verify that my dive buddy has proper signalling and safety items.

If they don't have an SMB or any signaling devices, I lend them one of my extras or make them borrow one from the boat. My wife now never gets on a boat without her SMB as well.

As divers, we must take extra steps in our predive checks to ensure that our buddy has their safety and signalling equipment so we can be prepared in case of an emergency.
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Exploration
New world record

By: Francis Le Guen Photos: Laurent Miroult, Florian Launette, Patrice Cabanel, Frank Gentili, Alexandre Legrix, Piovano.

# My Journey To 308 m

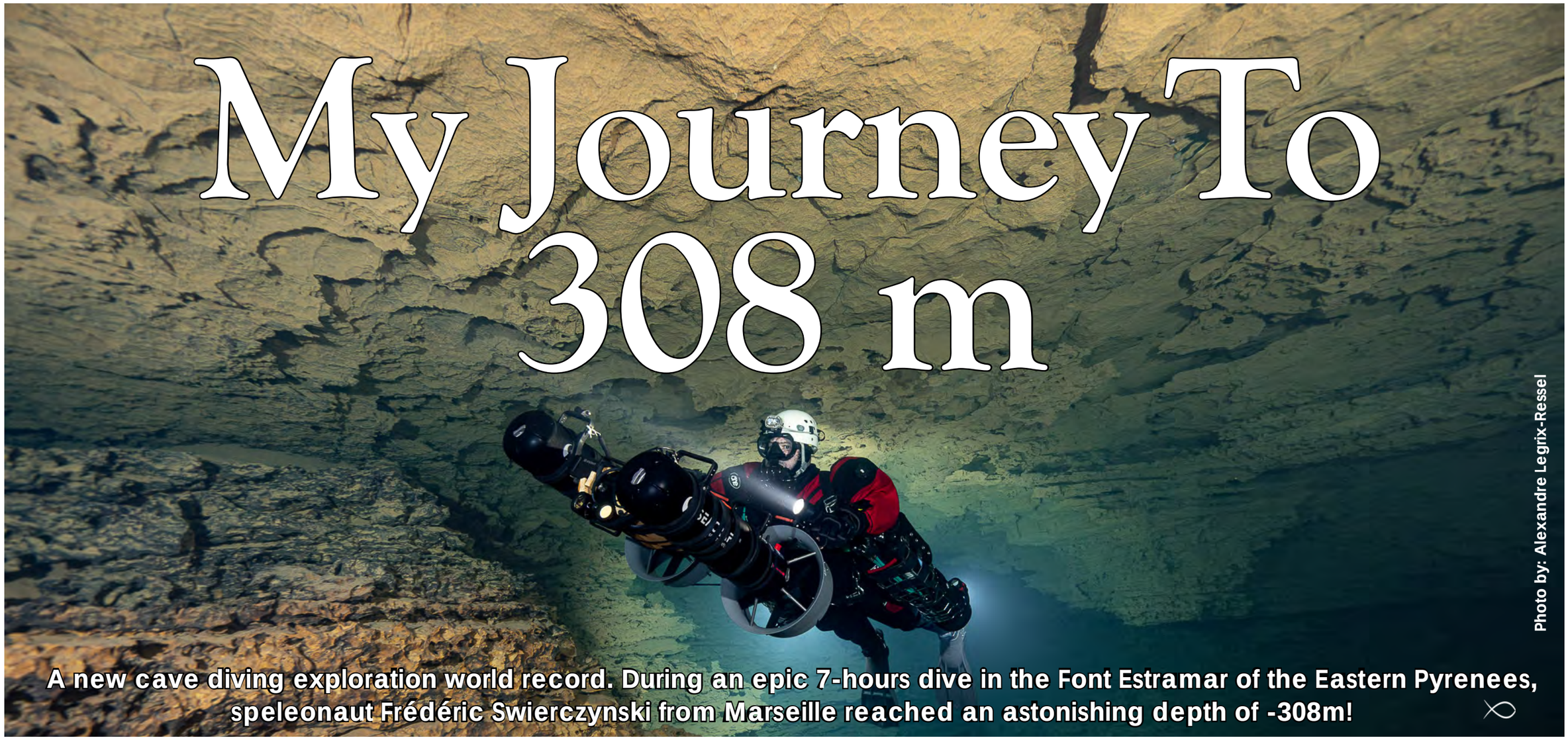


Photo by: Alexandre Legrix-Ressel

**A new cave diving exploration world record. During an epic 7-hours dive in the Font Estramar of the Eastern Pyrenees, speleonaut Frédéric Swierczynski from Marseille reached an astonishing depth of -308m!**


By: Francis Le Guen Photos: Laurent Miroult, Florian Launette, Patrice Cabanel, Frank Gentili, Alexandre Legrix, Piovano.

I am below 260 meters underwater; my discomfort in my eye finally stops, and I can see clearly. I decide to make a quick assessment of my situation: I am conscious and choose to continue moving forward while laying the line. A vertical shaft appears, and I can see the gallery continuing to descend even deeper.

The tunnel, made of scoriaceous rock, is vast and disappears into the darkness. I'm the first person here, alone. I drift into the blue night, with the only point of reference being the sound of my breathing roaring through the canisters of my rebreather and the motor of my DPV. I feel good, extraordinarily lucid.

I secure the line to a carved stone; my hands tremble not only with excitement but also due to symptoms of 'HPNS,' the dreaded high-pressure nervous syndrome. Despite this, I continue, feeling liberated in this immense aquatic clarity. The atmosphere is otherworldly. I pass by a bed of sand, rippled by the current. Ahead and below me lies a vast and expansive chamber.

Glancing at my timer: 400 minutes of decompression... Fred, it's time to head back! I'm 50 years old, and today I've reached a depth of 308 meters, setting a new world record. Yet, at this moment, I haven't fully comprehended it. I've never been one to base decisions solely on numbers; for me, it's about the experience, the sensation, the feeling... something exciting.

Salses le Château - November 3, 2023 - At the edge of the Font Estramar spring - T minus 10 minutes before the start of the dive.

It's been an almost sleepless night. I managed to grab some sleep, but my dreams lingered. The same recurring images, nothing really new. For at least two weeks, my nights have been consumed by meticulously replaying every gesture, every second of that dive. Living on credit in the deep darkness, optimizing every instrument control, visualizing myself navigating the distant gallery, relying on that precious yellow guideline... Beneath the tranquil, transparent blue surface, green algae sway, revealing the current emanating from beneath the earth. Where does this mysterious river originate?

As I prepare my equipment by the spring's edge, attempting false cheerfulness, I engage in conversation with veteran deep divers who have come to lend their support. We reminisce about the heavy, open-circuit diving operations from just a few years ago, involving dozens of tanks and days of preparation, contrasting with how I now manage it all in just 20 minutes!

I reminisce about the past months: the endurance races in Marseille's Calanques, hours of breathless exertion on the slopes, kilometers traversed through pine forests, scrublands, and rolling limestone scree. And then, the countless deep training dives, here in the warm waters of the Catalan country, plunging down to the -260m zone. These dives aimed to acquaint myself with the underwater topography, navigating the flooded gallery stretching over a kilometer, and perhaps to acclimatize both body and mind.

I meticulously refined my decompression curve, aiming for the most precise adjustment possible: minimizing dive time without compromising safety. I adapted my equipment in minute increments, striving to merge seamlessly with the environment, making its challenges my own. Unbeknownst to my conscious self, my body had already made the decision to venture into the unknown, beyond the -300m mark.

**T 0 - Here we go!**
The DPVs and rebreathers are submerged, meticulously set timers syncing with other divers joining me at the -120m decompression stops. Heated underwear, drysuit—getting help to seal it while I adjust equipment in the water basin, my body halfway submerged. Harnesses, fins, rebreathers—a ritual repeated over the past months. I cannot afford to overlook anything; it's all going to happen in a flash. Each piece of equipment must respond instantly to my needs. The mask—a precious necessity. I rinse it, adjust it meticulously, and then I'm off.

Exploration
New world record

The aquatic horizon appears blue, kissed by streaks of sunlight. A black archway reveals itself within the gray rock. I descend into the vertical shaft that follows, allowing myself to be swallowed by the night. Equalizing my ears, ensuring the drysuit fits snugly, rebreathers' lungs emptying, the hiss of the inflators—a battle against pressure unfolds!

The DPV propels me into the submerged gallery at over fifty meters per minute. I seize the moment to glance at the rebreather displays, checking the partial pressure of the oxygen mixture I'm breathing. It's crucial information. I can't divert my eyes from these indicators; it's the only way to prevent potential poisoning.

**T+5 minutes - On the way…**
My vessel maintains a steady cruising speed, led by a Seacraft scooter ahead, towing me while another serves as a backup, secured to my back. My headlights pierce the distance as the crystal-clear water reveals passing walls. The automated control of my instruments is in place. I navigate above the guide cord installed in the main gallery, beneath the vaulted arches stained with iron and manganese oxides: hues of rust, brown, yellow ochre, deep black, and red clay.

Eroded mineral structures, sharp as razors, intersect secondary galleries, and the current's direction occasionally plays tricks on us.

Font Estramar resembles a complex labyrinth of corridors and dead ends, where losing your way is not an option. I await Patrice Cabanel, following me on his double DPV. He speeds past me, diving much deeper into the expansive vertical well to capture a few videos as I continue my journey.

**T+8 minutes - Jump.**
Descending 60 meters. The actual dive commences. Final checks precede the big jump: activating the powerful dive lights and starting up all equipment that will encounter pressure at depth. It's the last feasible moment before the impending darkness... I prepare myself—it's time to

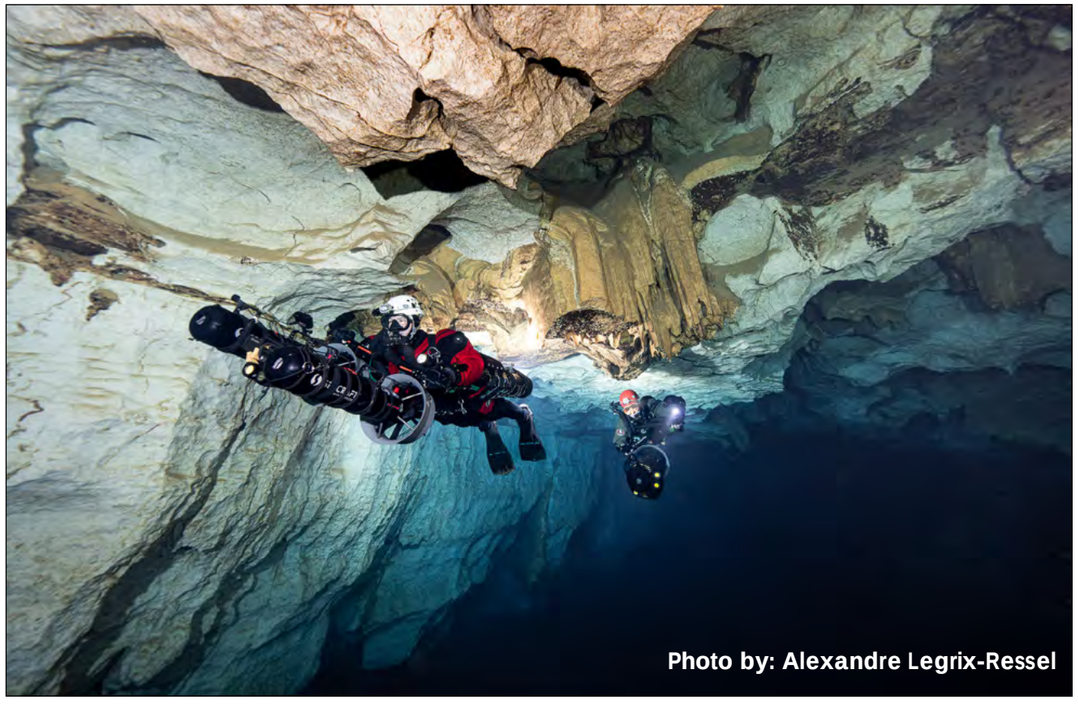


Photo by: Alexandre Legrix-Ressel

By: Francis Le Guen Photos: Laurent Miroult, Florian Launette, Patrice Cabanel, Frank Gentili, Alexandre Legrix, Piovano.

**T+10 minutes - Around -200…**
At -100m, I meet Patrice, camera in hand, eagerly awaiting my arrival. He joins me in the descent! -150m, -170m: we accelerate! Swiftly. Perhaps too fast. Like two bikers racing on a vertical track, each trying to outpace the other... He remains close behind, but the maximum test depth of his scooters becomes critical at -180m.

I signal to halt him—I don't want his vehicle to implode under the extreme pressure! The memory of the Finnish diver torn apart by his scooter lingers in my mind; I was there to investigate the accident at the request of French authorities. His body remains in that cavity, now his underwater tomb, buried beneath 200 meters of water. I continue my descent, the haunting echoes of crazy organ music reverberating in my head.

As Patrice Cabanel recalls: "What's just a little over halfway for Fred represents an immense leap for me. I'm at a depth of 190m, watching him sink further. It's surreal, seeing him surpass 200m and vanish from my sight…"

**T+14 minutes - Dazzled.**
As I continue my descent, the rock formations become lighter, indicating a shift in geological layers—it's as if I'm traveling back in time. I'm approaching the horizontal section of the tunnel, fluctuating between -250m and -260m—a familiar place from my numerous training visits.

