

# OZDIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

SHARK CENTRAL

THE  
FOUR  
KINGS

WHAT'S  
IN A  
NAME?

HMAS  
BRISBANE

AMOCO  
MILFORD  
HAVEN WRECK

# PHILIPPINES





Christopher Bartlett

**July / September 2022 Edition**

# Editor's Deco

Diving with a buddy is always the best option. Or is it? I know that the first lesson that you get when doing open water is being taught that if you "dive alone, you die alone," but is this always true?

Let me tell you a story about something that happened to me recently on a liveaboard. At the beginning of a trip you are assigned a buddy.

Mine was an oldest person on board who had advanced qualification and a number of dives under his belt. He did not look like a bad diver. So on the first dive everything went well with no problems.

Everything seemed okay with my buddy and I thought that we would end up having some fun dives together.

After the second dive he came to me and told me that he had a problem with his dive computer. At first glance I saw that he had not set his nitrox mixture correctly before the dive, and subsequently his computer had shut him out.

I took his battery out, reset his computer and told him that for the next dives he should stay shallower and spend less time

in the water so that by the end of the day he would be almost at the same profile as the rest of us. Okay, I thought. That was easy and it looked like he understood everything. The first dive the following day I looked back and saw that he was just dropping into the depths.

Because we were diving on nitrox, our maximum operating depth was only 32m but he was deeper and still going.

I saw the dive master start chasing him down the wall before stopping – he was already past his limit on the maximum operating depth and the diver, my buddy, just continued going deeper and deeper.

I realised that he was now in big trouble... so I folded up my camera and started the chase. At around 54m I caught him. I took him up to where the dive master was waiting – I knew that I was pushing the limits but if I didn't do it, what would have happened to him?


After the dive I asked him what happened, and he told me that he was going down and then he couldn't remember anything until the dive master was shaking him – he must have blacked out.

He asked me what depth I had to go to fetch him, to which he replied, "I am very impressed with my heart pacer because it is only rated to 18m."

So is diving with a buddy better than diving alone? I guess it depends on who the buddy is.

Editor in Chief & Publisher

**Johan Boshoff**

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

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Johan Boshoff

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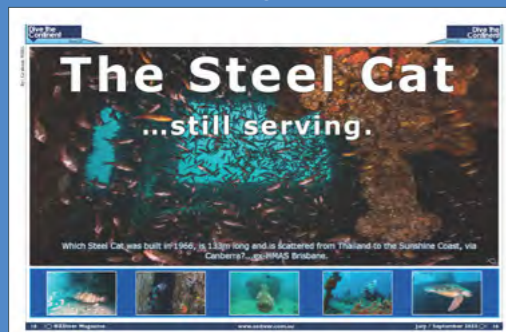
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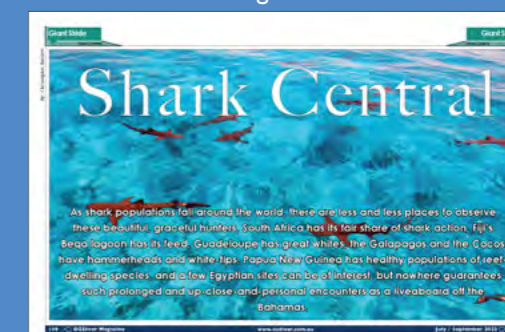
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# My first Diving Experience

From a newbie!  
Jeanne-Mari

During December I had my first diving experience when my husband and I decided to do it for our honeymoon.

Blissfully unaware of any irrational fears prior to diving, taking off the mask underwater offered a terrifying experience! However, once in the ocean, I was mesmerised!

I almost missed the opportunity to see my first shark, which I was told was a white-tip reef shark.

On my second dive we encountered quite a strong underwater current. All the divers in our group struggled and someone had the misfortune of losing his camera.

Midway through our dive, I started to feel uncomfortable. Trying to ignore it and concentrate on the marine life didn't help.

I indicated to my husband that

something was wrong. At first he suspected the worst, but as the evidence spilled from my regulator, he pretty much got the idea.

Everything that happened – the motion sickness, the fact that I almost got swept away to a foreign shore and the unknown fear of mask removal – did not do anything harmful to my diving experience.

Everything was as it should have been – the good, the bad and the ugly!

This experience made me realise that we rarely leave our comfort zones. It got me thinking, at age 85, that there should not be anything that I can't tick off my 'bucket list'.

I want to be able to say, "I have done that... at least twice."

I am now, more than ever, ready for my next diving experience!

## What's happened to diving protocol?

I've been diving for a number of years around the world. In fact, I was trained nearly ten years ago, but I still remember my instructor giving me hell if I didn't do my buddy checks.

My instructor was a wise man and he told me that your buddy is your life support and that if something goes wrong, it is that person and that person alone who you need to depend on.

Today, I find myself diving with different dive charters and different buddies all the time, and of course, we are continually upgrading our equipment. But in the last few years,

rarely has a dive buddy approached me before a dive to ask me to check my equipment and find out how it works.

More often, I will approach my buddy, and he or she will look at me as though I am some strange creature of the deep. Sometimes I don't even know my buddy's name or speak the same language ... but surely we should all speak the language of safety first?

So I ask myself what is happening to the training of today? Do the dive charters still care about safety? Can we, as qualified divers, entrust our lives to complete strangers, or are we, in fact, diving solo?

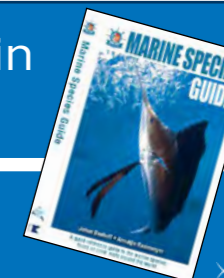
Concerned Buddy



# 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](mailto: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

# OZTek

ADVANCED DIVE CONFERENCE

# OzDive '22

EXPO

## OZDive Show & OZTek Advanced Diving Conference '22 - Tickets now on Sale

October 1-2, 2022

Venue: MCEC

Online tickets are now available to this unique Australian show - a combination of high action, world renowned presenters extolling their extraordinary feats of diving, exploration, discovery and inspirations, supported by the OZDive Show with photographic exhibitions, photography and freediving workshops, tips from the experts including training, travel, equipment, OZTek TV and fun virtual experiences, including those requiring you get wet!

### LOTS of Diving:

- Diving Equipment on display in one place! Check out the exhibitors booked here

<https://ozdiveshow.com.au/Exhibitors>

- Photographic experts sharing their extensive experience in photographic workshops and talks.
  - Virtual Cave Diving - no need to get wet for this one!
- So many gorgeous Images! Photographic exhibitions of winning images from the OZDive Show competition and the inaugural Liquid Lens Aquatic competition
  - Travel Destinations - internationally and within Australia.
  - Training & More...

Meet our show sponsors DAN World & GUE (Global Underwater Explorers)

OZDive is an Australian Dive Show for every diver: recreational, advanced, free or those just getting started. The combination of The OZDive Show & OZTek Advanced Diving Conference on Oct 1-2, 2022 is going to be better than ever.

### So much diving - under one roof!

For further information, keep Scuba Diver handy or tune in to the OZDive Podcast for up-to-date announcements on tickets, competitions, speakers and workshops.

The OZDive Show & OZTek Advanced Diving Conference '22 will be held at the Melbourne Conference & Exhibition Centre (Jeff's Shed) on October 1/2, 2022. The very start of the Australian diving season.

Websites: [OZTek.com.au](http://OZTek.com.au) & [OZDiveShow.com.au](http://OZDiveShow.com.au) or Facebook / Instagram & Twitter

**PS:** AND... we have VMIA backed Covid Event Cancellation Insurance - all ticket holders will receive a full refund in the highly unlikely event the show is canceled due to COVID 🇺🇸



# Prepare Your Images For the OZTek | OZDive Show Underwater Photographic Competition

Our ever popular OZTek | OZDive Show Underwater Photography Competition, including Nikon Dive shot of the Year, details are available on line. We had to wait a little longer for this but, it'll be worth it! Winners' images will be printed and on display in the OZDive Show Image Centre, as well as all images entered appearing on the website.

Both the competition and exhibition provide underwater photographers the opportunity to demonstrate creative talents and win great prizes from Adelaide Scuba, Manta Lodge & Scuba Centre, Nikon Australia, Rodney Fox Shark Expeditions, Scubapro Australia, Sea & Sea and Valerie Taylor.



2019 Cave category winner: Jonathan DiCecco

The 2022 Underwater Photography Competition welcomes entries from divers with an imagination, a camera and a willingness to share their discoveries and experiences with others.

Both the competition and photographic exhibition provide the opportunity to see displayed talented underwater photographers creative & technical skills

**Competition registration open June 30 and closes July 31, 2022**

So much so see - under one roof!


This is an Australian Dive Show for every diver; recreational, advanced, free or those just getting started. We have it all .. photography, training, travel, conservation and equipment,

For further information, keep OZDiver handy or tune in to the OZDive Podcast for up-to-date announcements on tickets, competitions, speakers and workshops.

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The very start of the Australian diving season.

**Get ready for action...**

Websites:  
OZTek.com.au & OZDiveShow.com.au or Facebook / Instagram & Twitter 



2019 Macro category winner: Crispin Middleton



2019 Marine Life category winner: Crispin Middleton

## ***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](mailto:info@ozdiver.com.au) 

# Solomon Is. Diving

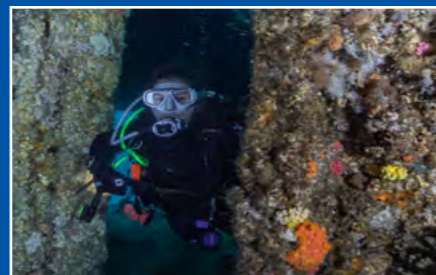




# The Steel Cat

...still serving.

Which Steel Cat was built in 1966, is 133m long and is scattered from Thailand to the Sunshine Coast, via Canberra?...ex-HMAS Brisbane.



By: Graham Willis

Ex-HMAS Brisbane, nicknamed The Steel Cat, now rests in 28m of water 15 minutes by boat out of Mooloolaba in Queensland and boasts over 200 species of fish, countless sponges, as well as hard and soft corals. This is one of the best wreck dives in Australia and in Queensland I would rate it second only to The Yongala...let me tell you why.

I was lucky enough to dive Ex-HMAS Brisbane earlier this year. I say lucky because the combination of COVID enforced lockdowns and the weather conditions (thank you La Nina) have stymied 3 prior attempts to get there. Still, it seems the enforced absence of so many divers has given the wreck a bit of a rest.

So why am I rating this dive right up there? Three reasons: Accessibility, History and Marine Life.

Firstly...accessibility. The wreck is only a short, 15 minute, trip from the mainland and is serviced by two dive operators. We went out with Sunreef who ran a good show, and I am sure Scuba World

also run a professional operation. In fact, when one talks about access those are the two operators you will have to go to if you want to use the public mooring for diving or snorkelling. Did I say snorkeling? Indeed, I did. If conditions are reasonable snorkelers can hang around the top of the smokestacks in only 3-5 m of water. If you are freediver you will no doubt, be able to hang out on the first couple of decks as well. The bow sits in around 14m of water and the stern in 18m, so this is a great wreck for Open water divers as well. The fish life, the corals and the sponges are bountiful...but more of that later.

Secondly...the ship's history. I will wind back the clock a bit and cover a brief history before trying to give the reader a bit of a 'feel' for the ship from someone who served on her.

HMAS Brisbane (II) D41 was one of the early Perth-class guided missile destroyers, more often referred to as DDGs (DD being Destroyer and G signifying the Guided Missiles). The Brisbane was built in the USA and



Kamil Jureczko



Mathew Kempton

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**Dive Into Your Future**



By: Graham Willis

handed over to the Royal Australian Navy (RAN) in December 1967 ...a Christmas present if you will.

HMAS Brisbane was one of the first RAN guided missile-armed destroyers along with her sister ships HMAS Perth and HMAS Hobart. It didn't take long for HMAS Brisbane to be used in conflict and in 1969 she headed North to the Vietnam war and joined in Naval Gunfire Support (NGS) missions with the American Navy. The hydraulic loading systems for the two 5" guns were state of the art and allowed The Brisbane to lay down up to 80 rounds per minute...a pretty fearsome rate of fire.

The Brisbane completed a second tour in 1971, her tour of duty coming to an end when the Australian Government withdrew their support for the war in Vietnam. Over the course of her deployment HMAS Brisbane had fired in excess of 15,000 rounds and steamed nearly 70,000 Kms...it was more than time to head home.

The Brisbane's next major deployment



was to Darwin in the wake of Cyclone Tracy in December 1974. Cyclone Tracy brought with it 300 Kmph winds and the resulting destruction was almost total; 65 people lost their lives. The Navy assembled a task force of 13 ships, 11 aircraft and around 3000 personnel as part of the relief operation; HMAS Brisbane and HMAS Flinders were the first ships on scene and the last to leave; this was the RAN's largest peacetime disaster relief operation.

HMAS Brisbane continued its work around the world until once again called on to join 14 other nations in the Arabian Gulf. The Brisbane was where the Australian naval task group was co-ordinated from and she played a vital role in Australia's contribution to the 1st Gulf War. The Brisbane was one of the ships providing a defensive screen around the US Aircraft Carriers. Both HMAS Brisbane and HMAS Sydney were awarded Meritorious Unit Citations for their service.

The Brisbane's final voyage was a circumnavigation of Australia and New Zealand in 2001, where she noisily entered 'her' Queensland city for the last time on the 17th of August with a 19-gun salute. The ship was decommissioned on the 19th of October 2001, marking the end of the Perth class DDG's service in the RAN.

More than 7,000 crew served on HMAS Brisbane, she sailed more than 1,000,000 Nautical miles (more than four trips to the moon and back), earned one meritorious unit citation, two battle honours and saw 4 of her officers promoted to the rank of Admiral or Rear Admiral; a unique feat for any RAN ship.

For a fuller history on HMAS Brisbane visit <https://www.navy.gov.au/hmas-brisbane-ii>

So that is a little history about The Brisbane...but what was it like to serve on the ship? How did it perform? Why was it considered one of 'the' ships to be in command of?

I spoke to Rear Admiral Rowan Moffitt



AO RAN (Retd) who served on the ship four times ...twice as Captain.... although neither time for as long as he would have liked!

In speaking about the Perth class of destroyers he simply said, "They were mighty ships and such a centrepiece of the RAN for so long. As for the Charisma of the ships ...nothing else came close." He went on to say "The DDG's were fast and heavily gunned and really the first ship designed from the keel up for missiles.

They were the Sophia Loren's of warships at the peak of their potency and able to carry their age well. The DDGs were the fastest things we had, and luckily fuel was cheap in those days. With all four boilers running you could run at 32 or 33 knots (around 60 Kph) and even on two boilers you could get 24 knots (around 45 Kph) out of her.

"The ship itself was an evolution from a very well proven design and it was an instant success in service. The guns themselves had a hydraulic loading system that could load from both sides of

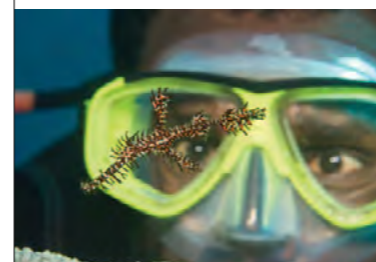
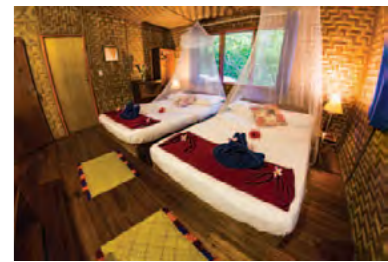
the breach. As a result, you had a very high rate of fire which, when combined with a very accurate fire control system, gave them a high level of potency. In Vietnam our ships performed extremely well ...Brisbane's call sign was Flamboyant!"

Vietnam also gave the ship its RAS signature tune. Replenishment at Sea (RAS) is a way of transferring fuel and supplies from one ship to another whilst under way. It is a tricky procedure with two (sometimes three) ships travelling at precisely the same speed (12 – 16 Knots...around 25Kph) on exactly the same heading for the duration of the transfer, whilst only being about 50 metres apart. As if that is not enough the ship's bow waves cause the ships to be 'sucked' together and the procedure requires the highest standards of seamanship to execute safely.

In keeping with the US Navy tradition, the replenished ship would play a signature tune when breaking away ... Brisbane's was Proud Mary by Creedance Clearwater Revival ... 'Big wheel keep



Kamil Jureczko



*Picture a small private island, with white sandy beaches, tall palm trees, beautiful tropical gardens, traditionally-built, comfortable bungalows, magnificent sunsets and fine food.*

*Surrounding this little hideaway are some of the most healthy & colourful reefs and best fish life this planet has to offer...*

on turning, rolling, rolling, rolling on the river.' A nod to the Brisbane's Mekong Delta fire control mission...under my namesake's command Capt. Willis (no relation).

In the Australian Navy it is customary to fly a special flag during RAS operation and as the Steel Cat the Brisbane RAS Flag was sponsored by Uniroyal (later acquired by Bridgestone) who produced a tyre called the Steel Cat. This all tied in nicely with the City of Brisbane's crest which has a Leopard on top of its crest, as well as the ship's crest.

Rowan went on to add "For a destroyer they were just beautiful ships to drive, and they had some real sweet spots and a couple of 'dead' spots. For instance, they had no fin stabilisers and a big bilge keel with a hull that was quite rounded. If you went slowly, they would roll on wet grass but get some speed up and they were steady as a rock. They were also very tough ships."

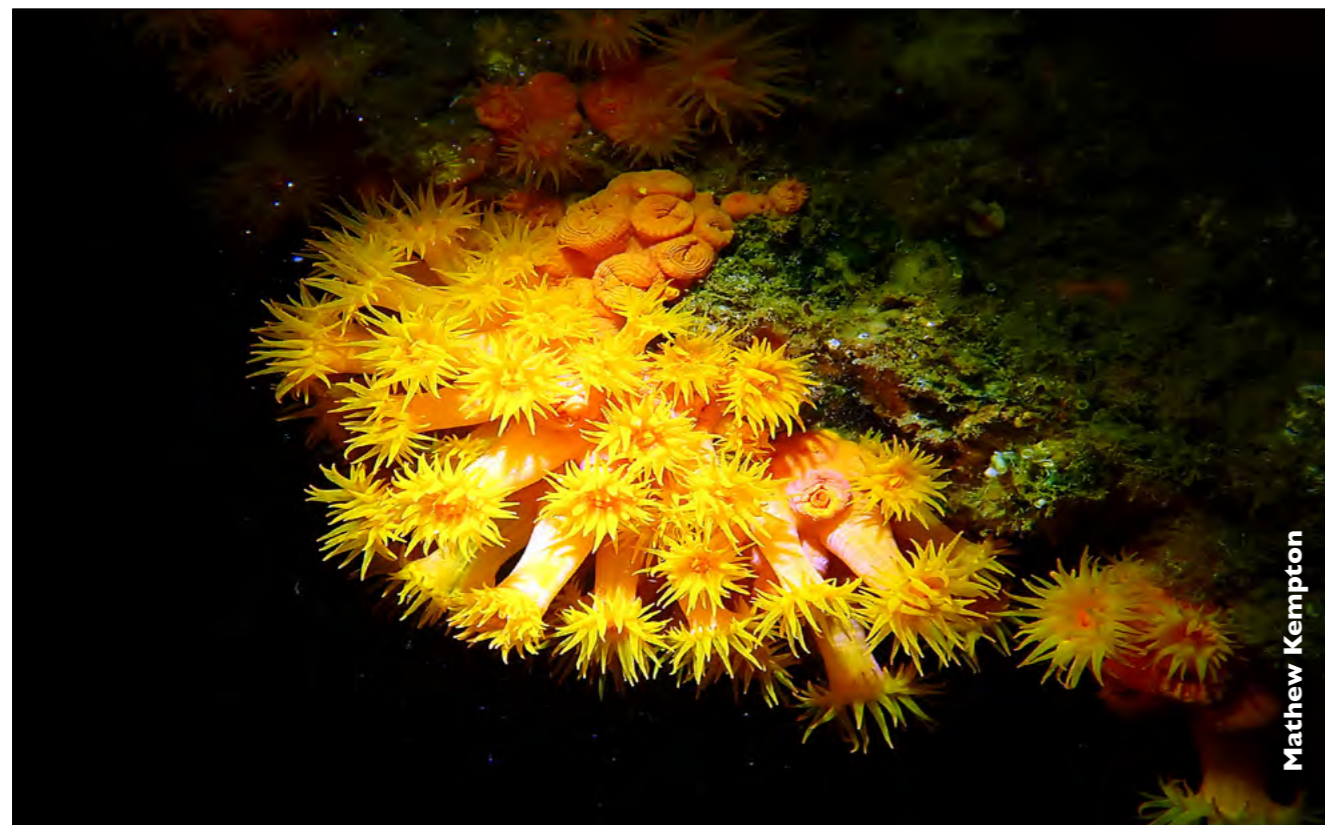
"We were exercising with the USS Texas and afterwards she headed into Brisbane,

and we headed back to Sydney. We hit the worst weather I have experienced courtesy of a big East Coast low sitting off Sydney. The swell was on the beam, and we were pounded for 36 hours heading down the coast. The ship was rolling at 45 degrees, but the ship came through unscathed...much better off than the crew who had been on water and crackers for the past day and a half!"

"One downside of the ship was that the conditions for the crew were tough given there were around 332 people crammed into that space. The bunks were three tiered in space not much bigger than a phone box. It contributed to little sub-communities forming on the ship.

For instance, the stokers looked down on everyone else. The conditions in the boiler room were pretty tough with the temperatures regularly over 50C. They were also dealing with superheated high-pressure steam which, in the event of a leak, you could not see; it could be a dangerous place."

"There was a real camaraderie around



Mathew Kempton

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# OZTEK/OZDIVE SHOW DATES

## OCT 1/2, 2022

MELBOURNE CONVENTION & EXHIBITION CENTRE

### Inspiration | Exploration | Adventure

**OZTek'22 Conference** - with an emphasis on technical and advanced exploration and innovation, hear presentations from the best-of-the-best, divers at the top of their chosen areas of expertise pushing boundaries below and beyond.

**OZDive Show** - showcasing everything great about diving: Travel, Training, Equipment and Photography, including talks and workshops to inspire and motivate.

Pic: Vanessa Torres Macho  
Aquatic Imaging Australia

Show Sponsors:



the DDG's and they were the last steamships that had an all-male crew. That all changed with my last command where I was informed 3 women were joining the ship in Brisbane...330 men and 3 women...as the Captain I only saw potential problems. Orders are orders and, despite my trepidation, I watched as the inclusion of those three women sailors transformed the ambience of the ship within a week.

In behavioural terms it was a real shift...a very positive shift and the whole tone of the ship became more 'civilised'... the men really tidied up their act. For me that was an object lesson in the positive role that gender diversity can play."

"On my fourth tour it was a bit like wearing a pair of comfy old sippers. I knew the ship, but I also knew many of the crew. People tended to stay on the same ships for quite a long time so there were familiar faces everywhere. I think I grieved for 12 months for the loss of driving that ship, but what I was really grieving for was the troops. They are what made it special."

"I feel extraordinarily honoured to have served on HMAS Brisbane and was sorry to see her go. It just got to the stage where it was uneconomical to keep the ship going. There was no real growth margin left for new systems and fewer and fewer spares to do anything with. It was interesting to sit in the crowd at



her decommissioning ceremony in 2001. When that happens the crew march off the ship and she is left empty, and as I looked at her with no crew on board, I thought... "She's dead. The sailors make the ship."

Her Navy career at an end ...the next stage of her life as a dive wreck (like her sister ships Perth and Hobart) was about to commence.

Before scuttling the ship in July 2005 there was a lot of work to do. Firstly, The Brisbane's Bridge, one of her guns, propellor and missile launcher were dismantled and transported to the Australian War Museum in Canberra.

Her air search radar was also dismantled and donated to the Royal Thai Navy. On top of that there was a lot of preparation to ensure the ship was free of contaminants such as fuel, oil, grease, plastics, heavy metals etc. Openings for divers were created, some were widened, and some were sealed to make the wreck safer for divers.

At the same time marine surveys were being completed to make sure the wreck would not have a negative impact on the immediate marine environment, nor the coast and would also not pose a hazard to shipping. The whole process took just under four years to complete and as for the scuttling itself...nothing was left to chance.

If you want to read more about the whole process head off to the Queensland Governments Department of Environment and Science website <https://parks.des.qld.gov.au/parks/ex-hmas-brisbane/about/culture>.

On the 31st of July 2005 Ex-HMAS Brisbane slipped beneath the waves and started her next tour as one of the best prepared dive wrecks in the world. 17 Years on the wreck is in magnificent condition and has become a refuge for so many species. Oriented to the East the Brisbane sits in 27 metres of water, with the stern at 18 metres and the forward decks at 14 metres. This makes it very accessible to all levels of certified diver. At 133 metres in length there is a lot of

ship to cover...and a lot of places for marine life to hide and thrive.

To my mind the shimmering clouds of glassfish inside the ship are the stars. You feel you must sweep them aside to make sure you are still heading towards an exit...and as soon as you pass through the school it closes behind you.

That's not to discount the Turtles, Eagle Rays, Mulloway, Snapper, Gropers and other fish that have made the wreck their home. There is also a magnificent range of soft corals and sponges that add colour in the most unexpected places.

In many spots it really is hull to hull fish and when you are hanging out on the smokestack superstructure completing your safety spot you are once again in the midst of schools of shifting baitfish, batfish and pomfret.

If it is not the fish you are really into there is enough small life to keep the

most avid macro photographer amused... but don't miss out on the bigger picture. The stars of the smaller show are really the vibrant sponges, corals and anemones that have made the wreck their home.

Whether you are just taking in the imposing bulk of The Brisbane from the outside or heading into the interior through the many purpose cut holes in the ship's side you will have a great dive.

I think you miss a trick by not heading through the ship's innards where the shoals of glassfish shimmer. Head into the engine and boiler room directly under the forward stack and you are in for a treat.

In summary ex-HMAS Brisbane is a very accessible wreck, you can dive it year-round, she has an interesting history and harbours fabulous marine life.

What's not to like and keep going back for the next 20 years?



Kamil Jureczko



[tdisdi.com/pfi](http://tdisdi.com/pfi)



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and discover a new way to explore



# Money Cowries

**Cypraea moneta, better known as the Money cowrie, is undoubtedly the most famous shell in the ocean.**

The Money cowrie inhabits the warm tropical waters of the Indo-Pacific where it lives in shallow intertidal pools, or on reefs exposed at low tide.

The Money cowrie is greenish-yellow in colour, with a smooth polished surface. The shell is composed of calcium carbonate (lime) and a horny type of protein, known as conchiolin.

The polished surface of cowries is the result of the deposition of successive layers of shell material by its mantle, a thin membrane covering, or partly covering the shell.