A round trip usually adds an extra hour to my decompression, but today, I anticipate

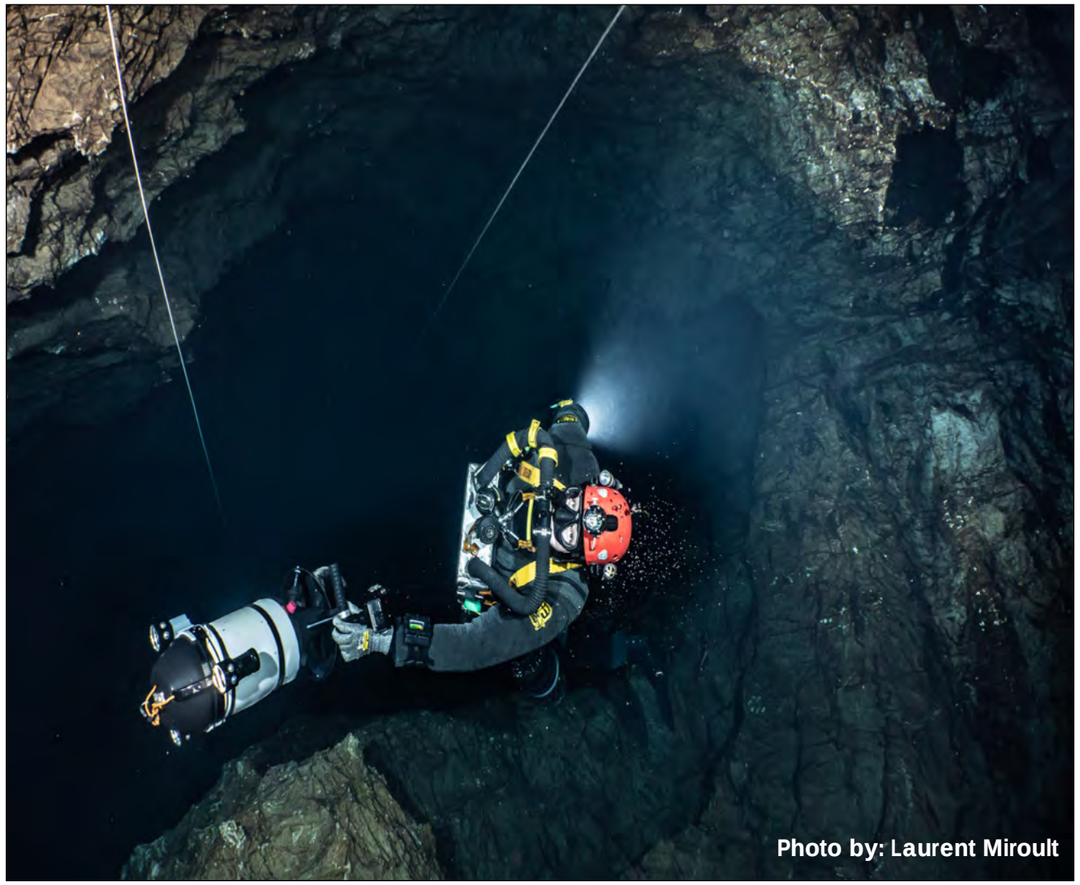


Photo by: Laurent Miroult

By: Francis Le Guen Photos: Laurent Miroult, Florian Launette, Patrice Cabanel, Frank Gentili, Alexandre Legrix, Piovano.

it'll be much longer, as I'm going deeper.

Reaching the bottom of the well at -260m, I stand up and suddenly experience an unfamiliar discomfort: a dazzling sensation. The floor of the submerged horizontal gallery appears flooded once again; it's like an illuminated sea, shimmering with reflections.

I move forward as if in a dream, feeling disoriented.

In the professional field, a compression at -300m considered 'quick' takes... 24 hours! However, there are challenges associated with compression in a bell or diving box, particularly the gas heating issue, which needs time to cool. Such problems aren't faced by a scuba diver underwater. But today, this isn't just training. The quick descent with Patrice has likely accelerated my usual speed. I may be paying the price for it now.

**T+16 minutes - High Pressure Nervous Syndrome.**
The discomfort dissipates as abruptly as it arrived, and my vision returns. It seems my horizontal journey to the lip of the terminal shaft has revitalized me. Ahead, a black abyss. No more lifeline! I must secure my own reel and ensure the line's safety. My hands tremble... HPNS, it's not uncommon. Over more than 12 years of deep dives below the -200m mark, it's become a familiar companion, no longer surprising me.

**T+? minutes - Sleepwalking.**
I've lost track of time; I'm in a state of ecstasy. The moment I've waited for, perhaps more than 6 months—or is it 20 years?—has finally arrived. My scooter's at a low speed, the yellow line unwinding steadily, and my body's 'trim' is perfect. Balance and positioning in this liquid realm are crucial for survival; they minimize physical exertion and, consequently, metabolism.

With wide-open eyes, I absorb the unknown surroundings passing by me; the receding blue horizon guides my progress, gestures, and decisions. Now, it's the exploration itself that drives my dive. I glide into an increasingly expansive chamber, drawing me in—toward my destiny.

Visibility extends beyond 25 meters! My sight loses itself in the blue transparency that transitions into blackness. It's majestic, truly majestic.

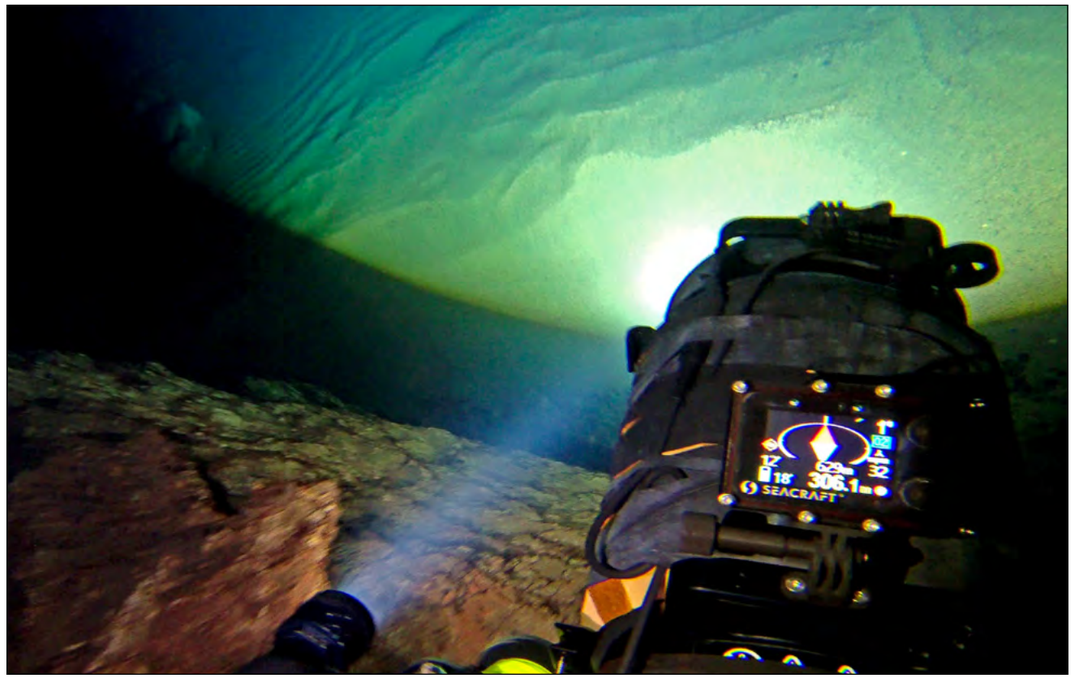
I keep a vigilant eye on my line, ensuring it doesn't snag in the narrow sections of the gallery. I leverage my optimal mental state to capture these envisioned magical moments—moments that are now mine. Another line splits on a sharp rock beneath me, and my computer alerts me: 400 minutes of decompression already! It feels too brief; I yearn to continue.

It's a struggle to break free from the allure of unexplored depths. I hasten. Every passing second is crucial at these depths. I decide to secure my reel, leaving it to mark my terminus. A nod to Krzysztof Starnawski, another deep diver, who had abandoned a reel at the bottom of the magnificent Cetina spring in Croatia—an artifact I had retrieved during my initial dive there.

I propel toward the distant surface. My


Photo by: Laurent Miroult

Exploration
New world record



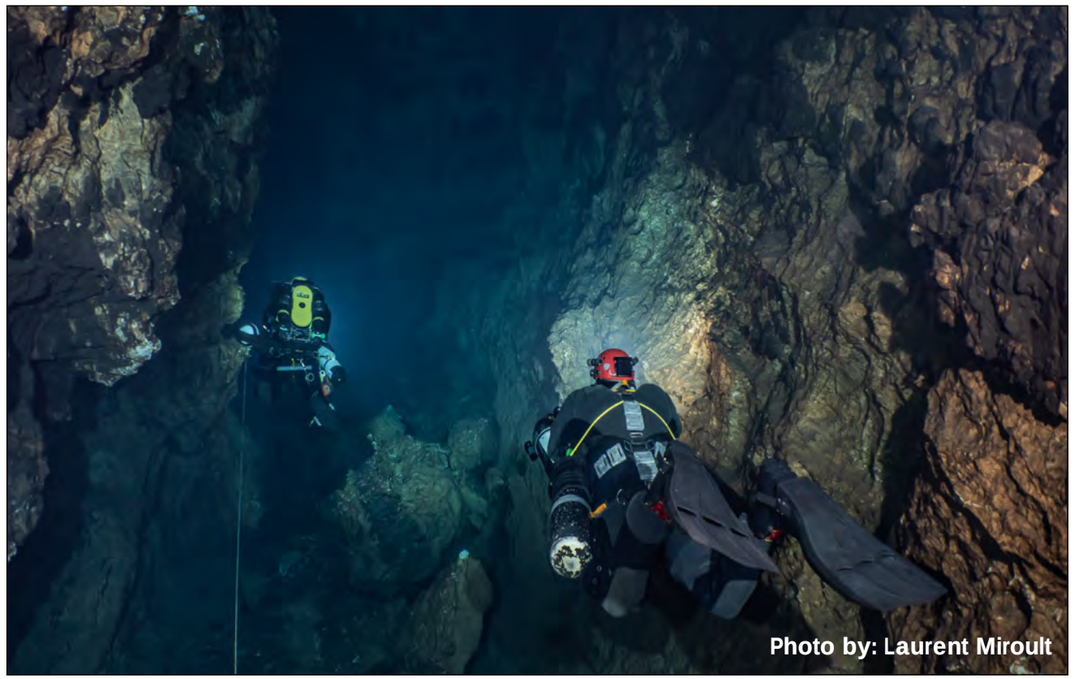


Photo by: Laurent Miroult

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duration of the stops. Depth becomes secondary... I don't fixate on it. If my body signals approval, I proceed. There wasn't any distress; it was the constraints of decompression time that compelled me to turn back.

**T+40 minutes - I can't breathe anymore!**
We're swimming towards the -80m level when I suddenly encounter extreme difficulty breathing—my rib cage feels constricted! My lungs seem blocked, my upper body trapped. Gas poisoning? Swiftly, I switch the rebreather tip, yet to no avail. It's not gas toxicity; the issue lies elsewhere. Faced with this unknown, fear lingers, but panic is unattainable.

I must rely on my wisdom and experience... I try 'stomach breathing,' as in training. Labored. Like sipping through a straw. But even with limited ventilated volume, it suffices. Minutes tick by... Bruno remains by my side, watching over me for four hours.

Worse still: a sharp pain grips my back. Alongside breathing difficulties, an oppressive sensation prevails—as if my suit is being crushed, the metal plate of my harness weighing tons. This ordeal extends for over an hour. It's only upon reaching the 30-meter mark that the grip eases, and I finally experience liberation. I inhale. I am alive. I remember...

During the debrief with Bernard Gardette, director of deep dives and extreme environments at Comex—responsible for Théo Mavrostomos' legendary -701m dive—I learn that the visual illuminations I experienced are symptoms of HPNS. Tremors are more common.

The spectrum of detrimental effects from neurological damage due to pressurized helium remains understudied. Reports mention vomiting issues. Thankfully, I escaped that underwater. These are irksome but reversible physical conditions, leaving the intellect unscathed.

However, the respiratory oppression appears linked to a massive helium outgassing from my too rapid ascent. Circulating bubbles that I gradually eliminated from my lungs, yet symptoms of spinal cord and kidney injury persist. The spinal cord—a risk of permanent paralysis...

Indeed, our computers are programmed to warn against rapid ascent. However, I've grown accustomed to my personal calculations and procedures, ignoring these warning bells, letting them ring out. Who's the boss here? I've grown accustomed to their persistent tunes, like a man at home ignoring his wife's shouts...

Gardette confirms that we can ascend rapidly from -300m to -200m, but it's crucial to slow down before the first significant deco stop! Valuable information that I'll heed for my upcoming dive in the terminal well of the Mescla cave in the Var gorges.

**T+120 minutes - The motionless journey.**
Franck joins us at a depth of 50m. It's time to jot down a message, a simple wet sheet of paper destined for other divers higher up and the surface. It reads: 'Fred -308m all is OK'...

Many hours still separate me from the surface. I'm doubly confined: in the flooded gallery and by this physiological limit preventing me from directly ascending, risking a severe or even fatal decompression accident.
I float, entering a 'degraded phase,' almost in a drowsy state. It's about aligning my physiology to its vital minimum, merging with water effortlessly. Listening to time stretch and dreaming of what lies beyond...

**T+200 minutes - Leak…**
As I approach the bottom of the exit shaft, daylight becomes visible from afar, urging me to scream. But at the -12m stop, a new alert emerges: a distinct sensation of fluid loss, from hip to foot. It feels as though I've urinated in my drysuit, an eerily realistic sensation sparking doubts.

A slight movement reassures me—my leg functions properly, and I remain dry. However, the 'leak' persists, an unending 'bladder' sensation. Gardette later attributes this to 'skin sensations,' a decompression-related phenomenon sans gravity.

Exploration
New world record

By: Francis Le Guen Photos: Laurent Miroult, Florian Launette, Patrice Cabanel, Frank Gentili, Alexandre Legrix, Piovano.

9m. The bell! I could conclude my decompression here, in dry comfort with legs in the water. Yet, I opt to forgo it. Changing the setup—a complete shift of environment, positioning, and potentially obstructed blood circulation—poses risks.

So, I remain horizontal, weightless, in a daze, choosing optimal decompression. I float serenely, a weightless entity within my rocky vessel, content and almost at ease.

Adjusting my heating: despite the relatively warm slightly brackish water at 18/19°C, the risk of cold remains due to immobility and stronger currents in this convergence point of the fountain's galleries.

Life teems here! Curious eels navigate among my equipment, while silver mullets dance in the sun. At minus 6 meters, filamentous algae drape and twist like theater curtains, mingling with lignite roots and reed beds.

Time for a snack—my Catalan country apricot compote bottles provide an unexpected energy boost. A realization strikes: dehydration likely plagues me, a negative factor for decompression.

I'll need to remember to hydrate more during future attempts.

Nearly 7 hours underwater, helium gradually dissipating from my body, the surface is tantalizingly close.

I observe it, a reflective mirror above me. With humility, I reflect on this new milestone in exploration—a paradigm shift challenging established beliefs, a leap forward for the entire community.

Our exploration endeavors always build upon past achievements. I think back to our pioneering elders, those who steadily dismantled psychological barriers.

This marks a new frontier, a plank thrown into the swamp, paving the way for further progress. The great speleonauts all took this leap. It was time for me to do the same.