The lime is not particularly strong in itself, but shells constructed of layers of lime crystals embedded in a matrix of conchiolin are extremely durable and survive the onslaughts of the sea remarkably well. Apart from being bleached to a bluish-white colour, Money

cowries can still appear quite fresh to the layman, even after hundreds of years under water.

The use of the cowries as a medium of exchange dates back thousands of years to the dawn of Chinese civilisation and it was still in use in the 16th century when Portuguese vessels opened up the lucrative trade route to the East via the treacherous seas around the Cape of Storms.

The trade items consisted mainly of Chinese porcelain and spices, purchased in India and from Arab merchants in various ports, and massive quantities of cowries mainly from the Maldives islands.

The Portuguese used Money cowries to buy goods and slaves, initially from the East African coast and later on from West Africa.

Prior to the 18th century, at least thirteen heavily laden Portuguese ships came to grief along the south east coast of Africa on their homeward journey.

One of the most well known of these was the São João that stranded near the present Port Edward along the Natal south coast in 1552.

Money cowries and Chinese porcelain shards are still cast ashore to this day. Two years later in 1554, another famous vessel, the São Bento, ran aground at the mouth of the Msikaba River in the Transkei.

Cannons, a golden crusado, rings, porcelain shards and Money cowries were salvaged from the wreck site.

Bluish-white Money cowries have also been found at Mtwalume on the south coast, suggesting the presence of an as yet unknown wreck site. ◀



# Currents



The rivers in the sea

The ocean's water is constantly in motion, but there is a pattern and direction to this seeming chaos – currents. Surface currents are currents present in the upper 10% of the water and derive mainly from wind patterns.

When wind blows over large areas with reasonable consistency of direction and strength, significant volumes of water move horizontally across the oceans.

In the northern hemisphere, the trade winds (near latitude 15 degrees N), blow from the northwest to southwest; the westerly's in the mid-latitudes blow primarily from the southwest.

At very high latitudes, the polar easterlies blow from east to west.

A mirror image set of these wind belts exists in the southern hemisphere.

The energy from these wind systems drives the major surface ocean currents. Some of these currents transport more than 100 times the volume of water carried by all of the earth's rivers combined.

As with a wind-driven wave, surface current speed diminishes rapidly with depth, becoming negligible at depths around 190m.

The earth's rotation also affects the major ocean currents. This is termed the 'Coriolis effect', and explains why objects in the northern hemisphere deflect to the right of the direction of the force acting on them (in this case, the wind is the force and the object is the water's surface).

The opposite is true in the southern hemisphere. There, objects deflect to

the left of the direction of force. The result is that water tends to pile up in the middle of the ocean basins as the major currents travel along their edges according to the Coriolis Effect.

These circular water movement patterns are called 'gyres' and they play major roles in the global heat and marine life distribution.

There are six major gyres – the North Atlantic and the North Pacific in the northern hemisphere and the South Atlantic, the South Pacific, the Indian Ocean and the Antarctic Circumpolar Current in the southern hemisphere.

Currents also persist below the upper layer of the ocean and are driven primarily by thermohaline circulation.

This process is responsible for most vertical water movement and eventually circulates the entire ocean.

This circulation starts because

equatorial regions receive more heat than polar regions. Simplistically, water is cooled and made denser and less salty at the poles. This water then sinks and drifts towards the equator.

As the water moves towards the equator, it is warmed and made less dense, therefore rising to the surface.

Once on the surface it is pushed again towards the poles where it is cooled and the process begins anew.

Currents occur in oceans, but also to some extent in large lakes, seas and even smaller water bodies.

However, the smaller the water body, the stronger the wind needed to develop a current of a given strength because there is less surface area across which to transfer energy.

However, many large lakes have sufficient area to generate significant currents (and waves). ◻



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# Saving Sharks Before it is too Late

## Part I

**Look out into the blue or green waters of the ocean and know that whether they appear tempestuous or tranquil, a war is being perpetrated in its depths. This campaign has the dual distinction of being both one of the most one-sided conflicts ever to occur, yet it is virtually invisible to our everyday lives.**

The battle I speak of is the systematic eradication of sharks from our oceans by the practices of modern day fishing. Sharks still inspire fear in most people despite almost three decades passing since *Jaws* first hit the theatres. On average, only five or six people die from shark attacks every year, while it is estimated that at current rates of harvest, humans are killing just over 100 million sharks per year – that's 100 000 000.

Primitive sharks first appeared hundreds of years ago, and their sinuous forms have slipped through the blue while the terrestrial environment witnessed the rise and fall of the dinosaurs and the eventual rise of humankind. Their longevity is a testament to their success as a well evolved and adapted group of organisms. They have proliferated into every marine environment available, from warm tropical

lagoons, to the icy depths of the deep, and they are even found below the polar ice caps. For millennia sharks have reigned supreme as the top predators in marine ecosystems, serving to regulate and control the entirety of the ocean's ecosystems.

However, the ocean has a new supreme predator, one that is not a natural part of the marine ecosystem and, as a result, hunts indiscriminately and unsustainably. We have become the enemy of sharks, and by default, the entire ocean. Oceans need to have sharks to maintain healthy ecosystems, yet after eons of mastery by sharks, the waves are empty.

Why do we kill sharks? The war on sharks is primarily due to a demand for their fins, which when boiled down form a stringy, gelatinous mass that

is included in a bowl of soup. The fin adds no flavour, just texture to basic chicken or pork stock, and can sell for \$100-\$150 US Dollars per bowl in Asian restaurants. Ordering and eating the soup is a status symbol – the equivalent of having a Ferrari in the driveway.

I find it sad that we may effectively eliminate the top predators in the ocean simply to appease our sense of vanity. Shark fins are so valuable that they have caught the attention of organised crime, and in illegal activity, shark fins are on a par with narcotics and gambling.

The usual method for securing shark fins is every bit as brutal as a contract 'hit'. Since the fins are worth much more than the flesh, the practice of 'finning' sharks is still utilised as a way to maximise profit. The shark is landed alive, gaffed (speared with a large hook) and dragged on board a vessel.

Once there, several men descend upon the fish with large knives. It takes barely half a minute to hack all the shark's fins off before they kick the still live carcass overboard. If the shark is lucky it will bleed to death quickly, but the more likely scenario is that without fins, the shark will slowly suffocate as it sinks to the bottom. The fishermen are not concerned with the carcass because it would take up the space in their holds that could be filled with more valuable shark fins.

Shark harvesting occurs in every ocean and almost all the fins are shipped to Asian markets for sale.

Even the economics of the fin trade are quite atrocious, as the fishermen who risk life and limb to get the fins make pennies, while the fins pass through several middlemen and eventually reach markets where they command small ransoms. Killing sharks is not good for the oceans, but it also turns out that it is not very good for most of the people who work to kill sharks.

There is one final ingredient to the precipitous decline of sharks, and that is their biology. Sharks are what ecologists call 'K-selective' reproducers, that means they have small numbers of well

developed young that are well equipped to survive and thrive (as opposed to 'R-selective' reproducers who can have thousands or millions of eggs, of which a very small portion are able to survive).

Sharks are slow growing, taking many years to reach sexual maturity and be able to reproduce. Finally, their reproductive potential increases with size (age) so that a newly mature mother can have, say two pups, a few years later she is able to have four pups and ten years after that she may have 10 pups. Fisheries usually target the largest individuals first, effectively taking the large, most reproductively viable mothers out of the population.

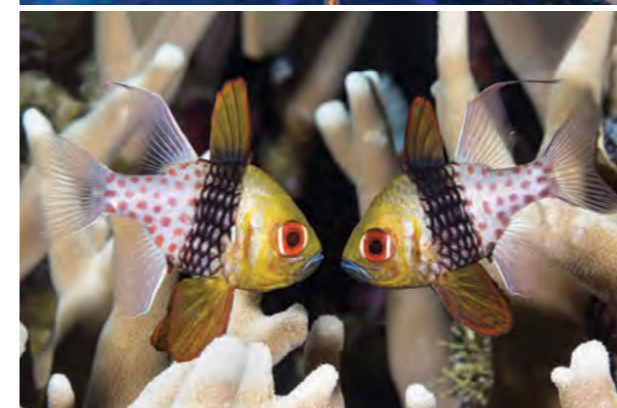
Sharks have evolved over time without a large amount of predation pressure and these strategies work well in a natural environment. However, when harvesting reduces a shark population it can be disastrous, as the shark population needs decades to be able to recover and bounce back to the original levels. Sharks are being over-harvested and the fishing pressure has not lessened.

A study conducted a few years ago based on catch data acquired from fisheries has shown on average a 73% decline in shark populations in the last 100 years. Sharks are truly on the brink, and without help will be pushed right over the edge and into extinction. ☐





*"The reef systems here are some of the most pristine I have seen anywhere in my dive travels around the globe, and Wakatobi resort and liveaboard are second to none. The diversity of species here is brilliant if you love photography." ~ Simon Bowen*



## An experience without equal

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



[www.wakatobi.com](http://www.wakatobi.com)

# GLOBAL NEWS

## Decision to fully reopen Solomon Islands border on 01 July 2022 Welcomed

Dereveke: "after more than two years isolated from the rest of the world, this is wonderful news"

Honiara, Solomon Islands – Tourism Solomons has welcomed Solomon Islands Prime Minister, Manasseh Sogavare's announcement the country's border will fully reopen on 1 July 2022.

This easing of restrictions means that from that date, foreign nationals can once again enter the country.

However, health precautions will still apply with all incoming travellers required to have a negative PCR test within 72 hours before arrival, in addition to a negative RAT test within 12 hours of arrival.

Only those people that have completed a full course of vaccinations will be allowed to enter the country from overseas, with the exception of children unable to be vaccinated.

The current quarantine period for international travellers is 14 days but this will be dropped to six days on 01 June and then three days post that date with international visitors required to quarantine in Honiara.

A negative RAT test will be required on day three post arrival before they can be released. Tourism Solomons Acting CEO, Head of Corporate Services, Dagnal said after more than two years isolated from the rest of the world, this is wonderful news and he, his team and the local tourism industry are more than ready to start welcoming international visitors.

"Our tourism sector has taken the front foot and is well ahead of other segments of the population in terms of COVID-readiness," Mr Dereveke said.


"More than 80 percent of business operators, hoteliers and resorts have undergone 'Tourism Minimum Standards Extra-Care' training and implemented COVID-safe protocols in preparation for the border reopening. "All we need are our international guests to start arriving."

Mr Dereveke and his team have for the past two years been kept busy along with

their counterparts at Solomon Airlines and the Ministry of Culture & Tourism driving the domestic-oriented 'Lumi Tugeda Holiday Packages'.

The program has played a vital role in helping to raise much needed revenue and job opportunities for the country's severely-impacted tourism industry.

"Now it's time to move on," Mr Dereveke said.

"We have a big job on our hands, but our tourism industry has survived numerous crises over the years, and we have always emerged, and will always emerge, in better shape." 



## Wakatobi Resort

Plan Your Ultimate Wakatobi Dive Vacation With These Insider Tips .

After remaining closed for more than two years through the global Covid-19 pandemic, one of the world's most-loved dive resorts has announced plans to reopen on June 3, 2022. This news comes as Indonesia eliminates all quarantine requirements for inbound international travelers, and several airlines have now resumed their routes into Bali, which is the gateway to Wakatobi.

And while Wakatobi hasn't been welcoming guests these past two years, the staff has not remained idle. The staff have kept busy refreshing and upgrading the property and preparing for reopening. Wakatobi's 'sprucing up' efforts extended to many aspects of the resort and dive operation. All the dive boats have been updated; the property has seen a number of significant upgrades; the jetty has been widened and smoothed; and the airstrip received an upgrade under the supervision of a certified runway engineer. In more good news, Wakatobi founder Lorenz Mäder, reports that reefs are in prime condition, and a number of new dive sites have been added to the roster.

With bookings for 2022 and beyond filling up fast, now is the time to start planning your Wakatobi dive vacation. And while Wakatobi Resort is known as one of the world's top diving and snorkeling destinations, there are still some things about Wakatobi that are not that well known. Some of these perks and opportunities are revealed on arrival but having additional insights ahead of time might make that trip of a lifetime even more memorable. To maximize the Wakatobi experience, here are a dozen insider tips offered by the resort's staff.

**COME BETWEEN THE HOLIDAYS.** November and December are months where fewer people travel because it's a period between major holidays. Airfares may be lower at this time and these months offer great diving and snorkeling conditions at Wakatobi.

**DO THE AFTERNOON DIVE.** The dive center offers three boat dives a day. After two morning dives, some guests just want to relax after lunch and finish with a shore dive. This often means fewer divers on the afternoon trips. An afternoon dive is also a great option for people who want to sleep in or linger over

breakfast and still get in two boat dives a day.

**TAKE A FREE RIDE.** You can see more of the dive site that's been called 'the world's best shore dive' by hopping aboard one of the resort's taxi boats, which will take you up-current for an easy drift dive along the House Reef ending right at the Jetty Bar.

**MAKE NIGHT MAGIC ON THE REEF.** Night diving is popular at Wakatobi, but you don't need tanks to get in on the action. Night snorkeling on the House Reef is equally spectacular, and it's available for all guests to experience.

**THIS PLACE IS FOR THE BIRDS.** In addition to the incredible diversity of marine life, Wakatobi also rewards nature lovers above the water. The island is rich in birdlife — including an endemic species! Just ask the front office to organize a Bird Watching session for you or other land tours around the island.

**PLAY CASTAWAY — IN STYLE.** Guests can channel their inner Robinson Caruso with a trip to nearby Sawa island, where they can watch the sunset on a deserted beach while enjoying a delicious aperitivo and hors d'oeuvres. Wakatobi's concierge team can make the arrangements in advance of your visit.

**GET A LOT FOR A LITTLE MORE.** Spectacular water views and private dive guides are some of the perks you'll get when you book one of Wakatobi's Villas. What many divers don't realize is that these premium accommodations are just a relatively modest up-charge from an Ocean Bungalow. If you enjoy having a private guide why not consider a Villa booking for a little more.


**ASK AND YOU SHALL RECEIVE.** Wakatobi is known for the mouth-watering spreads prepared by our culinary team. But guest options aren't limited to what's on the table. The chefs are happy to prepare your favorite dish on request, including special dietary options such as gluten-free, low fat, or low sodium.

**ENJOY LUXURY WITH A PURPOSE.** Through sharing the benefits of sustainable dive tourism with the surrounding villages over the past two decades, the people of these local communities have come to see the value of the reefs in a different light, as a source of opportunity and connection. Through their experiences and pride, they have joined efforts to keep them pristine.

**REFRESH YOURSELF ON THE HOUSE.** Divers who have been out of the water too long and don't want to jump right in won't need to rehash their skills drills before coming to Wakatobi. They can take a refresher course right on our beautiful House Reef.

**RUNWAY-TO-REEF-SERVICE.** Did you know that Wakatobi provides a private guest flight from Bali to our own runway on Tomia Island? Our guest flights cut travel time from Bali to our remote island paradise to just 2.5 hours. This eliminates multiple air, land, and sea transfers, and you skip the crowds and long lines. Our guests also enjoy VIP lounge service at Denpasar airport, where they can relax with a full breakfast and a range of amenities before boarding the flight.

**SAIL INTO SUMMERTIME.** The months of June, July, and August are known for ocean breezes and slightly cooler temperatures. These are also the months where we offer kite surfing, which is something many guests are delighted to see and eager to try.

These are just a sampling of the special moments that await you at Wakatobi. Their team is known for outstanding service so don't be shy about asking for something special no matter how big or small the request. If it is a special occasion trip — birthday, anniversary, honeymoon, graduation, or retirement — let them know, they will make your visit extra special. 

# DAN World Launches New Website: World.DAN.org

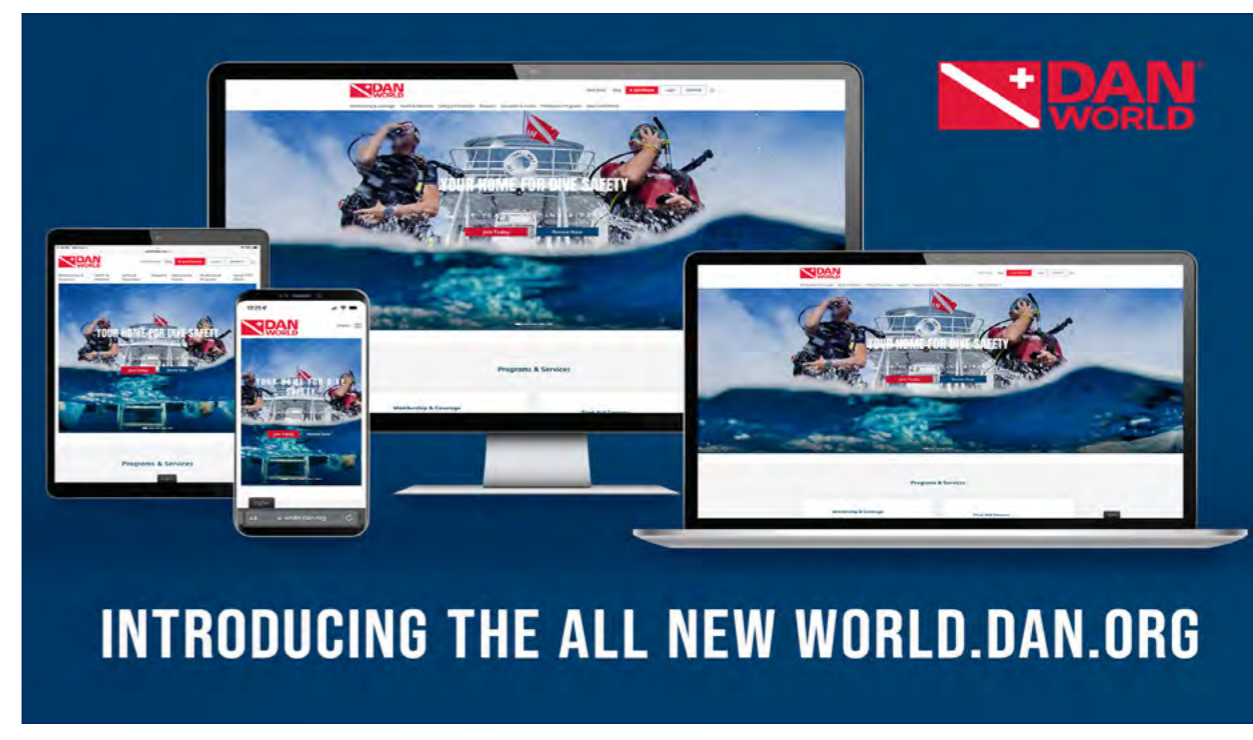
DAN World's completely redesigned website is your one-stop destination for dive safety information, dive accident coverage, and much more.

Whether you're a new diver, an experienced diver, a dive professional or a dive operator you'll find everything you need to know about safe diving. In the last several years the DAN Team has created numerous resources, articles, tools and programs to improve dive safety at all levels, and these resources are now readily available to all divers.

A simplified navigation bar puts everything DAN World has to offer at your fingertips.

You can join or renew your DAN World coverage, contact a DAN medical professional and get answers to diving health and safety questions, test your knowledge with safety quizzes, read The Divers Blog, access safety guides, research studies, incident summaries, and complete free e-Learning courses. Plus, dive pros can access risk mitigation tools that help make the industry safer for everyone.

Before you get back in the water, explore the all-new World.DAN.org. 



**INTRODUCING THE ALL NEW WORLD.DAN.ORG**

By: Johan Boshoff

# Raja Ampat

The locals tell a tale about a woman that found seven eggs. Four of the seven eggs hatched and became kings and occupied four of Raja Ampat's biggest islands namely Salawati, Batanta, Waigeo and Misool whilst the other three became a ghost, a woman and a stone.





By: Johan Boshoff

Raja Ampat is definitely one of my top five places to dive and retains the number one ranking for underwater biodiversity in the world.

Raja Ampat is in the eastern region of Indonesia and situated on the newly named West Papua province of Indonesia which was formerly known as Irian Jaya.

This stunning archipelago, comprising of four main islands known as Salawati, Batanta, Waigeo and Misool, has over 1 500 smaller islands, cays and shoals to explore.

Raja Ampat is the largest marine national park in the entire Indonesia and is largely uninhabited.

The archipelago is located on the equator; some of the islands are in the Southern Hemisphere, with a few small islands northwest of Waigeo such as Sajang Island in the Northern Hemisphere.

Some of the islands are close to the

northernmost parts of the Australian continent and encompass more than 40 000km<sup>2</sup> of land and sea.

**Diving**

The Raja Ampat archipelago contains the richest marine biodiversity on earth where marine surveys suggest that the marine life is the highest recorded on earth.

The reason for this is strongly influenced by its position between the Indian and Pacific Oceans and due to the fact that it is part of the Coral Triangle.

The Coral Triangle is composed of Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands, and East Timor and is the heart of the world's coral reef biodiversity. And with the amount of coral reefs, come reef fish, and with reef fish, come pelagic fish. During a Rapid Ecological Assessment by Nature Conservation's Indonesia programme, the renowned ichthyologist, Gerald Allen, broke the record for the most fish ever recorded on a single dive – 283.



His mate, coral expert Charles Vernon, recorded more than 450 species of hard corals.

It can be clearly seen from this that it is a marine protected area with more than 1 500 species of fish.

Five species of rare and endangered sea turtles including the Hawksbill sea turtle, 600 species of hard corals, 75% of the total for the entire world, 13 marine mammal species including the Dugong are also found here.

In short, there is a lot of everything everywhere and this makes it the best dive site in the world, especially if you are into photography.

The best way to explore the islands of Raja Ampat is by liveaboard and my recommendation is Sea Safari Cruises who operate all over Indonesia. Sea Safari Cruises is one of the top operators in the area and has the largest fleet of luxury liveaboard vessels in Indonesia.

Scuba diving with them is a tremendous treat, with experienced dive guides and crew making sure you'll have all you need on the trip.

You will kit up once when you get on the boat and then they sort out your gear and equipment until the last dive; they even use the ENOS satellite tracking system for safety for all divers, so if you lose the dive guides or group, the boat can find you wherever you are.

The boat is spacious and well kept with everything you need to enjoy your adventure. The crew is always helpful and friendly, trying to make your stay as pleasant as possible.

They have a couple of different itineraries around Raja Ampat and I enjoyed a six night safari with them.

The itinerary for the week is packed full with three dives a day, finishing the day a night dive, and to complete a fantastic day, you have top class meals and snacks between or after every dive.





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Anda, Bohol



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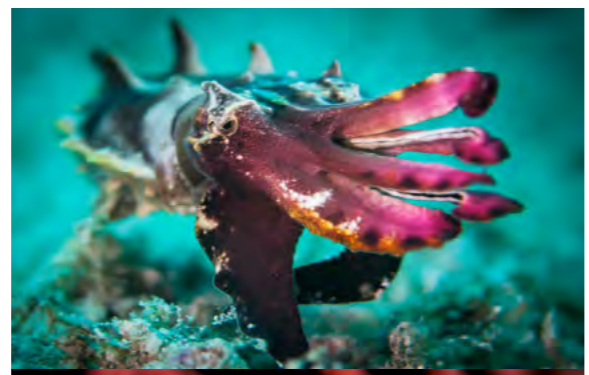
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On your first day of the safari a representative will either pick you up from the Sorong Airport or from your hotel and will escort you to the ship. Welcome drinks are served followed by a full safety briefing, cabin allocation and ship orientation.

Afterwards you will get your gear ready to do a check out dive just outside Sorong. It is a very nice dive with a lot to see, just to get you excited for what is yet to come.

The journey starts with sailing across the Dampier Straits to the islands. This stretch of water is a well-known highway for cetaceans.

Its well worth relaxing out on deck and keeping your eyes open for Bryde's whales, Sperm whales and Pygmy sperm whales, Short-finned pilot whales, Orcas, False killer whales, Pygmy killer whales, lots of different Dolphins and even Blue whales!

Just after sunrise the next morning I

walked out of my cabin and the view was breath-taking; small islands, formed and curved years ago by the tectonic forces of Mother Nature, were everywhere.

On the first day's diving menu was Penemu Island with Melissa's Garden, Barracuda Reef, Galaxy, and to top it off a night dive on Anita's Garden.

Around the islands there is plenty to see and explore underwater.

There are soft and hard corals all over, which are patrolled by various schools of fish from the Fusilier family. A Blue-spotted ribbon tail ray sought peace and quiet under one rocky shelter and Harlequin sweetlips stopped off for a dental clean from a cleaner Wrasse.

The shallows that get most of the stronger currents are littered with stunning yellow and orange Gorgonian fans with pretty Anthias and Damsels milling around them dizzily like living sequins.



After the night dive we headed to Yanggefo Island. The next day we had something special; dive sites with vibrant orange soft corals and hard corals, schools of Barracudas, Bumphead parrot fish and Sea snakes.

The area offers schools of Bat fish, Surgeon fish and Snappers with the occasional Wobbegong sleeping under the coral heads.

At the end of our last dive we had the opportunity to go into the mangroves which offered some stunning photo opportunities, as when the sun is low in the sky it shines shafts of light through the mangroves.

Day four was manta day. Around Airborek Island are a couple of Manta dive sites; Manta Sandy and Manta Ridge are two of the most reliable Manta congregation spots in the Dampier Strait. Here you can just lay back and see these majestic animals somersaulting through the water while they are cleaned by several species of Wrasse and even Butterflyfish.

Dampier Strait was on the menu for day five where we could explore Swingkrai Mikes Point, Sardine Reef, Mioskon and Friwinbondan.

The reefs was packed with hard and soft corals and surrounded by fish of various sizes, from schools of brightly coloured Anthias, silvery Fusiliers, Horse-eyed and Bluefin jacks, to Spanish mackerel, Batfish and some solitary Dog-tooth tuna. Whitetip and Blacktip reef sharks patrolled the lower areas and a resting Wobbegong can often be found.

The last day of diving on the boat before we headed back to Sorong was definitely my favourite location; diving around Kri island was amazing and after we dived a pinnacle called Blue Magic we told the dive masters that we wanted to change the schedule and we want to dive it again.

Blue Magic is a pinnacle which stands up from the ocean floor in the middle of nowhere and it is a giant Manta magnet. This was the site where the most amounts of fish species were counted on



a single dive. Diving down to 30 meters, we saw Barbigant's pygmy seahorses and a decent school of Big-eye jacks, large schools of Barracuda, Surgeon fish, Bumphead parrotfish and many friendly turtles.

Regular sightings of sharks such as Wobbegongs, White tip reef sharks and Grey reef sharks can be expected during your dive.

After we had seen all the great marine life around the pinnacle we went to the reef top at 10 meters and stayed there, hanging back from one of the cleaning stations. Within a few minutes, a black Oceanic manta turned up and just kept circling. After the first dive here, I just wanted to keep coming back.

Raja Ampat diving is breathtakingly spectacular and truly unforgettable.

**Diving conditions**

The conditions are usually very good with flat seas and water temperatures

are about 28 °C all year around.