I feel a sense of pride in these moments of pure beauty, in claiming a few dozen meters from the unknown, and in being able to recount this tale.

**T+419 minutes - Surface!**
I break the surface, lowering my mask and hood. There are splashes, silver droplets, laughter—sounds from the outside world; the smiles of friends.

And the unmistakable scent of life...

**Acknowledgments - Partners**

Comex SAS - Phymarex - Beuchat - Seacraft - Isotta Housings - MPS Technology - Plongimage - Ursuit - Vertical Adventure - Eurodifroid - Xdeep - Custom Diving Systems - Plongee.ch - Damian Jakubik - Witold Hoffmann - Alpha Requalification - Santi Diving - Georges Ruggeri - Olivier Bertieaux - Elisa Isolde - Manlio Pagotto - Nina Katia Ferro - Lucie Šmejkalová - Komninos Boutaras - Jakub Slama - Mathieu Coulange - Bernard Gardette - Olivier Isler - Cyril Brants - Richard Harris - Nuno Gomes - Krzysztof Starnawski - Luigi Casati - Laurent Miroult - Alexandre Legrix - Severi Rouvali

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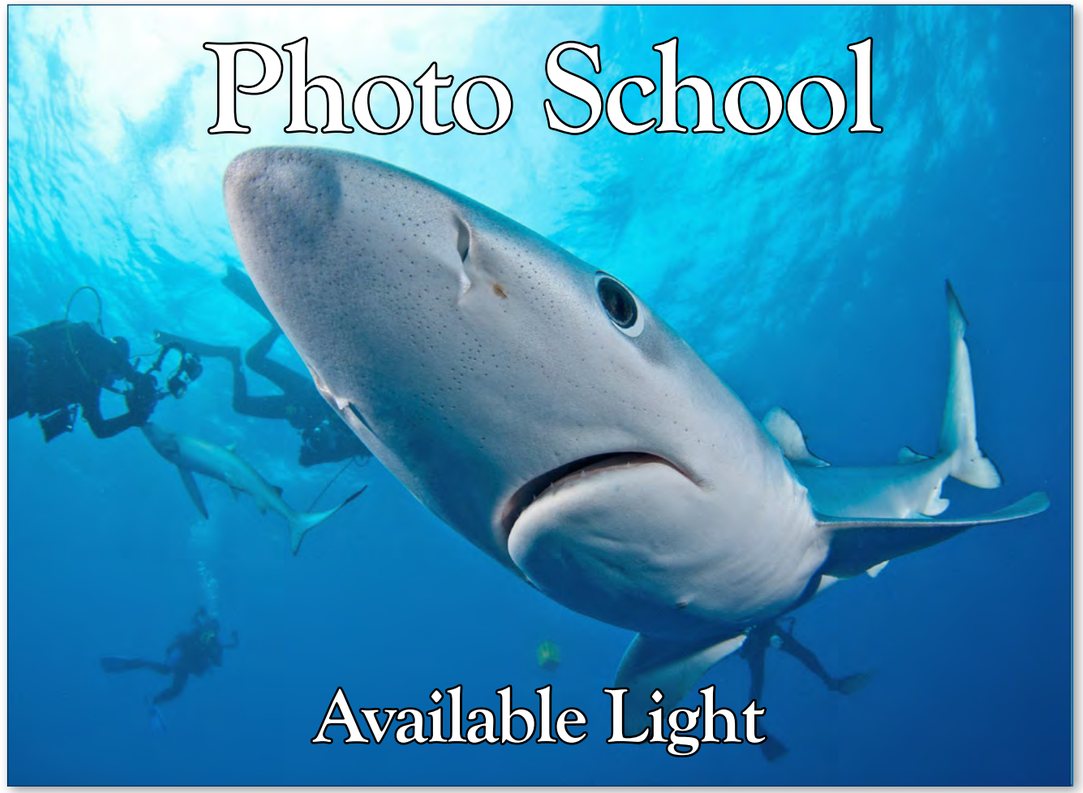
The Team

By: Rian Bester

# Photo School



## Available Light

Underwater photography is rapidly becoming more popular and is no longer an elite diving speciality.

Most scuba divers taking up the challenge of underwater photography are your true recreational divers who just want to have fun and be able to relive those special diving moments.

The problem is that they often come back after a dive and are disappointed with the results. They then seek the assistance of a much more experienced or professional underwater photographer – only to walk away even more confused than before.

In this new series, I am going to take you through the basics of underwater photography.

It is not difficult and anybody is capable of taking good photographs – the first thing you need to decide is how serious you are about underwater photography. In other words, how much do you want to spend on underwater photography equipment?

Unfortunately one must realise that the quality and capabilities of your equipment will affect your photographs, but at the same time, you can still take amazing photographs with entry-level equipment.

The secret is to know your equipment and what its limitations are and, most importantly, to never give up. Underwater photography requires effort and lots of practice.

So let's start with the exposure. One of the most common problems I encounter is that very few people take the time to read the camera's manual.



Through the Lens
Photo School

The advantage of reading your camera's manual is that you will have a good idea where all the settings are found in the camera's menus.

is important when you want to start manually changing the settings on your camera. You can know all the theory behind underwater photography but if you don't know how your camera works you are at a serious disadvantage!

So why such a big issue about knowing how your camera works? It is all about exposure! This is the one fundamental basic in any form of photography and you are going to need to understand your camera to get it right.

Without good exposure, the photograph is going to be ruined. So let's look at what exposure is and how can we turn those disappointing photographs into winners.

**What is exposure?**
Exposure is basically taking control of the available light and 'painting' it onto a light sensitive device.

The way light is controlled is managed by four factors.
- Available light
- Lens aperture
- Shutter speed
- Film' sensitivity

To work with any of these factors we need to first have some sort of reference to work from.

This information is obtained from the camera's internal light meter that measures the light reflected off the subject and through the lens.

I want to talk a little about the one factor that we have little influence over – available light. Yes, I know we can use artificial light, but we first need to understand a little bit about the characteristics of light underwater.

What happens to the natural light? You must understand that water is 800 times denser than air, therefore light travels slower through water than through air. Light also scatters, losing colour and intensity.

There are three factors that effect light underwater:

- Reflection – This is when light is reflected off the surface. This is caused by the angle of the sun onto the water and the sea conditions. Ideal conditions would be midday in calm waters.

- Refraction – This is the bending of light as it passes from air to water. This is why subjects appear to be a third bigger.

- Absorption – Light is made up of a spectrum of colour and when it enters the water the different colours are absorbed as we go deeper.

The camera cannot compensate for the colour loss and that is why we use artificial light underwater. Otherwise most of the photographs will just be different shades of blue.

Light absorption is you biggest enemy underwater and with artificial light we can regain the colours lost due to absorption. Now using strobes has its own challenges – a strobe is an electronic device that emits light that is almost the same as perfect daylight.

It 'paints' your photograph with the colour that was lost as a result of absorption. The best way to get rich colours is to get as close as you can to your subject and use artificial light.

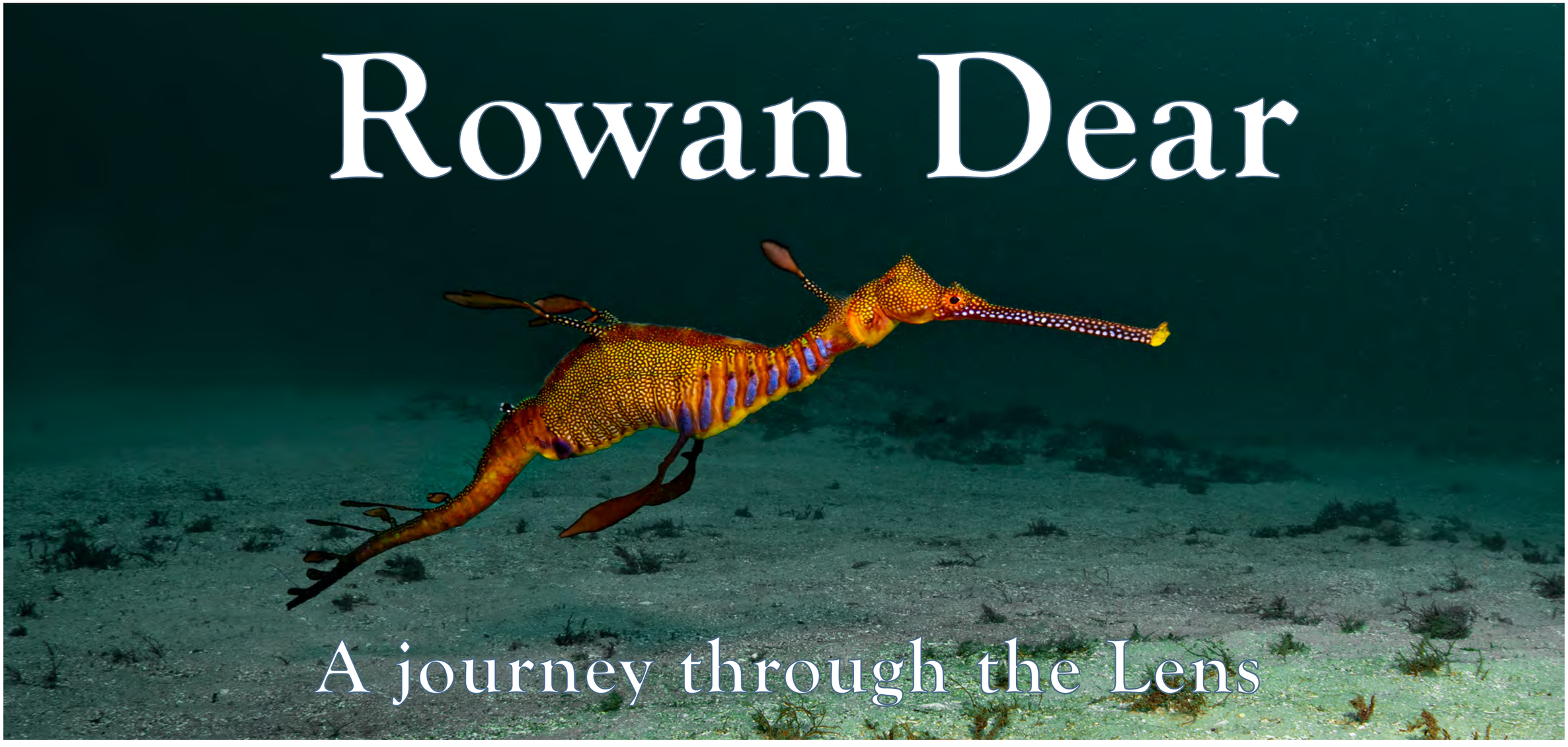
The one main problem with strobes is 'backscatter'. Backscatter is all the small white dots you often see on your photograph.
This is caused by small particles that are suspended in the water that act like small mirrors reflecting light back to the camera.

This really does not do your photograph any good. There are two basic things you can do to prevent backscatter:
- your diving technique.
- Adjust the position of you strobes.

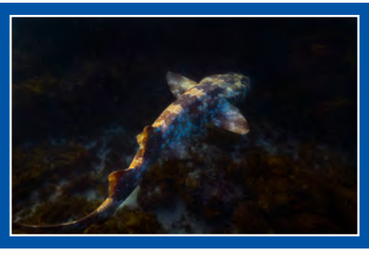
Through the Lens
Photographer

By: Rowan Dear

# Rowan Dear



## A journey through the Lens



By: Rowan Dear

I had always been an animal lover as a child, but I don't remember exactly when I became so fascinated by the underwater world, but I imagine watching David Attenborough's Blue Planet on the BBC in 2001 was certainly a good starting point.

Seeing the colours of the reef, the fish, the size of animals such as whales and sharks was incredible, and deep down I knew I wanted to see that first hand. However growing up in a small village in Wales, Uk I never truly thought it would happen.

I moved to Australia in 2010 with hopes of fulfilling those childhood dreams, but it wasn't until 2017 that I completed my diving course due to my deep fear of the ocean –I have since been fortunate enough to dive in countries like Thailand, Philippines, Belize, Mexico, Honduras, South Africa, Mozambique and Indonesia, although I carried a GoPro around on all these trips, and loved filming all the interactions I had with the animals I came across, I always knew I wanted to get into underwater photography.

After a trip to Byron Bay in March 2020: I had so many amazing encounters with leopard sharks and manta rays, and I was so jealous when I saw someone from my trips photographs and then comparing them to my low-quality videos, I finally bit the bullet and invested in an underwater housing for my camera.

So a week later, I purchased an Ikelite Housing and a Video Light for my Sony A6400 mirrorless camera.

Having been out diving around Sydney most weekends after that, I could see I was slowly getting better with my photography, but to really get to the next level where I wanted to be I knew I needed some help, so I enrolled in a 2-day underwater photography course in November 2020, down in Wollongong with Matty Smith, who was an award-winning photographer and also an ambassador for Nikon.

Understanding more about settings, lighting options like strobes was a real game changer.

My favourite dive site in New South Wales has to be Julian Rocks in Byron Bay, so now armed with a camera, some knowledge and experience, I booked a trip 12 months after my first one there with the hope of this time returning with some shots I was proud of, of Manta Rays, Leopard Sharks and Turtles.

Although I know I have a long way to go, I was so happy with a lot of the shots I got and have sold quite a few images of the leopard shark in black and white and the turtle shots to people through social media.

Photography is a great way to tell a story to those who were not there to witness it themselves, the best photographers I follow on Instagram make me feel like I was there and also ignite a feeling inside of me that makes we want to see first hand what they saw.

I hope with my photography it does the same, and when I get feedback from friends or followers on my Instagram page who are addicted to waiting for my next post and seeing what strange animal from the ocean, I will post next gives me a great feeling inside.

Earlier this year I a 50mm macro lens and away I went on a whole new journey in underwater photography.

Diving at Clifton Gardens in Sydney is like going on a treasure hunt to find to weird, wonderful, colourful and sometimes very well camouflaged creatures of the macro world.

I absolutely love the challenge of bringing these creatures to life and making something that may only be 2cm long appear like it's a giant and can stand up and show off its beauty to people who would never knew they existed otherwise.