Visibility is mostly outstanding, but you can expect anything from 10 to 30 meters depending on the dive site. The current varies from none to very strong depending on the location.

Many dives are drift diving with depths range from 10 to 40 meters.

**Climate**

This is an all-year dive destination but the best time to visit Raja Ampat is during the dry October-April period, which is by contrast the rainiest period in western and central Indonesia.

Because of Raja Ampat's tropical climate, rain can fall unpredictably, although much less frequently during the dry season.

Temperatures remain consistent throughout the year, averaging 25-32° Celsius, but humidity may make it feel hotter.



# TECH DIVING

## A tight squeeze



**Culture**

The people live in a small colony of tribes which spread around Raja Ampat. The main occupation for people around this area is fishing since the area is dominated by the sea.

Although traditional culture still strongly exists, they are very welcoming to visitors. Their religion is predominantly Christian.

**Getting there**

The main ports to Sorong are Jakarta, Makassar or Manado. Garuda operate regular flights to this region and allow you extra weight for your dive gear.

**Time Zone**

Indonesia has three Time Zones, so please be aware of this when booking domestic flights. Eastern Indonesia (Raja Ampat): GMT +9

**About Sea Safari Cruises**

Sea Safari Cruises provide leisure expeditions to all of the out-of-the-way islands to the east of Bali.

From the very moment that you step aboard one of their wooden schooners you will know that you made the right decision by booking with them.

There vessels are luxurious 35+ meter Phinisi style wooden schooners.

They offer you plenty of choice to visit Bali's neighbouring islands for land tours including bird watching, trekking, waterfalls, volcanos and world class snorkelling.

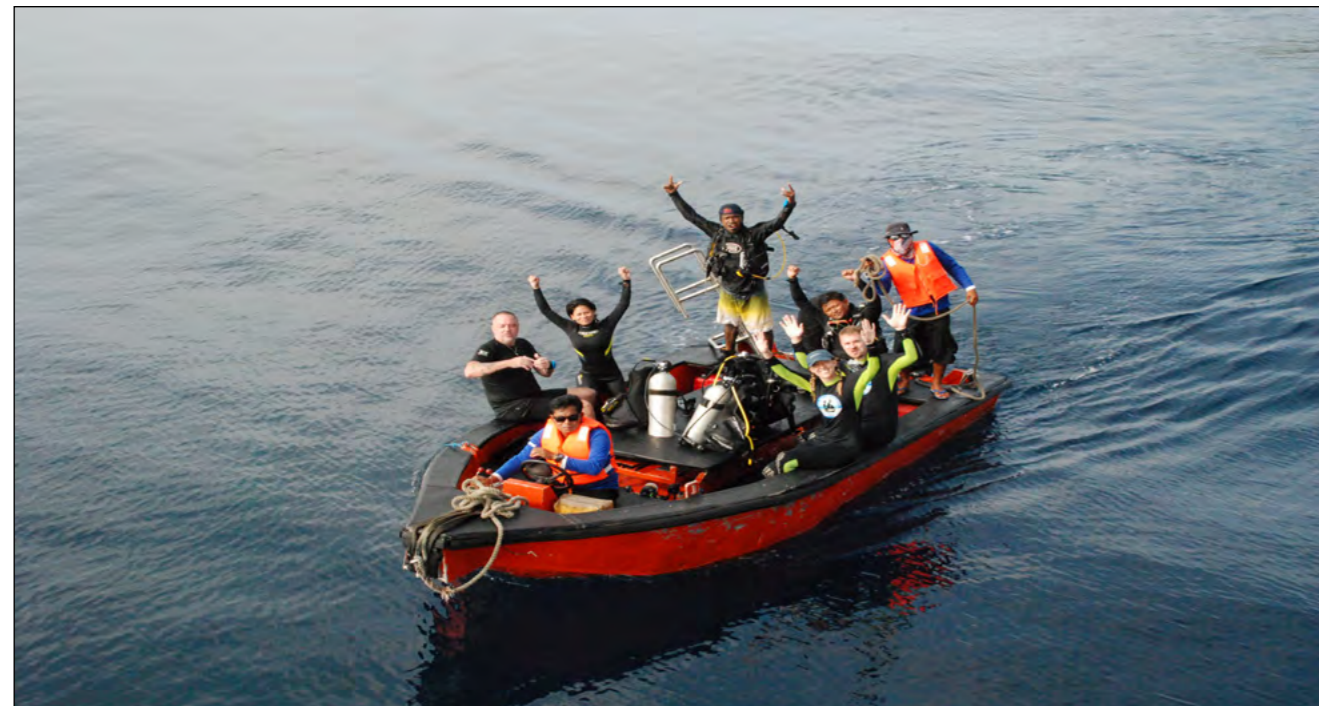
The vessels of Sea Safari are as simple as they are attractive.

Your home-away-from-home is a spacious sailing vessel and you have a comfortable cabin with your own en-suite bathroom. Sit back and relax while their attentive but discrete crew take care of everything.

Destinations Sea Safari Cruises offer Philippines, Raja Ampat, Nusa Lembongan, Labuan Bajo, Lombok, The Gili Islands, Sumbawa, The Spice Trail, Ambon, The Forgotten Islands, Flores, Alor or suggest an itinerary and they will work on it for you.

**Sea Safari Cruises Contact Details**

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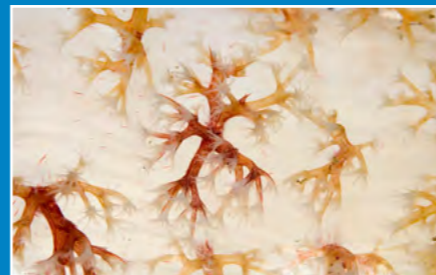
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By: Christopher Bartlett

# Pura Vida

Already for a lot of years divers go to the Philippines. And for sure, diving in the Philippines has many different faces. In this enormous country you can enjoy your dive holiday in many ways. We have chosen this time to visit a dive resort on the island Negros: Pura Vida. This island in the Visayas area of the Philippines offers many possibilities of enjoying the under water life.



The Philippines lie between 21 and 5 degrees north of equator. This Asian country is in total 300.000 km2 large and exists of more than 7000 different islands. As a result of its tropical position it is always pleasantly to stay there. The Philippines have actually three different seasons. From November up to February it is the "cold" and dry season.

The warmer and dry season runs from March to June followed by a wet season from July to October. The temperature is with 31 - 33 degrees always very pleasant. Roughly you can state that the Philippines can be subdivided into three geographical areas: Luzon, Visayas and Mindanao. In each of these areas there are good possibilities for divers. You can find here things from big whale sharks to tiny pygmy sea horses; for each diver there is a nice spot to be found. But as said we before for us it is time to go to the Visayas. The Pura Vida Resort will become our house for the coming two weeks.

Because of the position of the Visayas area, outside of the typhoon area, it is

possible to dive here all year around. The travel to the island of Negros is long and tiring. First of all we will fly to Cebu in the Philippines. After a long flight we arrive in Cebu, where we are waited for by the nice driver of Sea Explorers. By car we are brought to the south west of the island of Cebu from where we will cross by ferry to the island of Negros. Eventually we arrive after a long travel at our Resort.

The Pura Vida Beach & Dive Resort is only one of the resorts of Sea Explorers Philippines. Sea explorers have been set up by some Swiss owners. From their head office in Cebu all dive activities within Sea Explorer are regulated. In total Sea Explorers have six different dive centers in the Visayas area. The centers are located in Moalboal (cebu), Dauin (Negros), Siquijor, Alona Beach (Bohol), Cabilao (Bohol) and Malapascua (North Cebu). Each dive center and area has its own special attraction.

For Malapascua the attraction are the large animals. Over here there is a good chance to encounter manta's and



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resher sharks. The dive sites of Dauin-Dumaguette on the other hand are specialised in the small stuff; Very much macro life varied with big coral gardens around Apo island.

The Pura Vida Beach Resort is situated along an untouched piece of beach of about 3 kilometres long in Dauin. The nearest city, Dumaguette, lies about 15 kilometres further. The Resort is clearly designed by and for divers. Everything you wish for is present.

At arrival we directly meet the pleasant people of our resort for these weeks. Our bags are delivered directly to our bungalow and we get an invitation to come and drink a welcome cocktail at the pool bar. And after such a long travel this drink tastes of course well. As we look forward from the bar to go diving tomorrow morning we get our first impressions about of the Resort. Next to the pool bar the dive centre is located. Unfortunately today we are already too late to present for diving but we will be present tomorrow morning at eight.

The first dive on the resort is always made on the house reef. Probably there is no more relaxte way to start your diving. The house reef is located directly in front of the Resort. After we have performed the obligatory paper work we prepare our gear. Each diver here gets its own case where all dive stuff are put in. At night the divegear is stored in a closed space so there is no need to sweat your guts out by carrying your dive gear around. Our dive day is yet to begin.

Our guide Carlos gives us a clear briefing about waht to expect this dive. Afterwards we walk along the beach intothe water; ready for our first dive. Because of the position in front of the resort it is ideal for the first dive. There is no need worrying whether you have enoug weight; extra weight can be obtained easily.

The house reef is a easy site to start with. The sandy bottom goes smoothly to a depth of around 20 meters. During the dive you pass a twelve meters long wreck in which you will find all kinds

of life. Something that really strikes us here is the enormous quantity of life we encounter here. At first the sandy bottom looks a bit boring, it starts with a piece of sea grass and further on it proceeds in sand. But in and on top of the sand so much animals live that on the first dive already we have loads of different animals in our logboek.

Several nudibranchs, the harlequin ghost pipefish, many anemones, small frogfishes, leafe fish, gobies, mantis shrimps and lots more. Later this week we would encounter some squids during our nightdives. Besides the fact that this is a perfect start-up dive site this site is also very suitable for nightdives.

For the second dive of this day we register ourselves for a boat dive. The dive centre has a fixed planning board where you can register yourself for a dive. Every day several dives are organized. Some are carried out by boat; others by car and finally are there are also a number of sites you can walk to from the Resort. The guides are very helpful in advising which divesite nice for a next dive and every guide will tell enthusiastically about all the beautiful stuff you can see there. The sites that are carried out by boat all are within ten minutes from the dive centre. Only the sites around Apo island lie further.

At the end of our first day we choose to go to a varied dive site on a five minutes boattrip, Sarah's Place. The most important reason for a visit to Sarah place is Mandarin fish which comes out of the coral daily around sunset. So we enter the water around five o'clock. Before we go to the area where the Mandarin fish is found we make a big round around the reef. We meet several frogfishes and some snake eels try to hide themselves in the sand.

Between some artificially created reefs we find sea horses, anemones, clown fishes, shrimps, lionfish and still much more. At the end of the dive we enter the area of the Mandarin fish. At day time these small and coloured animals hide inside the coral. Only at sunset they come out of their homes for just a couple of minutes. They are looking for another mandarin fish to mate with. After a couple of



## Dive the World

Philippines

By: Christopher Bartlett

minutes they disappear just as sudden as they came back into the coral. As a diver you will have to approach these animals very carefully. Coming near the animals too fast and with a very bright light will result in the Mandarin fish going back into the coral in a second. And then you will simply have to wait for another day.

Our second day we start with a deeper dive to a site named Car Wreck. From the dive centre we go by mini-mini van to the divesite. On our way down there we drive along the municipality house and the church of Dauin; and we get some impression about the way the Philippines live here. As as the name of this site suggests the most important attraction of this divesite is a carwreck. The surroundings around Dauin have only little natural reefs.

The bottom consists mainly of sand. But by several local initiatives a number of artificial reefs have been made which attract a much richer under water life. Also on this place around the wreck it is crowded with life. Schools with small fishes, pipefishes, shrimps, nudibranchs and lot more have found a home around the wreck.

Moreover our dive guide Carlos indicates us even more life on this site. We meet the harlequin ghostpipefish, a robust ghostpipefish, leaffish, enormous tube worms and as a special treat this dive we find a lizardfish that has just caught a prey.

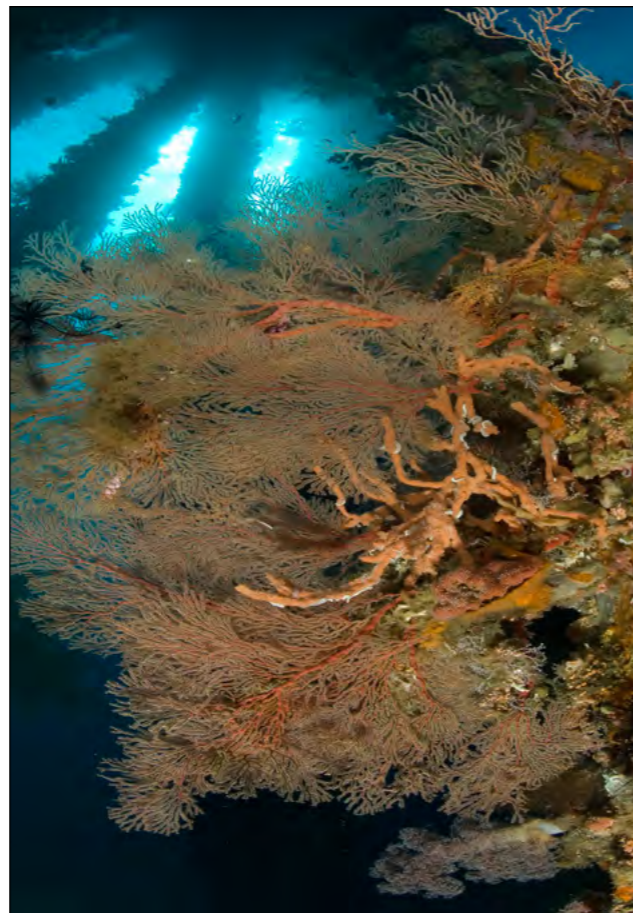
After a second visit to Sarah's Place we continue our discovery trips with a visit to a divesight called the jetty. Also here the name of the divespot is not very original. We dive here along and under the wharf of a jetty. The jetty consists from two parts. Along the larger peer ships lie and are unloaded frequently. This causes the fact that diving here is not always possible. During the unloading of a shop it is possible to dive under the peer, but certainly not next to the peer. Next to the large peer there is a small peer where there are only sporadically boats. Under water both divespots are very particular. Till this point we have seen beautiful animals but they were all found

on sandy bottoms. Here the surroundings are very different, we dive along the wooden pillars of the jetty. And that these wooden pillars are a good environment is proven very rapidly.

We start our dive at the bottom of the pillar and circle slowly up. On the bottom we find an enormous quantity of nudibranchs, sea urchins and cowries. Between the two peers we are surprised by a sea snake. Fortunately this poisonous snake is not disturbed too much by our presence and continues its way after we made some beautiful pictures of it.

The pillars are splendidly grown over with softcorals, sea whips and gorgonians. If you take a good look to the sea whips you will notice that frequently small gobies or small shrimps live on these sea whips. Camouflaged entirely and adapted to their surroundings.

In between these we find even more life.



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Forgfishes in all types and sizes, small fishes which are in hiding in their little holes; nudibranchs, large schools of razorfish; the only thing you have to do here is slowly swim around the pillars and enjoy yourself.

At diving around Dauin a visit to Apo island cannot be missed. Every other daytrips are organised to Apo island. From years Apo island is known for its splendid coral gardens. On the picturesque island itself there are only few places to stay, but the island can be reached easily with a daytrip from Negros or Siquijor.

Also we joined one of the Sea Explorers boats to enjoy a day at Apo. Beside the coral gardens Apo is also notorious for the frequently firm currents around the island. At the beginning of the day the diveguide clearly indicates that the exact divespot can only be determined on the spot. Depending on wind and current a suitable divesite is selected. In total we will make three dives on Apo.



The first dive is on Coconut point. And the rumours concerning current definitely are correct.

We have ourselves taken along with the current along the reef. The splendid coral gardens are amazing. Several types of corals vary each other continuously. And mostly where there are corals there are also large schools of coral fish. Small damselfishes and anthias rapidly fall into the coral as soon as a diver comes near.

Thanks to the nice coral gardens you will almost forget to look into the blue once in a while. But this really is worth doing because, thanks to the current around the island, you can find here large fish, solitair or in schools. Barracudas, large mackerels, sharks and turtles are frequently seen around Apo island.

Around the islands of Apo and Negros everything is done to preserve and promote the quality of the under water life. By establishing special Sanctuaries areas are protected. In these special areas the number of divers allowed on a day is limited.

Nightdiving is not at all permitted in these areas. As a contribution you pay 3-10 USD each day for the protection of the area. As a result these protected areas have developed in the previous years into areas with much richer and nicer under water life.

After diving it is also a pleasant stay above the water. The Pura Vida Beach Resort has several accommodations. There are ten largely set up and luxuriously bungalows which have been built around the swimming pool. These are stone bungalows provided with airco, TV and a warm shower. With a splendid view on sea you can daily enjoy sunrise, provided you come out of bed early. Beside the luxurious bungalows the Resort has also ten simple bungalows.

These traditionally built bamboo bungalow are situated along the tropical gardens of the Resort. Also these bungalows have a warm shower. Thanks to traditional construction there is no need for airco; a fan at the ceiling and wind blowing through the bamboo



bungalow will be very comfortable. These bungalows are a bit further from into the resort; in a nice and quiet part of the Resort.

If you want to see something more from the environment besides the diving you can choose to take a visit to the local market in Malatapay.

Each wednesday the local population come together to buy and sell fish, vegetables, fruit and animals. Also you can go for a 45 minutes walk to the Casaroro water falls. The water is very cold, but refreshing after a tough walk.

Lovers of a game of golf can enjoy themselves here also. On a 30 minutes drive there is a small golf course and for the real devotees on a half hour drive there is a professional course with a spectacular view.


Maby a little daring, but it is possible to hire a motorcycle to take a drive. Motors can be rented with help of the reception of the Resort. After renting the only thing

you have to do is take care with the unpredictable Philippines trafic.

The Pura Vida Resort really has to offer something beautiful for each diver. Just enjoying macro life under water or pay a visit to the coral gardens on Apo. Or just relax at the swimming pool or on the resort. At the end of the day enjoy a refreshing massage in the spa is really a must.

Beside the stay on one resort at Sea Explorers you can also choose for a dive safari. During this safari you are brought from resort to resort so that you can enjoy all specific dive spots. And this nearly without losing dive days.

While changing resort you just continue diving on your way to the next resort, a perfect opportunity to see different sites of the Visayas.

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



# Why DAN Doesn't Share Chamber Locations or Availability

DAN frequently consults on the care, transportation and hyperbaric treatment of injured divers. However, DAN does not generally provide information about the location or availability of chambers. This is because injured divers with suspected decompression illness (DCI) need to be evaluated at a hospital or emergency clinic first.

Divers have driven past health care facilities to get to a recompression chamber, believing a chamber was the solution for just about any malady or injury. Even when divers surface with symptoms of an apparent arterial gas embolism, the best course of action is to have the diver assessed at the closest medical facility. An urgent care clinic or a hospital's emergency department is better than a dedicated chamber facility.

## Recompression Treatment

The best option for an injured diver is always to use the best locally available medical services.

-A differential diagnosis comes first. Not

everything that can happen to a diver warrants hyperbaric treatment.

- A physician needs to rule out illnesses such as heart attack and other neurological and musculoskeletal injuries that could be confused with decompression illness.

- Advanced diagnostic procedures will rule out complications (such as a collapsed lung) and other additional factors that could make recompression therapy inappropriate or dangerous.
- A physician needs to make sure the patient can withstand recompression therapy.

## Chamber Capabilities

- Not all hyperbaric facilities are capable of dealing with all cases.
- The closest recompression chamber might not be the most appropriate.
- A chamber's operational status can change.

- Chambers may close for scheduled maintenance or staff holiday's or may have limited staff available because of a high daytime patient load.

- The chamber you are driving to may not be available.
- Prior notification from an evaluating facility is usually necessary to begin the call-in procedure to staff a hyperbaric treatment.
- Most hyperbaric facilities have regular daytime business hours and are not staffed in the evenings or on weekends. Some chamber facilities choose not to staff their unit after hours. Others simply do not treat divers.

## Hospital Capabilities

- Unlike most freestanding hyperbaric facilities, hospital settings have advanced diagnostic capabilities.
- A multidisciplinary setting ensures proper diagnosis and a stable patient before recompression therapy.
- Hospitals and urgent-care facilities have a virtually unlimited supply of oxygen, intravenous fluids and medications.

## Transportation

- A critically ill patient needs to be stabilised before and during transport to a chamber and should be transferred under medical supervision.
- Transporting a diver without a proper evaluation may adversely affect the diver's health and treatment outcome.

## When in Doubt, Call DAN

DAN maintains a database of hyperbaric facilities willing to and capable of treating divers. It is challenging to ensure this

database is current, as most chambers do not routinely report their status to DAN.

Once you have begun administering first aid and activated local emergency medical services (EMS), DAN can help you and EMS determine the best course of action for the case as reported.


If the need for recompression therapy seems obvious, DAN can confirm chamber availability with the closest facility. The nearest medical facility will not necessarily have hyperbaric medicine but is still the preferred option. Once the diver becomes a patient, transportation will move quickly and efficiently.

DAN is not the only resource for chamber information for travel abroad. Your dive operator should be able to give you this information before arrival.

## Dive-Related Injuries

If you suspect a diver has a dive-related injury and needs evaluation, you should:

- Monitor their airway, breathing and circulation.
- Provide 100 percent oxygen if you are a trained oxygen provider.
- Call local EMS for transportation or assistance with the transportation of the injured diver to medical care.
- Call the DAN Emergency

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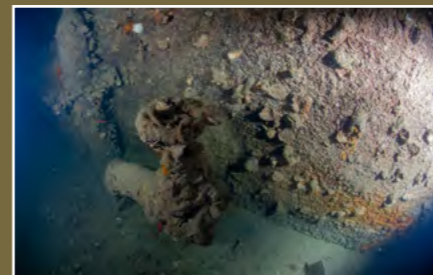
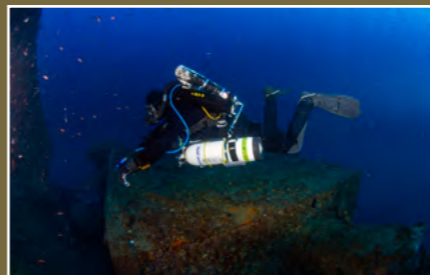
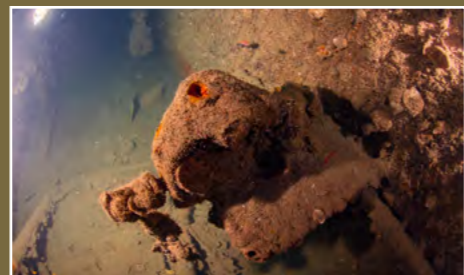
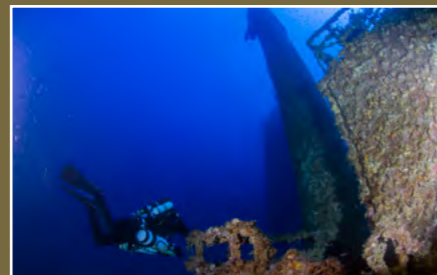


By: Kurt Storms

# Amoco Milford Haven Wreck

Location : Arenzano – Italy

Divers : Kurt Storms – Willem Verrycken



## Exploration

Amoco Milford Haven

MT Haven was a VLCC-Class Oil-Tanker (Very Large Crude Carrier), built as Amoco Milford Haven in 1973

The Haven was incredibly big: 334m long with a beam of 51m and a displacement tonnage of 110,000 tons. In 1987 it was hit by a missile in the Persian Gulf during the Iran-Iraq War.

Extensively refitted in Singapore, it was then sold to ship brokers who leased it to Troodos Shipping.

Around 12:30 pm on April 11, 1991, the Haven was unloading a cargo of 230,000 tons crude oil on a floating Platforms, seven miles off of the coast of Genoa, Italy. Having transferred 80,000 tons, it disconnected from the platform for a routine internal transfer

operation, to allow oil to be pumped from two side-holds into a central one. While still loaded with 144,000 tons of crude oil, the ship exploded and caught fire, killing five crew members.

As the fire engulfed the ship, flames rose 100m high and, after a series of further explosions occurred, between 30-40,000 tons of oil poured into the sea.

The Italian authorities acted quickly, with hundreds of men fighting a fire which was difficult to access, and distributing more than six miles of inflatable barriers, submerged a meter below the surface, around the vessel to control the spillage.

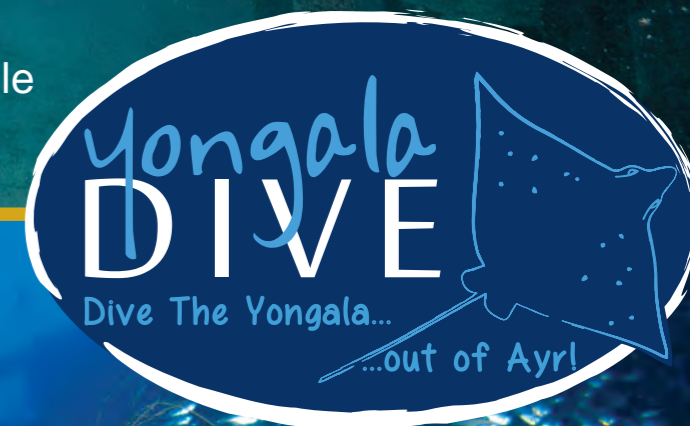
On day two, the MT Haven was to be towed close to the coast, in a bid to



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## Exploration

Amoco Milford Haven

By: Kurt Storms

reduce the coastal area affected and make intervention easier. As the bow slipped beneath the surface, a steel cable was passed around the rudder and tugs applied towing pressure.

On 14 April, the 250m-long main body sank a mile and a half from the coast, between Arenzano and Varazze, flooding the Mediterranean with up to 50,000 tons of crude oil.

### Diving The Haven

The Haven is the Mediterranean and Europe's largest shipwreck in the sea and lies at a depth of 33m to 83m off the coast of Arenzano (Genoa) I have been diving on this beautiful and unique wreck for the last 3 years and I can really say that I am in love with this big baby.