I hope you enjoy my selection of photos from the wonderful underwater world.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By: Rowan Dear

A grey nurse shark, taken on a solo dive on Christmas Eve at Bushrangers Bay, NSW. 16mm lens? 1/160 @F7.1, ISO 200

A turtle with such a beautiful pattern on its shell at Julian Rocks, Byron Bay. 16mm with fisheye converter 1/160 @F4.5 ISO 320

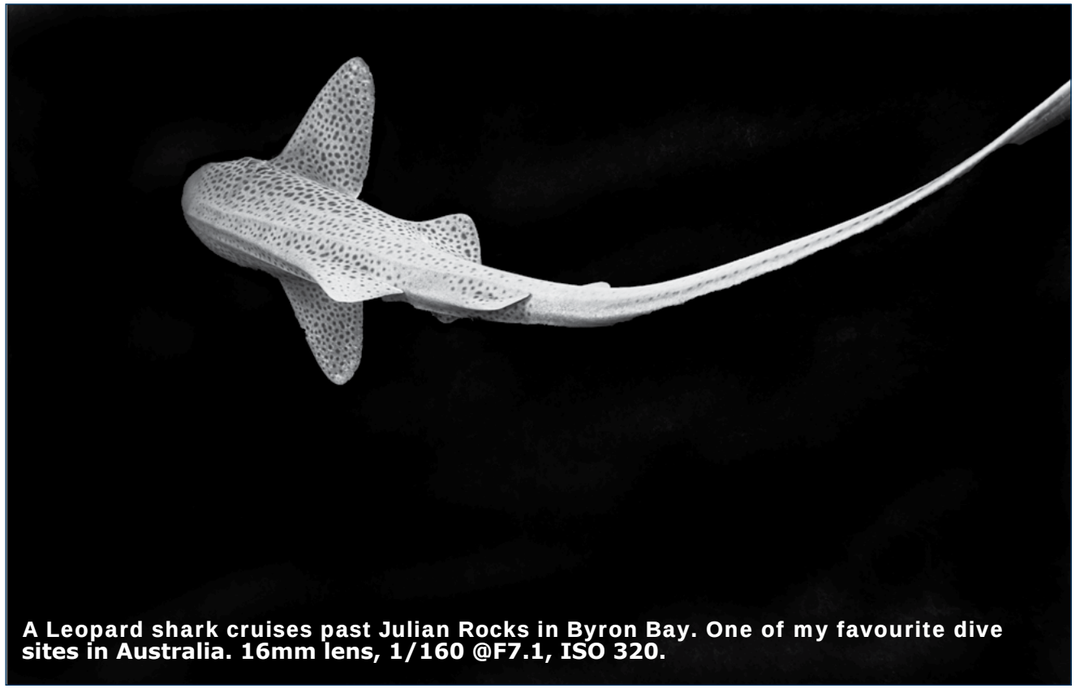




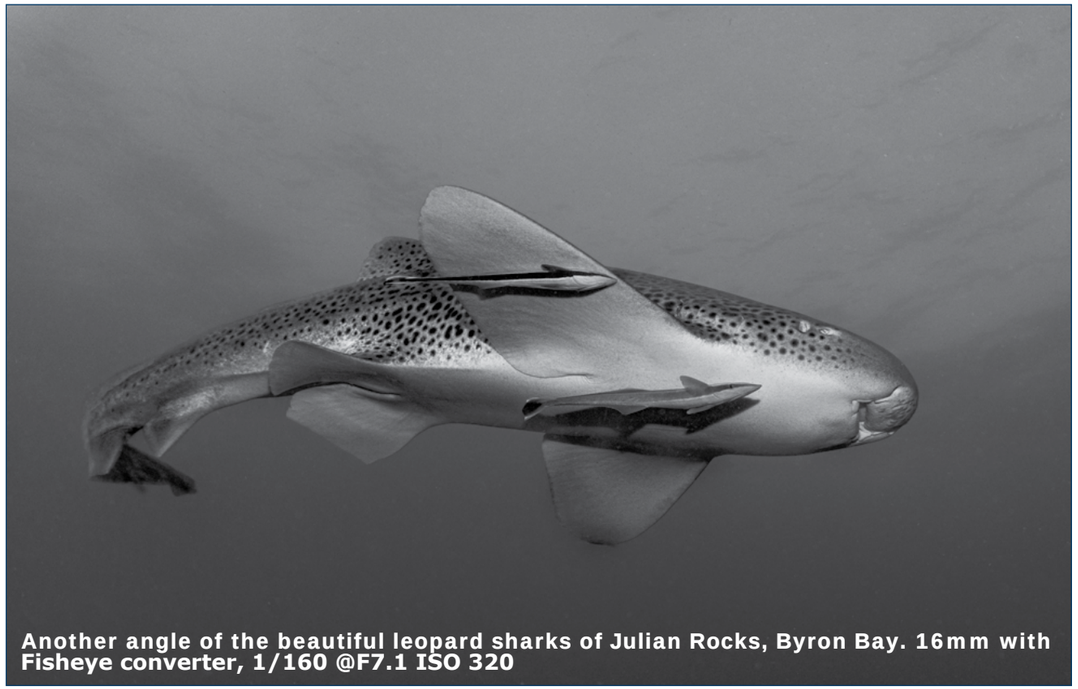
Ha-Wrassed. A little Wrasse at Shelly Beach, Sydney was following me around for most of the dive so I finally decided to take its picture. 16mm 1/160 @F8, ISO 160

A Port Jackson shark at Shelly Beach, Sydney has a little yawn. 1/100 @F16 ISO 400

By: Rowan Dear



A Leopard shark cruises past Julian Rocks in Byron Bay. One of my favourite dive sites in Australia. 16mm lens, 1/160 @F7.1, ISO 320.



Another angle of the beautiful leopard sharks of Julian Rocks, Byron Bay. 16mm with Fisheye converter, 1/160 @F7.1 ISO 320

By: Rowan Dear

Taken at Clifton Gardens, Sydney. I never thought I could appreciate Nudis, but once you start photographing them it's addictive. 50mm macro lens, 1/160 @F7.1 ISO 320

Giant Cuttlefish encounters are always entertaining. Taken at shelly beach, Sydney in May 2021. 16mm with Fisheye converter. 1/160 @F7.1 ISO 320

Giant Stride
Dampier Straits

By: Christopher Bartlett

# Dampier Straits

## Raja Ampat

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SCAN ME

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By: Christopher Bartlett

The morning birdsong was incredible. As the sun peeped over the horizon a hooded butcher bird, a dull black and white creature, dominated the choir with a tune that sounded like a fluorescent rainbow. I looked out of the window of my room, perched on stilts over the shallow azure waters of the Dampier Strait. A couple of juvenile blacktip reef sharks patrolled the waters below me with plenty of posturing, but keeping a distance from the giant barracuda sheltering in the shade created by my neighbour's room.

After a 50-hour journey from Paris to Sorong that involved four flights and a two-hour boat ride I'd arrived at Kri Eco Resort, a little travel weary but in time for lunch and some strong coffee before getting into the water. The dive boats were going out at 3 PM, as per usual, but I had a new housing and camera to test, and thought it wiser to opt for a quick and gentle shallow dive off the dive jetty to check out the fish congregating under there.

Given that my room was over the water, testing the empty Nauticam housing was a doddle, and I was soon in the water with a fisheye on my Olympus EM-5 testing the different settings on the school of big-eyed jacks lazing in the water in front of the dock.

A fat stonefish sat at the bottom of one wooden pillar, and five batfish posed relatively unperturbed by my presence in front of some pink and white dendronephthya soft coral whilst the top of the dive centre appeared in a Snell's window framed by blue skies and fluffy clouds. A golden gorgonian fan shone in the shallow water as the sunbeams streamed through the planking. My short test dive turned into a 90-minute session. With a jetty like this, I wondered what the reefs were like.

With a population of only 52,000 and a surface area 10% greater than the size of Belgium (has anyone else noticed how often Belgium is used as a yardstick for the size of a place?), the Raja Ampat Marine Conservation Area was a sparsely populated place. The majority of the inhabitants live in Sorong, leaving the myriad islands occupied only by tiny villages. Fishing by any means other than spearing and individual lines is banned, and the abundance of fish life is one of the Raja Ampat's big draws.

However, abundance isn't the only string to the area's bow. In 2012 Dr Gerry Allen, a reknowned marine biologist and extremely well-published author broke his own dive site fish count world record. On the Cape Kri dive site, in front of Sorido resort (Kri Eco Resort's newer and more upmarket sibling), he counted 374 different species of fish in one dive. That's almost the same number of species that exist in the entire Caribbean (many times the size of Belgium) and close to a quarter of the 1432 species of fish found in the Raja Ampat area.

That evening, Bintang lager in hand, I sat on the chill out deck halfway along the jetty, ideally positioned to catch sunset and sunrise, and got to know the eclectic bunch of fish fans that had made it to this far-flung diving outpost in the centre of the Coral Triangle. a retired English couple and an English doctor, two Australian conmen (I mean an insurance broker and investment banker), four French (another banker, a teacher, and two civil servants), two Spanish air-traffic controllers, a Namibian lodge owner and his Polish wife, a Chilean charity fund-raiser, and an Austrian hotelier.

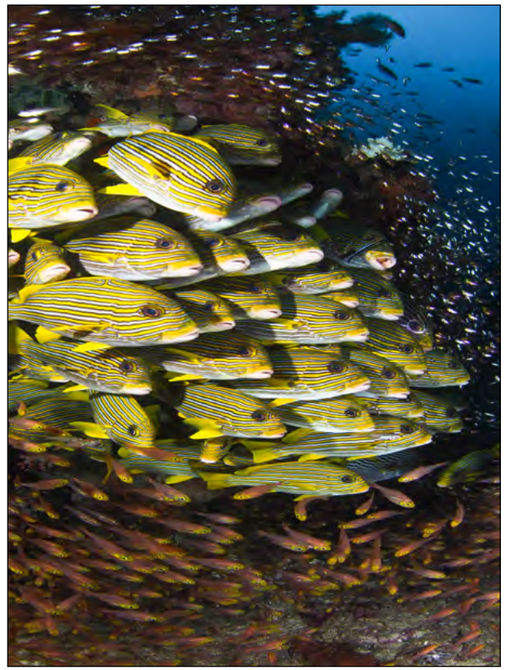
Giant Stride
Dampier Straits

By: Christopher Bartlett

The following morning the 16 of us were assigned a spot in one of three boats, each one diving one of the 30+ dive sites within 20 minutes of the resort. Teamed up with the two Antipodean friends and the southern Africans, we headed off to a site called Mios Kon in our twin-outboard, shaded banana boat with two boat crew and two dive guides.

After the usual briefing and buddy checks, we backward rolled over the side in to the blue. It was a rather milky blue, with viz of 15 to 18 metres, due to plankton in the water. Whilst this wasn't ideal for the wide-angle photography I'd had in mind, the reef was teeming with fish, all coming in for a chow. Mios Kon is a typical Dampier Strait dive site; starting at around 30 metres deep on a sandy bottom, the roundish reef slopes up to around five metres below the surface.

We dived the side being hit by the current, dropping in where the current hit the reef. We entered at the point where the current splits, as this is where the fish action is, the fish at the lower end of the food chain feeding on the nutrients borne by the current, and the fish above them in the







By: Christopher Bartlett

pecking order of who-eats-who coming in for their meal too.

On a typical dive one first goes with the current from its centre point, then you swim into it a couple of metres higher, till you reach the centre point where it splits and stops and then goes in the other direction until the guide turn the group back into the current to return to the split line etc...In effect, you move up the reef in a meandering S-pattern, all the while surrounded by fish of various sizes, from schools of brightly coloured anthias, silvery fusiliers, horse-eyed and bluefin jacks, Spanish mackerel, batfish, and some solitary dog-tooth tuna. Whitetip and blacktip reef sharks patrol the lower areas and a resting wobbegong can often be found.

Other sites with a similar set-up are Chicken Reef (no feathered fish but regular schooling bumphead parrotfish sightings), so called as one of the but the Grey reef sharks that sometimes put in an appearance here scared a dive guide many years ago), Sardines, Cape Kri, and Sleeping Barracuda. One post-breakfast dive at Sardines was particularly fishy and I found myself spoilt for choice. Anthias swarmed around a bommy, moving to and fro like waves on a beach, until bluefin jacks cruised right through them.

Batfish hung parallel to the reef top in unison in a perfectly lopsided formation, a school of barracuda lingered at the edge of my field of vision. A Napoleon wrasse showed considerable interest in the smaller of the Aussies, and just out of serviceable range of my fisheye, but well within view, a blacktip and whitetip crossed heading in different directions, like two execs on their way to business lunch.

Whilst these sites and their abundant life where great for wide-angle photography, they also had plenty for the macro enthusiast, with some of the rarer reef weirdoes living here, such as Pontoh's pygmy seahorse, one of the smaller hippocampus species, which hangs out on hydroids. Not only are they smaller than their cousins the Barbigant and Denise pygmy seahorses, they are also even shyer, continually turning their back to





the lens. These red-topped yellow tailed buggers are one of the most challenging macro subjects going.

The local sites are really quite varied in their underwater offerings and Mike's Point turned out to be a favourite. It's a tiny island in the middle of the straight, with current washing round either side of it. Starting off on the back in the lee of the current for a change, we swam alongside, in round, and sometimes though its crevices, overhangs, nooks and crannies. A blue-spotted ribbontail ray sought peace and quiet under one rocky shelter, Harlequin sweetlips stopped off for a dental clean from a cleaner wrasse, and a wrasse-mimicking fang blenny mistook my bare forearm for lunch, giving me quite a shock.

The grinning, cheating little parasite didn't even bother to try and con me by disguising itself as a cleaner wrasse beforehand. On the current washed reeftops and on the sides, the coral coverage is pretty much 100 per cent, with a range of anemones too, patrolled by various schools from the fusilier family. Once halfway round, the shallows that get most of the stronger current are littered with stunning yellow and orange gorgonian fans with pretty anthias and damsels milling around them ditzily like living sequins.

Tuesdays are Manta Sandy days. Rather than return to the resort between dives, given the distance to Manta Sandy (around 30 minutes) the boats stay east and do two dives before returning to the resort for lunch. On the first dive near the extra-picturesque island of Arborek, Ross, the client relations manager, saw me lining up some sweetlips posing and pouting under an arch before beckoning me onwards with a double-arm flap manta signal. They were sitting pretty going nowhere, and made me think of a David Doubilet shot from Raja Ampat, but we were here for manta, so I left them after getting a couple acceptable images. A minute later a colour-morphed, almost entirely black reef manta swooped straight over us in one low-flying pass so close she more than filled the frame of my fish-eye.

Post-dive we had our surface interval on the dock at Arborek with the two other boats and naturally those who had been to Manta Sandy already were extolling the joys of watching a pair of manta get cleaned for an hour. "Lovely sweetlips" I said to one of the Aussies. "It's his lip balm, mate" replied his mate. "Bah" said Ross, "I can show you better than that tomorrow". "Fair dinkum, mate?" I asked, getting into the whole Antipodean vibe.