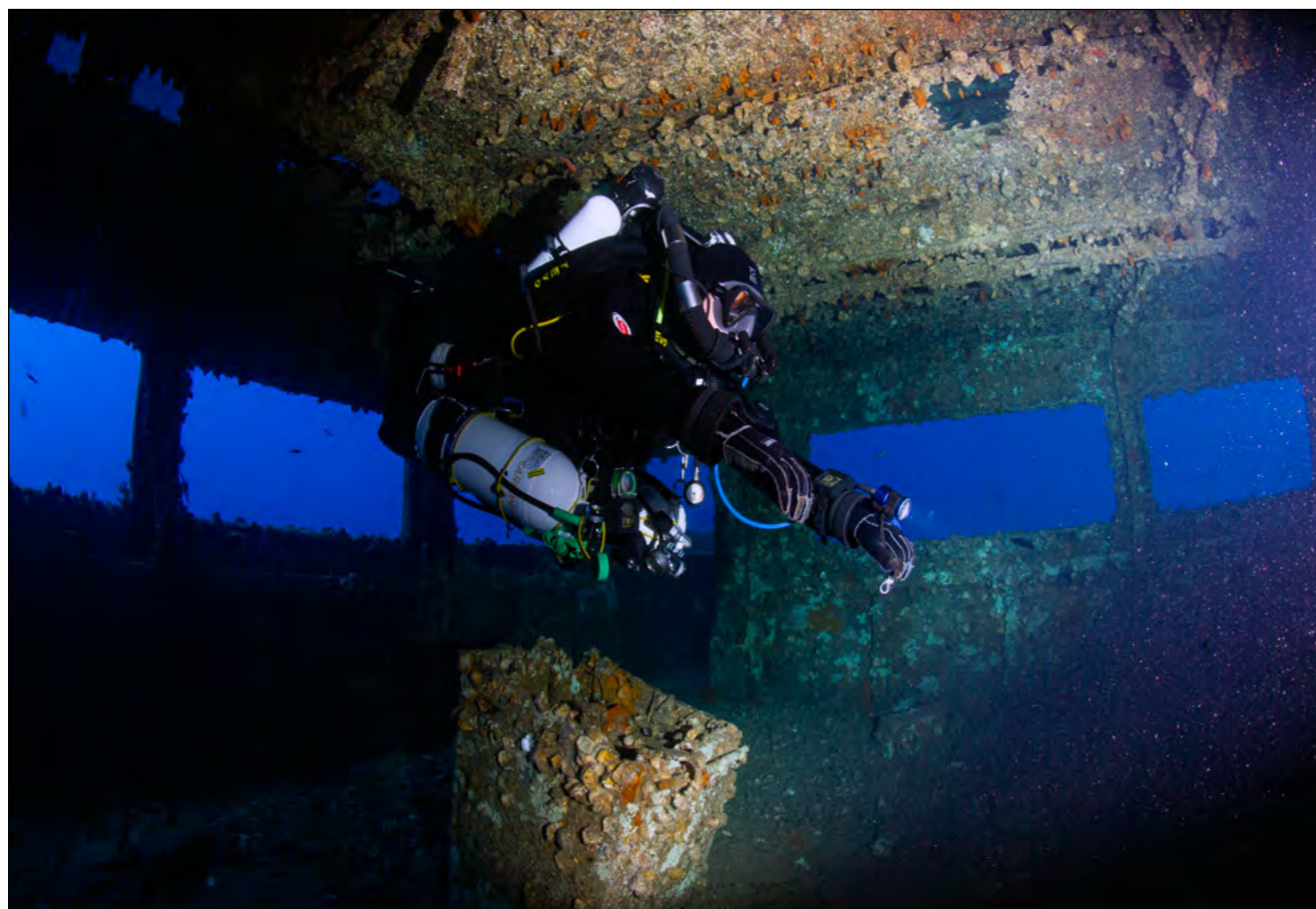
But I want to warn every reader before

going any further. The baby can be a killer and a dangerous monster for untrained or inattentive divers.

Depending on the day, the current can go from nothing to strong, the visibility can change from a perfect 60+ meters to a very poor 5 meters, it is a giant labyrinth inside which one can get lost, like in any cave system, with sharp metal cutting edges, and huge amounts of silt that can turn water milk-like and trap you.

The wreck is huge and deep, and you can lose your orientation as well as your notion of time and gas consumption.

No heroes allowed here, you must be humble and patient enough to discover the wreck step by step, piece by piece and according to your own level of training and experience.



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The 250 meter long main section of the Haven peacefully lies in an upright position. Part of the superstructure which originally reached up to 24 meters of depth were removed, therefore the shallowest part of the entire wreck, the smokestack, now stands at 33 meters deep.

**Diving the MT Haven :**

On a depth of 40m you find the wheelhouse, from which the captain maneuvered the Tanker and which is completely empty.

All the instruments, controls as everything was burned away before sinking. On the upper deck you find a memorial plate and the statues of the Virgin Maria .

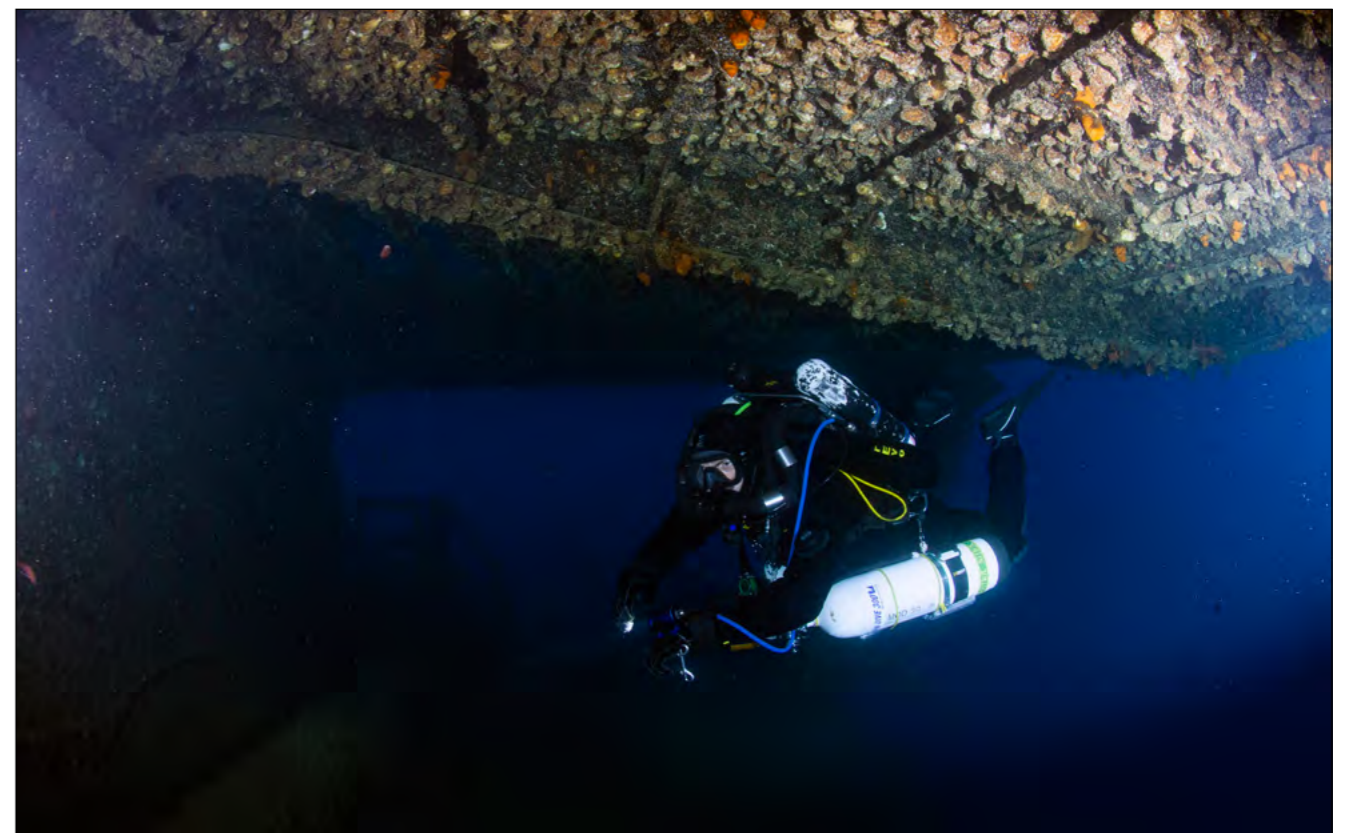
You can easily penetrate steer house.

- you can go down or up the inner stairs. It is also very easy to go up or down the main lift opening that goes through all bridges or just follow the outside walls.

The windows on the side are numerous but sometimes quite small and most of the time too small to go through, every room has a door though.

There are 6 different bridges about 23 meters high, here you find bedrooms, the kitchen, workroom etc.... You can penetrate almost everywhere, but it's a labyrinth, so you should consider it as a cave and use a guideline

From the bridge, technical divers can descend to the deck in the back of the tanker, past the winches, pipes and valves that are proportional to





DEPTH	TIME
33.0	3:42
TANK	NST
240	42

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This picture is for illustration purposes only. Actual product may vary due to product enhancement of the dive mask paired with the Galileo HUD hands-free dive computer.

the size of the ship and free fall down to the propeller at 82 meters. Here excessiveness still strikes with a rudder 20 meters high and a propeller more than 7 meters in diameter.

The dark becomes darker as the cant is important and we lose light from the surface. The depth is maximal but this place is breathtaking and looking up from this point, the tanker is majestic. The engine room entrance is located just under the chimney below -52 m and from there you can go deep inside the ship.

Here you find a gigantic 8-Cylinder stroke Diesel Engine, The Various panels and counters are still in perfect shape and intact.

Going up on port side, there is a gigantic opening left by one of the two explosions.

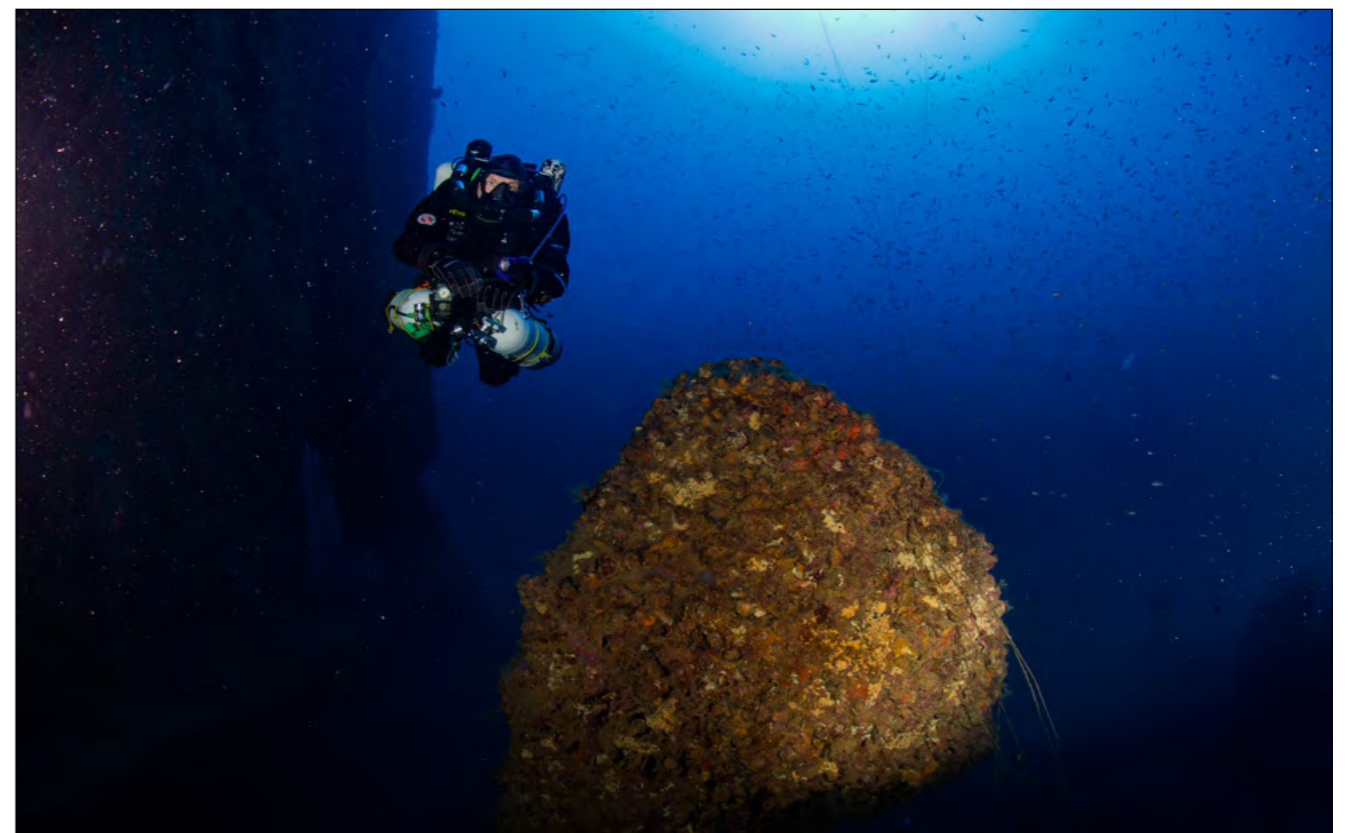
The gaping hole is so large that it is difficult to comprehend its dimensions and the plates are twisted like a broken can.

For diving the MT Haven you need to be a Technical diver, and complete these dive's with hypoxic gasses. Don't do this dive's without proper training.

There a 2 dive centers wo provide all the facility for diving The Haven, both are in the Marina of Arenzano.

Organization is perfect and safety non-negotiable There is a fixed deco station with decompression bars at -6m and -3m with sufficient spare tanks of air, 50%, 70% and/or 100% according to your dive plan. The descent lines are fixed and lead you down to the quarterback at -33m.

Enjoy your Dive 🏠





As most people realise after buying a camera and exploring the world of photography, there is more to photography than just point and shoot. By applying a few simple techniques, you can easily increase the impact of your photographs.

Photography skills can almost be broken

into two main categories; the technical side which deals with understanding aperture, shutter and ISO settings, and the artistic side which deals with the composition of the photograph.