Before that of course was our dive at the cunningly named Manta Sandy, as it is on a large sandy patch home to two cleaning stations. It is so popular with divers that an NGO has marked out a line with dead coral blocks for divers to stay behind so as not to scare the manta. This allows for hour-long manta observation, though is too far away for decent photography. I ended up turning the camera off, sitting on the sand, and watching the ballet unfold. Manta Sandy and Arborek are not the only manta sites in the area. Close by is Manta Drop Off, a current-swept corner reef on two deep walls. When we approached pre-dive I thought we were seeing mobulas cruising the ripping currents around there were so many.

I was so gobsmacked by the numbers that I forget to take my reef hook. Oops. The current was pumping, but keeping very low and holding on to substrate with my hand I could stay in position, and kicking hard with my freediving fins I could even move into the current, albeit it very slowly.

This site was frequented by giant mantas, and there were droves of them. I counted at least fifteen at one given moment. But they were facing away from us, into the sun, and after 25 minutes I wanted to attempt something more than a distant arse-shot.

As I tried to move round the corner I could feel another, even stronger current come into play, but I was in a better place. Or so I thought. As I turned sideways to line up an approaching manta the new current caught me with its full force and I was ripped off the reef. I tried a couple of big kicks but I was going backwards at an unprecedented rate of knots, faster than ever in my 1600 odd dives.

I just had the time to wave goodbye to Ross and give him the OK sign before my ears started to squeeze - I was also going down. A glance at the depth gauge told me I'd dropped from 15 to 25 metres in a matter of seconds. Then I remembered the whirlpools I had seen from the boat. "OK F---wit" (my nice nickname for myself when I sense some self-created sub-optimal situation arising) "inflate a bit and fin like a demon".

By: Christopher Bartlett

I got vertical, held my inflator and concentrated on the depth reading on my computer (also on my left wrist and importantly facing inwards) through the near horizontal stream of my bubbles breaking over it. I started to rise and dumped air to avoid a rapid ascent. I got to my safety stop depth and whizzed along on an exhilarating ride, passing at least another dozen manta gracefully cruising into the current as if it was not there. But there it was, as when I broke the surface I was over a kilometre away from the boat, closer to a couple of liveaboards and most of the way to the side of Arborek.

In the 10 seconds it took for me to get my bearings, I could already hear the twin outboards and saw the banana boat flying towards me. Two worried Papuan faces peered over at me, till I let out a raucous pirate's laugh and their faces split with wide grins. I only had one half-decent silhouette shot, but I'd had a fantastic ride.

The next day Ross took us to Otdima. Nathan was going for more macro, but if this is where David Doubilet's sweetlips were, I was going as wide as I could. After finding some seahorses and shrimps to keep Nathan happy, Ross puckered up his lips and pointed "this way" till we got to an overhang covered in glassfish and pointed again. I gave him a nonplussed shoulder shrug more commonly seen in a Parisian bistro when you complain to a waiter. He pointed animatedly again, and then swam off, probably giggling. They were very pretty glassfish, so I swam closer to illuminate them correctly.

And then they parted. Like the waves of the Red Sea before Moses. Actually more like a strippergram removing her drab raincoat to reveal a full set of classic lingerie. It was the jackpot of sweetlips, a school maybe 100-strong, the crown jewels surrounded by a thousand glittering gems. I snapped away for 10 minutes, in bliss. The end results were not DD, but I really like them. Colourful, plump, sexy pouting fish.

But Otdima's visual delights didn't end there. A broadclub cuttlefish posed perfectly under a large table coral, presenting itself to best highlight itself, the coral, the reef, and the ocean, a magic combination of the rule of thirds and the use of diagonals. And then there were the hard coral gardens in the shallows, and more cave sweepers hanging around gorgonians, that I failed to fully appreciate at the time, being in a sort of visual and photographic overload

There are too many good sites to eulogise and wax lyrical about them all. Mayhem on an incoming tide was suitably named for the swirling reef fish and corals, Arborek had reef mantas, more sweetlips, and a cool surface interval promenade along its picturesque jetty, or you could snorkel and spot the odd passing manta.

The Passage is an ethereal, other-world dive site with moderate current gently taking you along a coral-strewn shallow wall, the trees above clearly visible and shafts of sunlight penetrating the canopy and illuminating dead tree trunks on the bottom of the narrow channel. It feels like diving in a river, until you glide past a large barrel sponge or gorgonian fan, or a blacktip reef shark cruises by.

The stand out site for me though has to be Blue Magic. In season, from December to April, this underwater hump is a giant manta magnet. If mantas wore leather miniskirts, this underwater hill would be a special edition Harley Davidson Fat Boy. You can dive down to 30 metres and see Barbigant's pygmy seahorse (again), or another decent school of big-eye jacks, spot a wobbegong or two, but once I had been to the top of the site, on subsequent dives I just went to the reef top at 10 metres and stayed there, hanging back from one of the cleaning stations. Within a few minutes, the giant cartilaginous gliders turned up and just kept circling.

When one was done, another pulled up, sashayed around for a bit like a model on a catwalk, often hovering over my bubbles for a tickle. After the first dive here, I just wanted to keep coming back.

I managed to dive it three times in the last two days, and would gladly have done more. It's the sort of place I just want a floating house over the top of with a surface supply of gas. I've spent a fair bit of time up close and personal with their toothier cousins, but this place was an almost extra-terrestrial elasmobranch experience, truly mantatastic, a must-do site for any manta fan.

Indigo Safaris (www.indigosafaris.com, info@indigosafaris.com) organize tailor-made trips, accommodation, dive packages and vehicle rentals to many diving hotspots all over the world.

Giant Stride
Dampier Straits

Giant Stride
Humpback Whales

By: Richard Lomax

# Humpback Whales

The fluked tail disappeared below the surface leaving a perfect ripple radiating out from the where the majestic male Humpback whale (Megaptera novaeangliae)disappeared into the blue depths of the Madagascan waters.

# Solomon Is. Diving

*Photo: Gerald Rambert*

With so many islands, liveaboard is one of the beat ways to access those hard to reach dive sites.

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By: Richard Lomax

A short while later the small boat started to vibrate. Below, about 20m down, the male Humpback hung motionless, face down, singing. The song is made up from low frequency sound waves that the male emits with incredible energy. The low frequency, together with the loudness (energy), allows the sound to travel vast distances. Water is a wonderful medium for conducting sound waves – the sound made by the Humpback is amongst the loudest sounds made by animals.

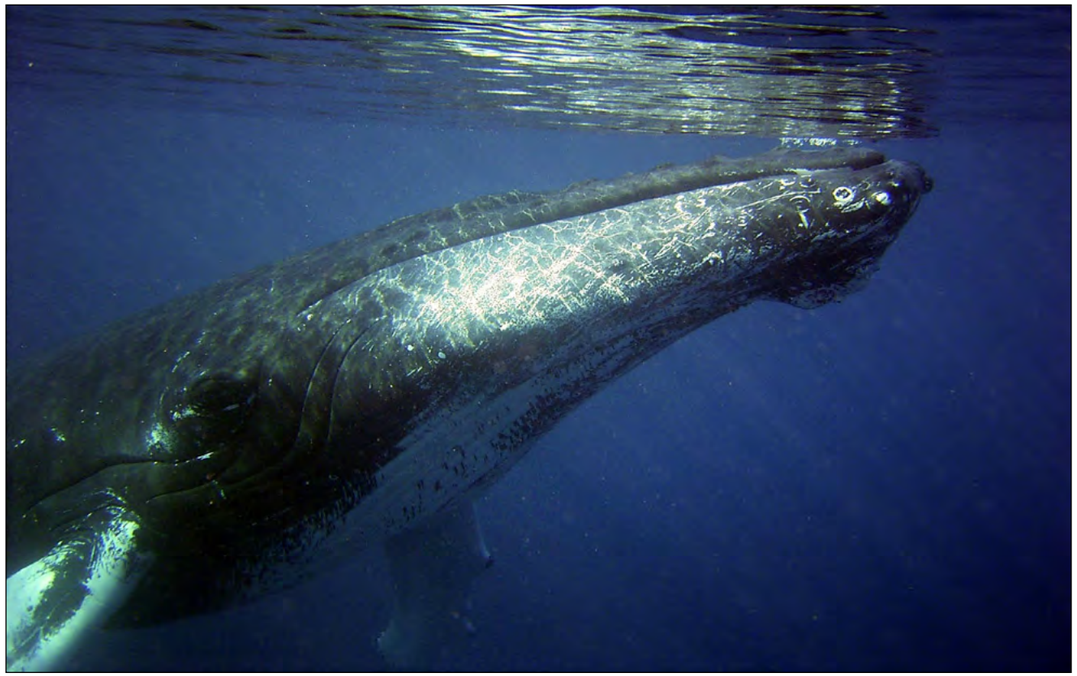
The song is complex and is unique to a male Humpback. Currently it is thought that the song is generated to attract females – research from Hawaii on this aspect is inconclusive but research from Australia tends to support this theory. The male also only sings during the winter months.

Like most whales, we know so little about these giant that migrates past our shores each year on their way from the Antarctic to their birthing grounds in the tropics and back. Humpbacks born around Australasia will return to their birth places. Genetic studies show that the groups are different, but what is intriguing is that phrases in songs from, say the east coast Australasia group, will find their way into the west coast group and with time across the Indian Ocean to the African population and from there across the Atlantic to the South American populations. The literature is unclear on whether the songs transfer between north and south groups.

Although for most of the year the Humpback is a solitary animal, it does gather sporadically in groups to feed during the summer months in the on small fish. This social interaction involves a single animal swimming below a school of fish (anchovies, cod, sardines, mackerel, capelin) and emitting a stream of bubbles.

The rest of the group emit sounds, and this combination of sound and bubbles congregates the fish into a vertical compact column. At some unknown signal, the group opens their huge

Giant Stride
Humpback Whales



By: Richard Lomax

mouths and lunge up into the column, scooping the compacted fish into their mouths.

It is behaviour not often seen in the animal world – a group of individuals gathering for the purpose of hunting and dispersing after the hunt. If you think about how complex this activity is, one realises that the whale must have a well developed communication mechanism.

Apart from an individual locating the fish and calling other whales to the scene, a member has to be selected to generate the bubble net from amongst the group whilst the others encircle the fish, and with sound, heard the fish into the bubble net.

This herding happens well below the column of fish. At a specific time a signal must be given that causes the whales to simultaneously heave up into the column and ingest the fish. Compare this to calling together a group of people in a shopping mall, and organising them into a soccer team, with the purpose of scoring a goal against an opposing team. And the whole activity lasts just 10 minutes.

The Humpback is a baleen whale, meaning that it has hair (baleen) rather than teeth in its mouth. It is a big animal with females averaging 15-18m in length. Like the Southern right whale it also is covered in callosities. Identification of individuals is based on variations in the tail flukes.

It is the most active of the large whales, performing all sorts of surface activities, such as tail lobbing, sky hopping and breaching. The name 'Humpback' comes from the hump just forward of the dorsal fin.

It is the most studied of all the large whales. A BBC film crew from the Earth News series, and hosted by Dr. Ted Oakes, have just released footage taken around the Kingdom of Tonga of a group of male Humpbacks competing to



mate with a female. The footage gives a glimpse into what has before been part of the unknown mating behaviour of large whales. Surface activity was suspected as being mating behaviour, but this new evidence shows that mating is a very different activity.

What stands out from footage is the number of males participating in the mating, in this case, 40 of them. The other point of interest was that the oestrous female summoned the males by slapping her tail, possibly releasing pheromones and possibly some yet unknown mechanisms. She hung around until she had a good number of suitors and then set off at a rapid rate, reaching speeds of 18km/hour.

The males followed, jostling violently to take up the winners spot just behind the female's tail. To take up the winners place required beating off the opposition with slaps from the pectoral fins, slaps of the tails, blowing air bubbles, vocalising, slapping the huge feeding pouch and even leaping out of the water onto the back of an opponent.

Because the birth of a whale is such an energy intensive exercise for the female, she has to be sure that the male that impregnates her, is the fittest from the available pool of males.

We still do not know if this mating is a single event or whether it happens on more than one occasion and if the female is able to select the best sperm from a number of couplings.

The footage opens up so many doors relating to the behaviour other large baleen whales.

The documentary is well worth watching and one has to feel for the free-diver, Rodger Munns, who recorded the underwater footage. Being in the path of a large number of 40 ton males whose only intent is beating the opposition with slaps, lunges and head-butts must have been pretty intense!

# Deep Safety Stops

By: Nuno Gomes

**It is a question which is often asked – who should use deep safety stops, all divers or just technical divers?**

Most divers are aware that the recommended prescribed ascent rate is 10m per minute.

That means that a diver will take 60 seconds to make an ascent from a depth of 10m to the surface, excluding the shallow safety stop of 2-3 minutes at 3m.

I know of very few divers who ascend that slowly – most divers ascend much faster.

Try walking 10mslowly while counting to sixty, it is extremely slow.

It is important to note that the ascent rate is part of the decompression, therefore in all dives some decompression is carried out, even for those dives for which there is no requirement for decompression stops (other than the shallow safety stops).

In this article we deal with deep safety stops and who should use these deep safety stops.

As far as I am concerned, all divers should use deep safety stops, especially those divers who ascend faster than 10m per minute from the bottom and in between decompression stops.

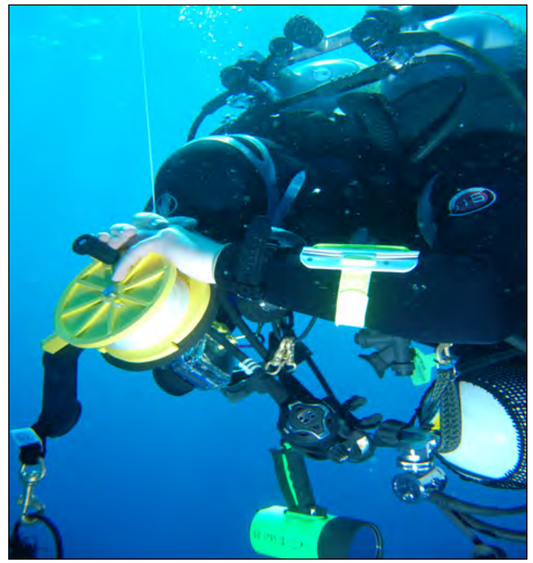
Do deep safety stops apply to divers using any gas mixture? Yes, deep safety stops apply for air diving, nitrox diving, normoxic trimix and trimix diving.

They are particularly useful for any dive which involves conventional decompression stops.

The reason for deep safety stops is based on the presence of 'micro nuclei' (tiny bubbles in the blood and tissues).

These are always present, even when we are not diving.

If we ascend too fast (faster than



By: Nuno Gomes

10m per minute, and even if we ascend at the correct ascent rate) these micro nuclei can grow and cause decompression problems, usually in terms of fatigue (this is a mild type of decompression sickness), following a dive.

How do we apply deep safety stops to prevent mild decompression symptoms (and sometimes not so mild)?

1 – Calculate a decompression profile using the tables or the software that you normally use.

2 – Take your bottom depth and the depth of your first prescribed decompression stop.

The mid point between the two depths will be your first deep stop – this stop should be two minutes long.

3 – Recalculate the decompression profile taking the deep stop into account. If the distance between the first deep stop and the first required decompression stop is greater than 10m, add a second deep stop of two minutes at the midpoint between the two points.

4 – Repeat the procedure until the distance is less than 10m.

For example, a dive to 35m for which the first 'official' deco stop was at 6m, would require deep safety stops at 20,5m and 13,25m of two minutes duration each followed by a recalculation to take further in-gassing into consideration.





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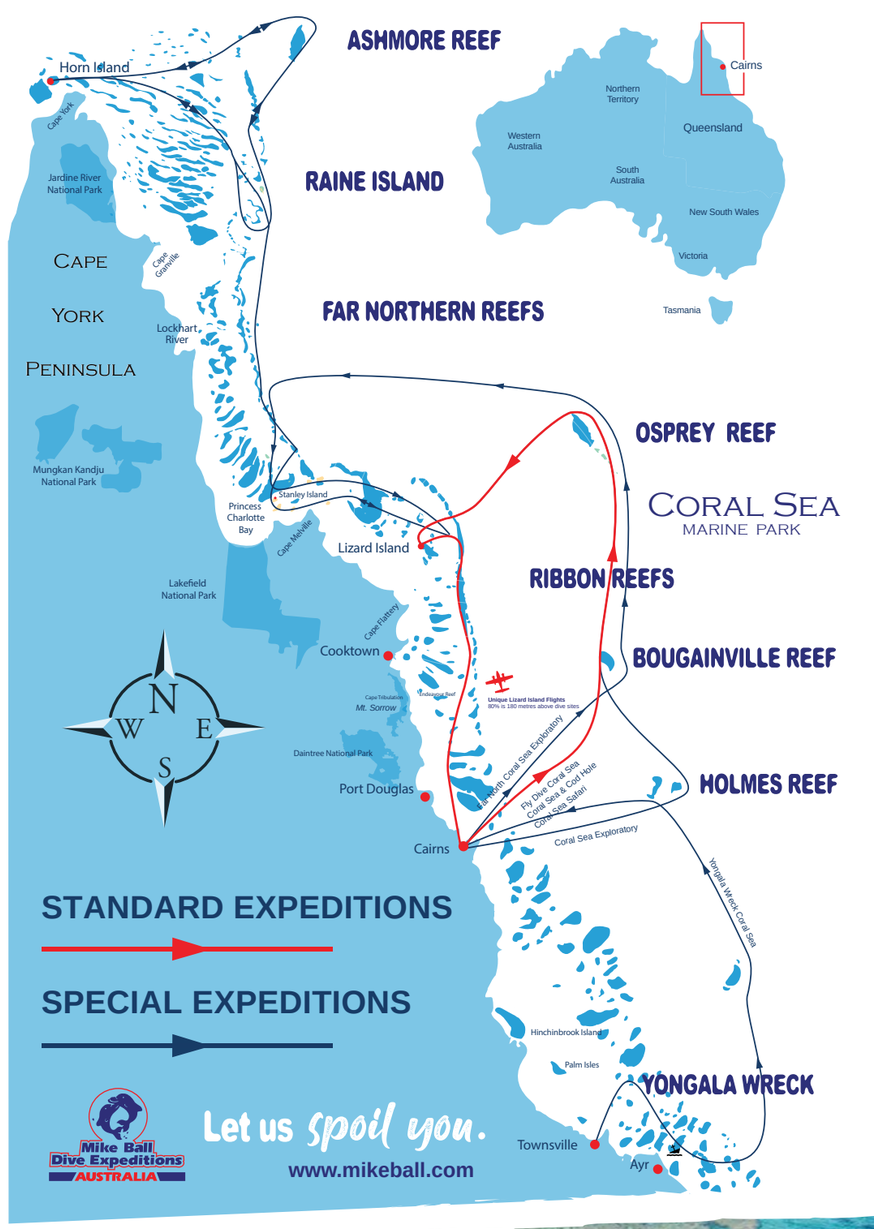


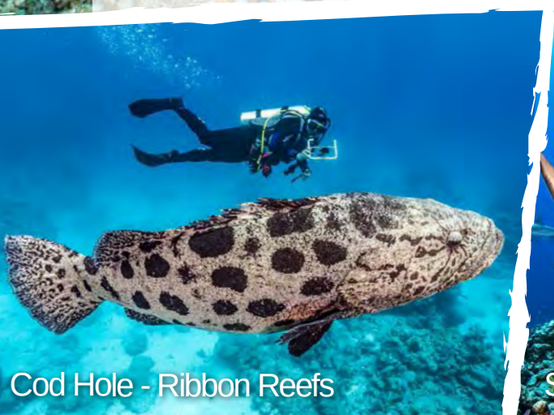
Cod Hole - Ribbon Reefs


Shark Attraction - Osprey Reef


False Entrance - Osprey Reef


Minke Whales - Ribbon Reefs

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Photo By: Nuno Gomes

# Funniest Nitrogen Narcosis.

## Q & A

**Nuno Gomes**

It was a few years back but I will never forget that weekend at Wondergat. Myself and Mr. X did a dive to the back of the cave – the dive involved going straight down a vertical shot line to a depth of 36m and then following a line which gently slopes into the cave down to a depth of 58m, over a distance of about 70m, to the back of the cave.

On the Saturday, Mr. X and I did the dive; the dive went off perfectly and without incident. I had taken the precaution of taking an extra 10-litre stage cylinder with me, over and above the twin 10-litre set on my back. Mr. X had a twin 6-litre set, on his back, and nothing else.

The plan for the next day was to repeat the dive of the previous day. As an extra precaution I placed a 10-litre cylinder at the 6m decompression stop, on the shot line, and another 10-litre cylinder at the bottom of the shot line, at 38m.

When we got to the end of the cave, at 58m, Mr. X started breathing heavily and bolted to the roof of the cave, trying to ascend to the surface. I followed him and brought him back down to the line and immediately started making an exit out of the cave. Mr. X ran out of air halfway out, at the Police sign. I handed him my spare 10-litre stage cylinder which he quickly used up, just making it to the bottom of the shot line at 38m.

I handed Mr. X the next 10-litre cylinder which he completely emptied from 38 m to 6m during the ascent; he then proceeded to use the last spare 10-litre cylinder at the 6m decompression stop, using at least half of it before we surfaced after completing the last decompression stop at 3m.

Once back on the camp site I asked Mr. X what happened? His reply was, "Nothing much, but I think that I was a bit narcosed". I just burst out laughing… he could not remember that he had nearly died and that he had used his twin 6-litre set plus almost another three 10-litre cylinders – the day before he had only used 140 Bar from his twin 6-litre set.

**Barry Coleman**

The Griqualand Wreck dive started with a current running to the north and the buoy line pulling occasionally underwater. The divers were all veterans of south coast diving, so the atmosphere was one of "no problems". Down we went and the strength of the current increased. Hand-over-hand we went down the anchor line looking for the wreck in the depths. Stop. What is this?

We are suddenly pulling along the sand at 46m? Where is the wreck? Keep pulling and we will find it. And we did… above us! Hang on to the wreck and check the depth – 41m – this is correct. Why is that diver going into the wreck? I will stop her by pulling on her leg.

Out you come! She pulls away and swims straight in, I turn and look at her buddy and get the biggest smile I have ever seen from him. No use there! So I swim after his buddy, pull her out and signal up. What do you mean, no?

We are going up, I repeat. I signal the happy buddy and drift off the wreck heading up with them both. On the surface the dive was discussed in depth, with denials and laughter all round!

**Pieter Smith**

Your childhood has a lifetime influence on you, especially when you are under stressful circumstances. My younger brother had quite an interesting childhood with me as his older brother.

He joined me once for a dive in Wondergat, and being trained and having dived mostly coral reefs, he was not that experienced with deeper dives and narcosis. He obviously knew about Wondergat and older brother diving in all sorts of caves and holes.

Well, we descended (maybe a bit fast) to what was to be a relaxed and enjoyable dive down to the Southern Grid, a swim-over to the Northern Grid, then to the Bell and up along the wall leading to the steps. Just before we reached the Southern Grid (+/- 35m), I felt a strong pull on my fins. Brother wasn't looking all that well with eyes bigger than his mask. I grabbed him, got him to the shot line, and stabilised the situation.

He immediately looked more in control, but still stressed, and showed me the thumbs up. When we reached the surface he was seriously cross with me.

"Why did you do that!" he screamed at me. "I helped you man, you were narced," I replied. "So why did you pull my mask and then release it to shoot back on my face if you wanted to help me?"

"It couldn't have been me," I replied, "Your mask was on your face the whole time and was not even flooded," I said.

Narcs can be a funny experience. When stressed, it can bring out those childhood complexes or that which you are afraid of in life and make it a very real experience.

**Pieter Venter**

It is rarely funny, however, there was one dive where three buddies and I had a good laugh. We dived to the Bell in Wondergat, closed the air outlet on the top and filled it with air and snuggled up inside taking our masks off and taking our DV's out when talking.

Many jokes were made with squeaky voices followed by uncontrolled laugher, leading to more hysterics and so on.

The video we recorded showed afterwards that it was actually funny – our faces looked weird, our voices were hilarious and Martin robbed a mannequin's leg of its innocence.

We left the Bell, opened the outlet and attacked the massive stream of bubbles like sharks feasting on a bait ball. Three weeks later other divers did a similar thing and the bell came loose, dragged everybody to the surface, dumped the air and dragged everybody back to the bottom in a minute, almost ending in tragedy.
Not so funny.

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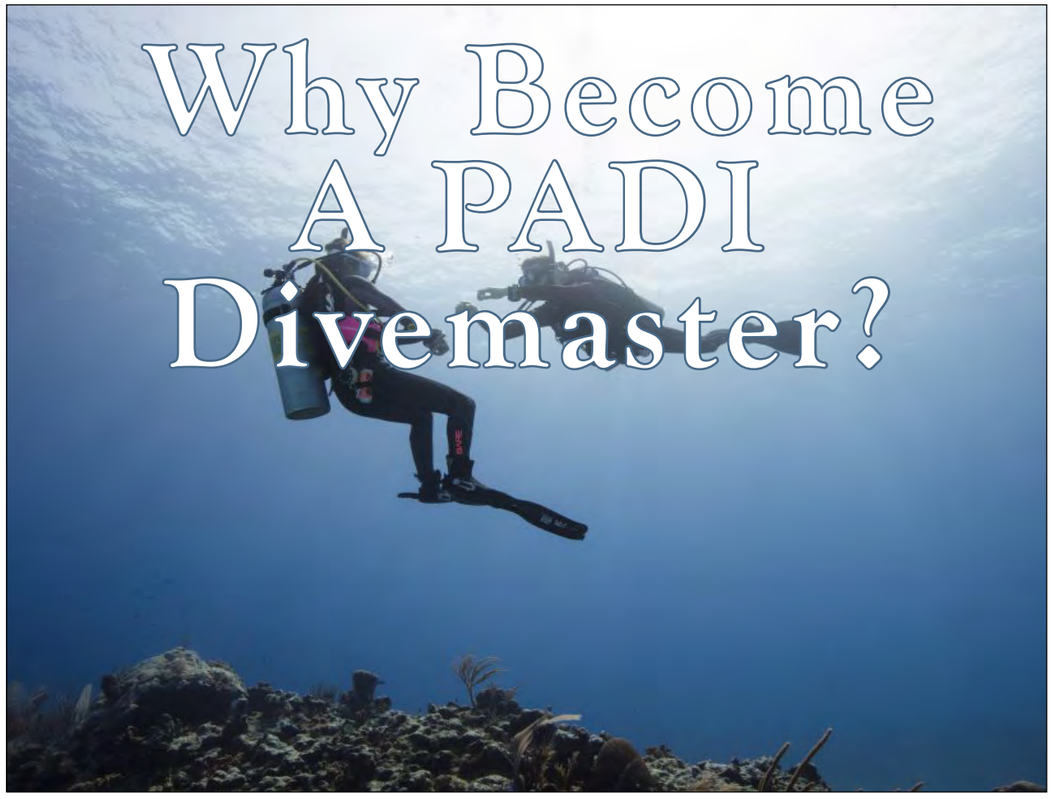
By: PADI

# Why Become A PADI Divemaster?



There are multiple reasons for becoming a PADI Divemaster, and not just because you want a career in the dive industry!

It's true that many people take the PADI Divemaster program to work as a Dive Guide or as a stepping stone to becoming a PADI Instructor.

However, many people also take the PADI Divemaster because they simply want to improve their dive skills and knowledge, or they want to challenge themselves, and even for a fun thing to do during a gap year.

**Step Up to the Challenge**

Of course, PADI Divemaster training develops your dive skills and builds on your knowledge of dive theory, but there's also much more to it.

Many people report that their divemaster training has changed their career paths, their attitude to work, their confidence levels, and their lives! During your divemaster training, among other tasks and exercises, you'll also assist Instructors while they are teaching courses and help guide and influence students of a variety of courses.

For many people, this is their first time in a role as a mentor – it's incredibly rewarding and comes with responsibilities too.

In turn, you won't have an instructor/student relationship with your Instructor as you have had during your courses up until now.

Your Instructor will be your mentor, and you'll be recognized as a soon-to-be professional diver.

You'll be assessed physically, mentally and in dealing with real-life customers and students.

Taking a PADI Divemaster course is a life-changing process, a big learning curve, and a lesson in self-awareness!

**After Divemaster**

There are many paths open for those who complete the PADI Divemaster course and pursue a career in the scuba diving industry.

Of the two most common, the first option is to find a position as a Divemaster working at a dive center, dive resort, or on a liveaboard.

The second most common option is to continue pro-development training, sign up for a PADI Instructor Development Course (IDC), and become a PADI Open Water Scuba Instructor. The PADI employment board is a handy tool for finding job positions worldwide.

For those who aren't planning to work in scuba diving, it's often a case of returning to work, school

By: PADI

or taking on a new challenge with a newly developed sense of self-confidence, drive, and self-belief. However, in many cases, those with no intention to join the industry have a complete change of heart during their Divemaster training!

**Why People go from Divemaster to Instructor**

During Divemaster training, you'll see the inner workings of a dive shop, and it's hard for that not to influence you. You'll gain first-hand insight into how your office could be on a beach, your daily commute being on a dive boat, and your office underwater!

It's no wonder why so many Divemaster candidates who are simply looking for a challenge or a fun way to spend time between schools or jobs decide to continue with their pro-development or go on to work as a Divemaster.

Whether you are thinking about becoming a career as a PADI Pro or whether you have other reasons, there are a few things you need to know about becoming a PADI Divemaster first…

**What Can a PADI Divemaster Do?**

As a certified PADI Divemaster, you will be able to:

• Supervise both training and non-training-related activities by planning, organizing, and directing dives.

• Accompany PADI Scuba Divers on dives.
• Assist PADI Instructors during the training sessions for any PADI Diver course.

• Conduct the PADI Advanced Snorkeller course and PADI Discover Snorkelling program.

• Conduct the PADI Discover Local Diving experience.

• Conduct the PADI ReActivate program.

You can also complete a short qualification and become a PADI Discover Scuba Diving Leader, allowing you to independently conduct the PADI Discover Scuba Diving program in a swimming pool.

**Other Points You Need to Know**

To enroll in the PADI Divemaster course:
• You must be 18 years old and a certified Rescue Diver with EFR course completion in the last 24 months.

• You need 40 logged dives to begin Divemaster training, and you'll need to have at least 60 logged dives to be certified upon completion.

• You also need to be fit for diving and have medical approval to scuba dive signed by a physician within the last 12 months.

• You need to be prepared for an experience of a lifetime, a lot of fun, and perhaps even a career you haven't considered before!

Are you ready to start your journey to becoming a PADI Divemaster? Whatever your reasons for becoming a PADI Professional, visit padi.com to find a Dive Centre near you!

By: Don Shirley

# What you need to know about Dry Suits


Hydration is a big thing in diving – you always hear about drinking lots of water, and you will always see me topping up before and even during the dive. This causes certain issues though...

There are two types of divers – those that have urinated in their wetsuit and those that will one day. It's a fact that if you are hydrated correctly, you should need a pee when entering the water.

All very well in a wetsuit, but what if you wear a dry suit? This can be a messy and smelly affair.

If you spend a long time in a suit on the surface, a convenience zip (a small version of the entry zip) strategically placed, works well – just make sure that you don't fall overboard while using it.

Another and more popular way around this predicament is to use P-Valves. These are available for men (condom or catheter) or women (she-p). For men it is an easy fit as a sheath is used with self adhesive glue, and the bottom is inserted into a tube. The tube allows the diver to have an 'off board exhaust' which keeps the suit dry. The same system is available for women, but the sheath has to be glued into place.

Both systems work well, until removal, when it's guaranteed to make your eyes water when you pull it off. The male sheaths are disposed of after use, and the female ones are washed and reused.

In both cases, the tubing should be washed after dives. Adult nappies can be used if you don't have or want off-board dumps. Always wash the suit if there is any spillage.

To get the best life out of your suit, there are a number of things that you should do to keep it in good order:
Latex wrist and neck seals must be cut to the user's size with a pair of very sharp scissors. Seals should lay flat on the skin surface when donned. Always use purified talc on the seals – never use baby powder or other perfumed powder – it will eat through the latex (this is due to our temperatures).

You can order the purified talc through your chemist. In our hot weather it is always a good idea to talc the seals just before you put the suit on. This makes for easy donning without stretching the seals beyond their limits. Also talc after use and when in storage. It boils down to using talc all the time really!

If you are donning in wet conditions, you can use soapy water to ease the seals on. Some water-based lubricant that will not react with the rubber (KY jelly for example) can also be used. Watch out for fingernails or rings as they will easily tear a seal. Carry a bike repair kit as you can always patch a small tear, thus preventing an aborted dive weekend. The patch won't last long, so the seals will need to be replaced soon afterwards. Other specialised glues, such as Aquasure, can also be used.

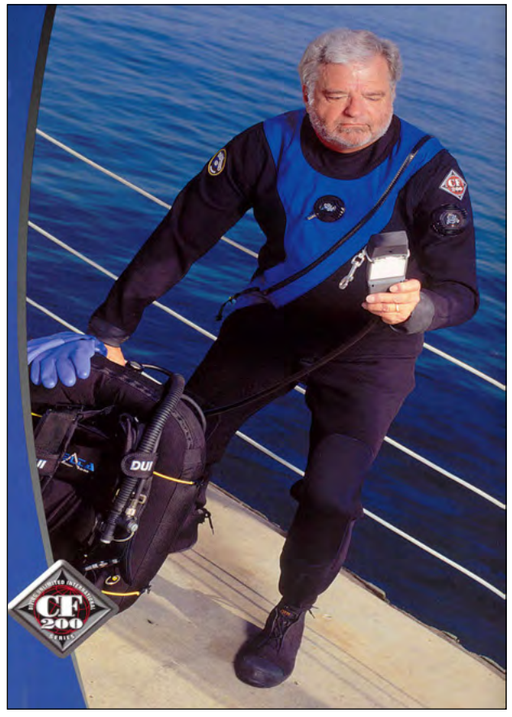
Next to the seals, the zipper is the next defence against water ingress. They are clever devices – once closed they are quite rigid and will not let water in. The first line of care is to lubricate the outer part of the zip with either bees wax or the manufacturer-supplied zip lube. Do this every four to five dives. Wipe off the excess so that it does not collect sand or grit. If you are in sandy/muddy conditions make sure the teeth of the zip are clean.

If you have a back entry zipper, get someone to close and open it for you. Make sure that they know not to catch the under suit. Put your arms in 'coat hanger' stance to keep tension. If resistance is felt, don't pull through it – back up 15cm and try again. Tip: When closing the zip, keep one finger under the zipper as this will keep the undergarment away from the zip. Yes, you can use some fancy techniques to open or close it yourself, but one day you might damage the zip. Life is a lot easier with a front entry zip as you can self-don.

The suit inflator connector, shoulder and wrist dump should be rinsed in fresh water after each dive. They should be serviced annually or when leaking. To store the suit, make sure that it is fully dry. Talc all seals, leave the zipper open, (it allows the membrane to be 'at ease'), and lubricate the zip. Be careful when folding/rolling the suit as you don't want to put any stress on the zip.

Don't store in extreme cold or heat. Don't forget your thinsulate – these are generally made of pretty high-tech materials and require special washing to maintain their insulation quality. Follow your manufacturer's guide lines. A very light soap powder such as 'Charlie's Soap' works well.

Like all good gear, including your body, drysuits need looking after. They will last a long time if you take care of them, but they are unforgiving if you don't!



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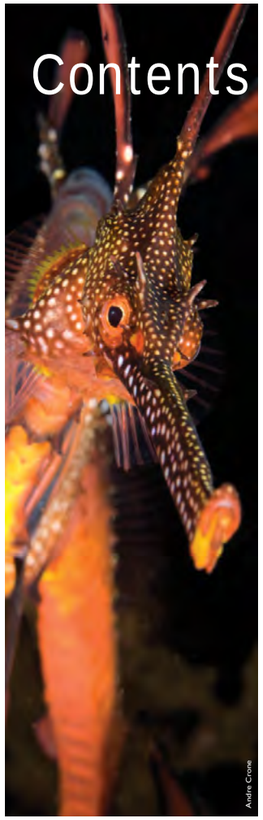



## GENERAL



## NORTH COAST








## CENTRAL COAST



## SYDNEY & SURROUNDINGS



### Northern Beaches



### Sydney Harbour



### Southern Beaches



## SOUTH COAST

# Marine Species Guide

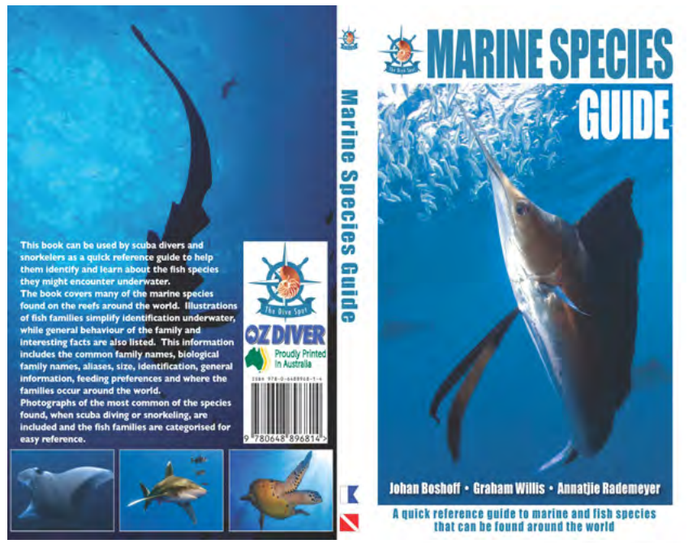
This book can be used by scuba divers and snorkelers as a quick reference guide to help them identify and learn about the fish species they might encounter underwater.

The book covers many of the marine species found on the reefs around the world. Illustrations of fish families simplify identification underwater, while general behaviour of the family and interesting facts are also listed.

This information includes the common family names, biological family names, aliases, size, identification, general information, feeding preferences and where the families occur around the world.

Photographs of the most common of the species found, when scuba diving or snorkeling, are included and the fish families are categorised for easy reference.

To buy your copy for $ 25, visit www.ozdiver.com.au or email info@ozdiver.com.au














# Scubapro A2 Dive Computer

**There is a saying "big things come in small packages" and that is what the Scubapro A2 Dive Computer is: a big computer in a small housing. I always fancied small dive computers and when it was time for an upgrade, I found exactly what I needed.**

**By Johan Boshoff**

I needed a watch type computer that did everything I wanted it to do. I was looking for a dive computer for recreational scuba diving but that could also be used for my technical diving and the Scubapro A2 Dive Computer offered everything. From recreational diving to full technical diving and it even works for my rebreather.

The Scubapro A2 Dive Computer is a fully functional wristwatch-style dive computer with a high-resolution, hybrid matrix display with large numbers, making it easy to read underwater, even in adverse conditions, and even easier to use and navigate.

You can choose from six dive modes: Scuba, Gauge, Freediving, Trimix, Sidemount and CCR. Its Predictive Multi-Gas algorithm can accommodate up to eight gases (21-100% O2) plus two in CCR mode. The digital tilt-compensated compass provides easy navigation underwater or on the surface. And when the diving is done, cord-free connectivity using a Bluetooth LE interface lets you easily sync with a PC, Mac, Android or iPhone, for data downloading and more.
The A2 has wireless air integration which can handle multiple transmitters while monitoring tank pressure and providing true remaining bottom time based on a diver's workload from breathing. An optional heart-rate monitor belt allows the A2 to record heartbeat and skin temperature, providing even more vital, individualized information that can be factored into your decompression calculation.

**Features**
•Wireless air-integration can handle multiple transmitters, monitor tank pressure and provide true remaining bottom time (RBT) calculations based on the workload from breathing
•Digital tilt-compensated 3D compass allows for easy navigation
•Predictive Multi-Gas ZH-L16 ADT MB algorithm accommodates eight gases (21-100% O2) plus two in CCR mode
•PDIS (Profile Dependent Intermediate Stops) calculates an intermediate stop based on N2 loading, current and previous dives and breathing mixes for better diving
•Microbubble levels let you adjust the level of conservatism in the algorithm to match your experience level, age and physical conditioning
•Heart rate monitor records heartbeat and skin temperature (with SCUBAPRO HRM Belt only) that can be factored into the decompression calculation along with workload
•Multiple Dive modes: Scuba, Gauge, Apnea, Trimix, Sidemount, CCR
•Sport mode offers sport-related functions like a swim stroke counter, activity counter (pedometer) and stopwatch
•High-resolution hybrid matrix display with large numbers is easy to read under water, even in adverse conditions
•Intuitive menu and four button controls make it easy to navigate through the system
•Lightweight design is so comfortable on the wrist you won't want to take it off
•Modern design with full watch functions is perfect for topside time-keeping as well as underwater data tracking
•Max Operating Depth: 394ft/120m
•Bluetooth Low Energy interface lets you download dives to any iOS or Android device or PC/Mac
•Firmware can be user-updated by going to scubapro.com
•CR2450 battery is rated for up to two years/300 dives
•Included: Protection foil, Quick Card, Arm Strap Extension, Read First (user manual is available online).
Optional equipment: Transmitter and heart rate belt


If watch type dive computers is your thing, then this one is for you.

# A DIVER'S GUIDE TO THE WORLD

Over the course of 14 months, National Geographic dive travel experts Carrie Miller and Chris Taylor traveled to 50 inspirational locations around the world, spending more than 250 hours underwater, to create their one-of-a-kind guidebook: A DIVER'S GUIDE TO THE WORLD: Remarkable Dive Travel Destinations Above and Beneath the Surface.

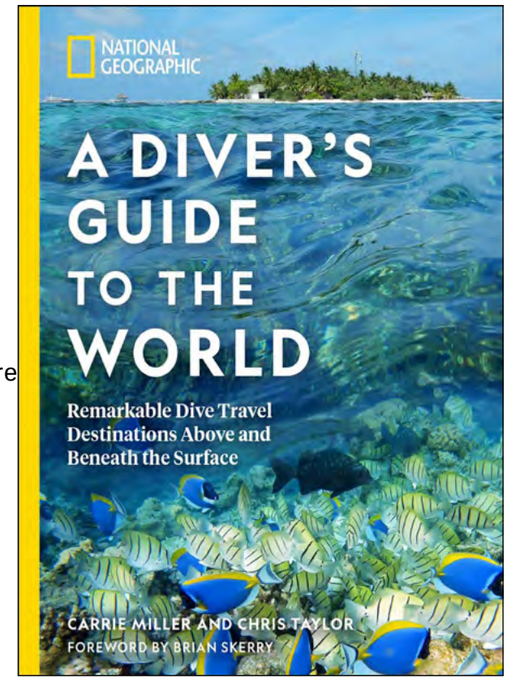
This book was born from love—a love of travel and a love of the ocean, the phantasmagorical blue expanse that covers more than 70 percent of our planet's surface, unexplored and unprotected, mysterious and magical.

Although the land and sea are wonderfully and inextricably interconnected, travelers tend to visit one or the other. Scuba divers seek out underwater realms, impatiently counting down surface intervals until their next dive. Land-lovers might venture out for a snorkel or sail, but they're glimpsing only a pixel of the bigger picture. Exploring both underwater and on land is the most holistic way of experiencing a destination and the interconnectedness between the green and blue.

This is a book for those explorations—for ocean travelers. It's a different kind of guidebook, written for divers who like to travel, divers traveling with non-diving companions, and travelers with an interest in the underwater world.

Each of the 50 locations is its own chapter – marvel at manta rays and dragons in Komodo; learn martial arts and go shore-diving in Okinawa; go on a tour of WWII history on land and underwater in the Solomon Islands; linger in the land and sea gardens of Bormes-les-Mimosas, France; and road-trip around the marine reserves and coastal towns of New Zealand's North Island.

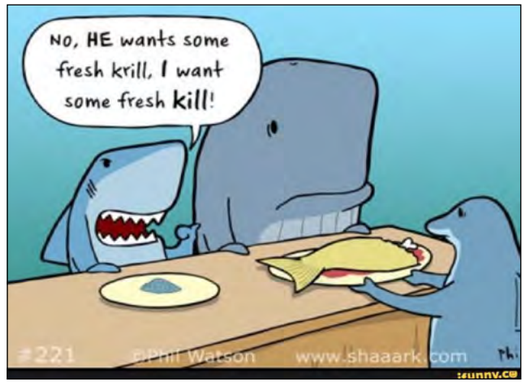
Each chapter contains compelling stories, stunning National Geographic photography, and expert advice, including travel tips, dive information, and activity suggestions, from remarkable shared experiences to solo excursions if divers and travelers choose to go their own ways for an afternoon.




Miller and Taylor believe in conservation through exploration, so each location also highlights a global issue such as the necessity of protecting remarkable ecosystems like coral reefs and mangroves, to sea turtle and shark conservation. They feature scientists and organizations that are striving to make a difference and suggest ways you can learn more and get involved.
Whether you're dreaming of your next dive holiday or looking to travel the world a little differently, this book will inspire you to get out and explore—above and beneath the surface!

A DIVER'S GUIDE TO THE WORLD
By Carrie Miller and Chris Taylor (www.beneaththesurface.media)
Publisher: National Geographic Books
Release Date: December 6, 2022
The book is available from Amazon or https://books.disney.com



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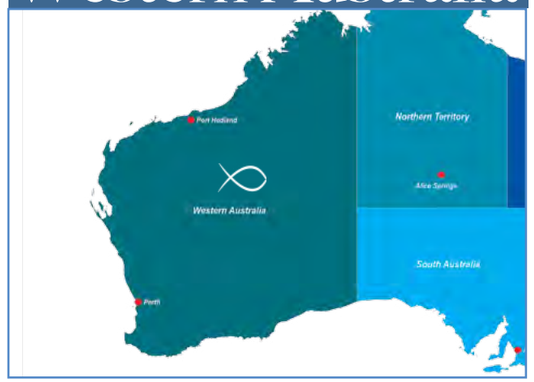
# Western Australia

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### Perth Scuba - Canning Vale

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### Perth Diving Academy - Hillarys

PDA Hillarys for all of your dive and snorkelling requirements local and friendly staff to help you make the right choices open 7 days come and see us down at the Hillarys Boat Harbour just north of the boat ramp see you there
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### Diving Frontiers - Perth

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## Mandurah

### Oceano Dive Centre

Welcome to Oceano your local dive shop. We have the friendliest staff best price, awesome range and we proud our self's for the excellence in training. We provide full support for all your dive needs!!
**Phone: +61 (0) 85 352 047**
**Mail: info@oceanodivecentre.com.au**
**Web: www.oceanodivecentre.com.au**



## Bunbury

### Octopus Garden Dive Charters

Just 1.5 hours south of Perth is Bunbury, home of the Lena Dive Wreck (18 metres) & abundant local & coral reef(0-33 metres), including "Blade Coral"—photographers paradise. Small groups –experienced & personalised service. Comfortable, enclosed diesel powered vessel.
**Phone: +61 (0) 43 892 5011**
**Mail: kimroyce@gateway.net.au**
**Web: www.octopusgardendivecharters.com**

## Geraldton

### Albatroz Scuba

Albatroz Scuba offers internationally recognized NAUI and SSI scuba diving courses. Small groups ensure personal attention during your training. We also have an active social club for after course adventures!
**Phone: +61 (0) 45 828 5497**
**Mail: scubageoff@yahoo.com.au**
**Web: www.facebook.com/AlbatrOZScuba**

### Dive Ningaloo - Exmouth / Ningaloo

Dive Ningaloo has the exclusive licence to dive the Exmouth Navy Pier - top ten dive site!
Dive the Muiron Islands and Ningaloo Reef in comfort on the Ningaloo's largest dive boat, but with small groups. Learn to Dive PADI courses.
**Phone: +61 (0) 4 567 02437**
**Mail: info@diveningaloo.com.au**
**Web: www.diveningaloo.com**

Gear Sales | Equipment Hire | Service & Repairs | Training | Tech Training | Air Fills | Nitrox Fills | Trimix Fills | Dive Charter

PADI | NAUI | SSI | TDI | SDI | IANTD | RAID | CMAS | CDAA

## Albany

### Southcoast Diving Supplies

Diving Albany means experiencing anything from Wrecks to Reef. The “Perth and Cheynes 3 are two well known dive wrecks and the spectacular reef dives ranging from 3-50 M plus offers a diverse choice to a wide variety of divers
**Phone: +61 (0) 89 8417 176**
**Mail: whale@divealbany.com.au**
**Web: www.divealbany.com.au**

# South Australia


## Port Lincoln

### Calypso Star Charters - Port Lincoln

Calypso Star Charters is an iconic charter company providing guests with the opportunity to dive with Great White Sharks or Swim with Sealions. With market leading vessels, Advanced Eco Certification and Eco Guides we are the forefront of tour provision.
**Phone: +61 (0) 86 82 3939**
**Mail: info@sharkcagediving.com.au**
**Web: www.sharkcagediving.com.au**

### ND Scuba - McLaren Vale

We are a small business that go above and beyond. We pride ourselves on providing safe and fun-filled courses at affordable prices. You get trained on a more personal level through to one on one, or small group tuition.
**Phone: +61 (0) 88 323 8275**
**Mail: barrettn80@hotmail.com**
**Web: www.nbscuba.com.au**

## Adelaide

### Diving Adelaide

Diving Adelaide is Adelaide’s newest PADI 5 Star Dive Centre. We run all PADI courses as well as Leafy Sea Dragon Tours. Diving Adelaide is located next to the tram and bus-stop in Adelaide; easy to reach with public transport.
**Phone: +61 (0) 8 73 250 331**
**Mail: info@divingadelaide.com.au**
**Web: www.divingadelaide.com.au**

### Underwater Explorer’s Club of SA

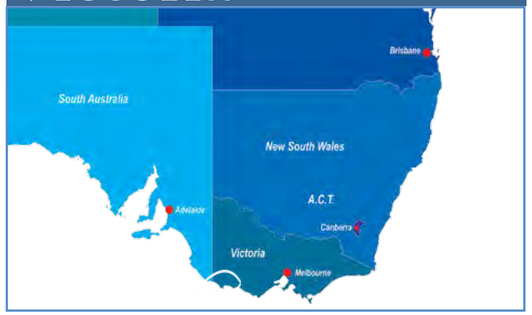
The UEC is the oldest recreational scuba diving club in Australia, established in 1954. We do regular dives at locations within metropolitan Adelaide and have frequent trips to regional South Australia. Why not come and join us for a dive.
**Phone: +61 (0) 417 838 387**
**Mail: secretary@uecofsa.org.au**
**Web: www.uecofsa.org.au**

## Glengowrie

### Downunderpix

Downunderpix is an underwater photography business established in South Australia. We provide all things underwater photography to the local, national and international markets. This includes supplying a range of underwater photography services as well as selling underwater camera equipment and scuba diving equipment.
**Phone: +61 (0) 41 981 9083**
**Mail:info@downunderpix.com**
**Web: www.downunderpix.com**

# Victoria




### ausdivinginstruction- Geelong

Learn to Scuba Dive in Melbourne & Geelong @ Australian Diving Instruction Geelong’s only PADI 5 Star IDC Facility, Offering Charter Boat, PADI Specialties Courses including Tec 40>45>50, Trimix 65, Trimix Diver, Accommodation, Local/International Dive Trips, Dive any of the 4 WW1 J Class Submarines the HMAS Canberra, and Ships Graveyard of Bass Straits.
**Phone: 0408365216 or 0352722181**
**Mail: steve@ausdivinginstruction.com.au**
**Web: www.ausdivinginstruction.com.au**

### Bay City Scuba

Bay City Scuba is Geelong’s premier dive shop. Offering all levels of training from Freediving through to Technical training and offering a huge selection of equipment to your diving needs. A RAID training facility offering extensive technical OC & CC rebreather training.
**Phone: +61 (0) 35 248 1488**
**Mail: info@baycityscuba.com**
**Web: www.baycityscuba.com**

### The Scuba Doctor Australia

The Scuba Doctor is an online and in-store dive shop stocked with quality brand recreational, technical and commercial diving products. Low prices on scuba, spearfishing, freediving, snorkelling and watersports equipment, plus Air, Nitrox and Trimix fills.
**Phone: +61 (0) 3 5985 1700**
**Mail: diveshop@scubadoctor.com.au**
**Web: www.scubadoctor.com.au**

### Dive Victoria Group

Our Training, Dive Charter and Group Accommodation services cater for local, interstate and international divers. On our doorstep we have amazing wall dives from 10-100m that we can dive every day and wrecks 8-80m in the Ships Graveyard
**Phone: +61 (0) 3 5258 4188**
**Mail: info@divevictoria.com.au**
**Web: www.divevictoria.com.au**

Gear Sales | Equipment Hire | Service & Repairs | Training | Tech Training | Air Fills | Nitrox Fills | Trimix Fills | Dive Charter

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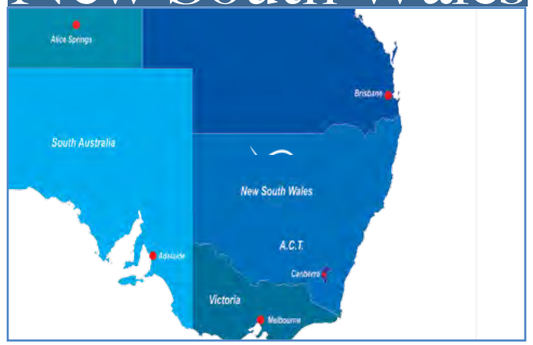
# New South Wales




## Sydney

### Frog Dive

Frog Dive is one of the oldest dive shops in the Sydney area. We can train you right through from an openwater course to CCR training. Sales, training, hire, servicing, boat and weekly shore dives we do it all at Frog Dive.
**Phone: +61 (0) 2 9958 5699**
**Mail: john@frogdive.com.au**
**Web: www.frogdive.com.au**

### Southern Cross Divers

Southern Cross Divers is best known for rebreathers and "tec" diving – we do nothing else but "tec". We will not stock a unit unless we can offer the customers a complete solution to all their CCR needs. We are Australia's CCR specialist store.
**Phone: +61 (0) 2 9969 5072**
**Mail: barry@southerncrossdivers.com.au**
**Web: www.southerncrossdivers.com.au**

## Erina

### Dive Imports Australia

Dive Imports Australia located in Erina for all your training, servicing, eqyuipment hire and air fills. Your local PADI 5*IDC Centre and closest shop to the HMAS Adelaide wreck. Boat dives to the wreck available 7 days a week.
**Phone: +61 (0) 4 1844 8652**
**Mail: chris@scubaholics.com.au**
**Web: www.diveimportsaustralia.com.au**

## Nelson Bay

### Feet First Dive

Jump in FEET FIRST with Nelson Bay's friendliest dive centre. Explore & enjoy the amazement of our Marine Sanctuary from the shore; take our boat to the local Grey Nurse Shark colony; OR Rebreathe our selection of Wrecks
**Phone: +61 (0) 2 4984 2092**
**Mail: enquiries@feetfirstdive.com.au**
**Web: www.feetfirstdive.com.au**

## South West Rocks

### South West Rocks Dive Centre

Our Training, Dive Charter and Group Accommodation services cater for local, interstate and international divers. On our doorstep we have amazing wall dives from 10-100m that we can dive every day and wrecks 8-80m in the Ships Graveyard
**Phone: +61 (0) 2 656 66474**
**Mail: info@southwestrocksdive.com.au**
**Web: www.southwestrocksdive.com.au**

Dive Operators
Australia

# Queensland


## Sunshine Coast

### Scuba World

Dive one of Australia's top ten dive sites the Ex-HMAS Brisbane.We are the only operator that comes back to the sheltered waters of Mooloolaba bay for a relaxing morning tea. Enjoy hassle free diving from our private marina berth.
**Phone: +61 (0) 7 5444 8595**
**Mail: rob@scubaworld.com.au**
**Web: www.scubaworld.com.au**

## Brisbane

### Ozaquatec- Brisbane

Brisbane's largest dedicated scuba service centre, Ozaquatec has all of your servicing needs in one place at competitive rates. Our fast, friendly and professional customer service gives you, the diver, complete peace of mind.
**Phone: +61 (0) 7 3399 1413**
**Mail: admin@ozaquatec.com**
**Web: www.ozaquatec.com**

## Gold Coast

### Devocean Dive- Gold Coast

Devocean Dive is South East QLD's Premier PADI 5 star Instructor Development Centre. We offer unsurpassed service is a safe, fun environment with qualified, experienced Instructors. We look forward helping you achieve your SCUBA diving goals.
**Phone: +61 (0) 75 528 0655**
**Mail: admin@devoceandive.com**
**Web: www.devoceandive.com**

# Tasmania


## Bicheno

### Bicheno Dive Centre

Tasmainan diving at its best 32 different boat sites 16-40 meters 8 different shore dives with max depth of 20mtrs Boat travel time under 5 mins.
Home of the weedy sea dragon.
**Phone: +61 (0) 3 6375 1138**
**Mail: bichenodivecentre@bigpond.com**
**Web: www.bichenodive.com**

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