Composition is basically playing with different elements in a photograph to create images with a more striking



effect. There are many different techniques of which only a few are mentioned in this article. It is important to note that a number of the techniques can be combined to achieve a specific composition.

#### Subjects placed off centre

Placing your subject off centre can be a great aid in focusing the viewers' attention on a subject. The rule of thirds combined with negative space is a great aid in balancing your subject and placing focus on detail of the subject.

#### Leading lines

Leading lines create an interesting effect in a photograph as the eye is naturally drawn to the line. If the viewer can find the start and end of the leading line, the image becomes visually interesting and attractive. It can also be used to focus attention on a subject at the end of the line. These lines can be straight, curvy, radial, diagonal or zigzag.

#### Cutting off subjects

You should attempt not to cut off parts of a subject as the image will appear incomplete. If you wish to cut the subject, do so deliberately and strategically during a macro photography shot where the frame is filled or where a creative or abstract view is desired from a specific part of the subject.

#### Framing

This is a great technique underwater, since pictures taken of subjects in open water can become boring. Use natural elements such as coral, reef overhangs, a ship wreck or a plant to frame the subject. Framing can apply to an element enclosing the subject or simply filling the top and bottom, left and right or any two sides of the picture. Framing can also be achieved by leaving darkness around a subject when using natural or artificial light to lighten up the subject.

#### Colour and colour combinations

Sharp or contrasting colours will always guarantee a striking image. Red, orange and yellow underwater with a blue background are some of the best colour

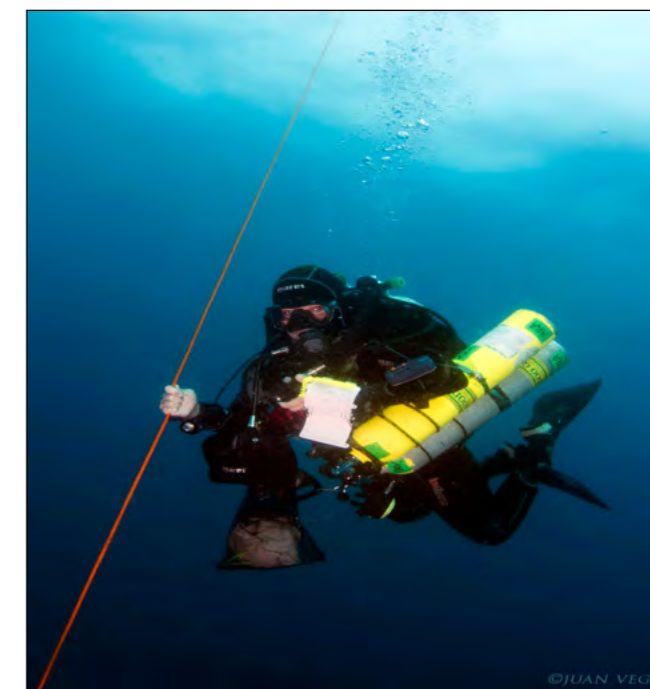
combinations provided by underwater photography. Red is, however, the colour that disappears first underwater, so try and use artificial light to restore reds if you are taking photographs on deeper dives.

#### Symmetry and patterns

These are all around us. It is recognising them which is slightly more difficult, but if you manage to work with symmetry and patterns, you can create the most interesting photographs.

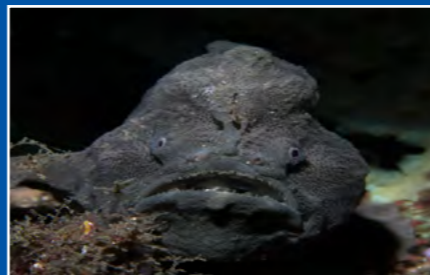
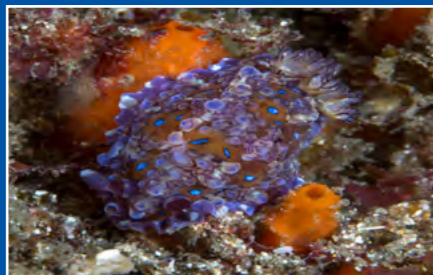
Other techniques include playing with the depth of field, orientation, size and scale of subjects, backgrounds and the like. It must be said that photography is very much like art where each photographer develops his or her own style. There are no hard and fast rules, only a few techniques which can make photographs visually more attractive. Composition techniques are mostly

the same for underwater and normal photography. Remember, practice makes perfect, so practice these techniques outside of the water to ensure that you can easily and naturally apply these underwater. Take lots of pictures and play around with the different composition styles to develop your creative side. 📷



# George Borovskis

A journey through the Lens





## Through the Lens

Photographer

I learnt to dive in 1985 when my friend Fabio lured me to do the open water course with Dave Ireland's dive shop in Cronulla.

I thought this is crazy but quickly got the bug and relished exploring this magnificent world. This was a place of sensory overload, where I was a visitor and every dive counted as an adventure.

Overseas family holidays usually allowed me to have the opportunity of seeing what was below the waterline as well as on land. I live and dive in Sydney and believe we are blessed to have so many great shore dives close to a major city.

My favourite haunts are the three dive sites at Kurnell where on its day, I believe the sites here rival macro hot spots overseas.

I did not take up UW photography until much later. In 2006 on a trip to Cyprus I used my first UW camera a Canon Ixus 750 compact with a whopping 7.1 megapixels. For the next 4 years it was my kit for bringing home images to show friends and family.

In that time, I purchased a Canon 40D and dreamt of maybe getting a housing for it. Then I saw a Seatool housing on ebay. Told my wife and went off to a dive club meeting.

When I came home, she said "I bought it"!! I was in two minds, elation and oh my god now the bank balance will never be the same. Happily, it all worked out fine. Optically triggered Inon Z240s, 60mm macro lens and I was ready for the steep learning curve.

From 2010 to 2013 I learnt the craft of shooting fully manual in both camera and strobes and then an opportunity came my way to upgrade

so I sold the 40D kit and replaced it with my current set up.

I now use a Canon 5D Mk 3 in a Nauticam housing, optically triggered twin Inon Z240s. Lenses are Canon EF 100mm f2.8 L Macro, Canon EF 16 – 35mm f4.0 L Wide and Sigma 15mm fisheye.

Additionally, there is a Nauticam SMC -1 Macro Converter which is a challenge to say the least especially in surgy water but worth the perseverance.

In 2012 my diving life took an even better turn. My wife learnt to dive and has since become my regular dive buddy and fantastic spotter of small critters.

It is what she calls her Zen time. There is little concern (well maybe a little) when dive gear needs to be bought and holidays have now taken on a new perspective.

With the advent of COVID-19 our dive travels have focussed on Australian destinations. We have had the privilege of diving the Coral Sea and ribbon reefs.

This was a sensational trip with coral spawning a true highlight. Diving is a weekly ritual all year round and with any luck a new Canon mirrorless camera could be on the horizon.

We dive at Kurnell quite often and I sometimes wonder what Captain Cook would think if he knew what was below the Endeavour in 1770.

I bet it would have been spectacular. Many of our friends do not dive and love seeing the photos of what we have in our waters around Sydney.

They refer to themselves as armchair divers. I hope you enjoy these images as much as they do. 📷

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Bunaken 2019 Hawksbill Turtle Canon 5D3, Canon 16 – 35mm, 2 X Inon Z240 F/5.6 1/60 100 ISO



Komodo 2019 Reef Manta Ray Canon 5D3, Canon 16 – 35mm, 2 X Inon Z240 F/6.3 1/125 100 ISO



Nelson Bay 2014 Grey Nurse Shark Canon 5D3, Sigma 15mm fisheye F/8 1/100 1600 ISO



Bare Island 2018 Crested Horn Shark eating a Port Jackson Shark egg Canon 5D3, Canon 16 – 35mm, 2 X Inon Z240 F/7.1 1/200 400 ISO

Through the  
Lens

Photographer

George Borovskis



Komodo 2019 (Sangeang) Ornate Ghost Pipefish Canon 5D3, Canon 100mm, 2 X Inon Z240 F/22 1/200 400 ISO



Shiprock 2021 Mourning Cuttlefish Canon 5D3, Canon 100mm, Inon Z240 + Backscatter Snoot F/20 1/200 400 ISO

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Lembeh 2019 Striated Anglerfish Canon 5D3, Canon 100mm, 2 X Inon Z240 F/22 1/200 400 ISO

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Pic: Alison Perkins 2019 OZTek Cave Category

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Kurnell 2020 Weedy Seadragon Canon 5D3, Canon 16 – 35mm, 2 X Inon Z240 F/6.3 1/125 400 ISO



Kurnell 2020 Juvenile Weedy Seadragon Canon 5D3, Canon 100mm, 2 X Inon Z240 F/16 1/200 400 ISO



Lembeh 2019 Pygmy Seahorse Canon 5D3, Canon 100mm, 2 X Inon Z240 F/22 1/200 400 ISO



Shiprock 2021 Big-bellied Seahorse Canon 5D3, Canon 100mm, Inon Z240 + Backscatter Snoot F/18 1/200 400 ISO

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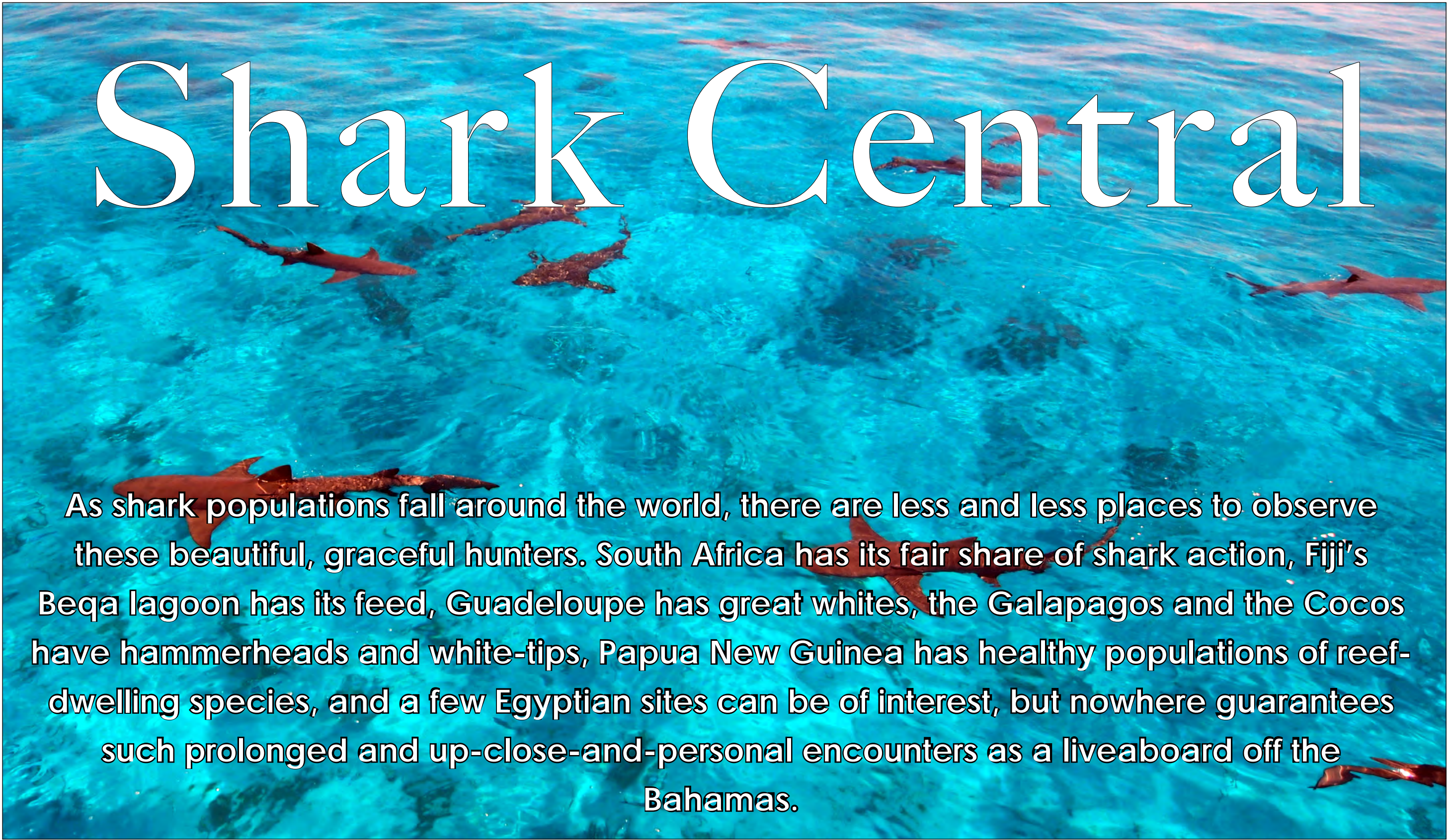
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# Shark Central

A large group of sharks, likely nurse sharks, are swimming in clear, turquoise water. The sharks are seen from above, showing their dark brown bodies and lighter-colored undersides. They are scattered across the frame, some swimming towards the viewer and others away. The water is very clear, allowing for a detailed view of the sharks' movements and the ripples on the surface.

As shark populations fall around the world, there are less and less places to observe these beautiful, graceful hunters. South Africa has its fair share of shark action, Fiji's Beqa lagoon has its feed, Guadeloupe has great whites, the Galapagos and the Cocos have hammerheads and white-tips, Papua New Guinea has healthy populations of reef-dwelling species, and a few Egyptian sites can be of interest, but nowhere guarantees such prolonged and up-close-and-personal encounters as a liveaboard off the Bahamas.



After flying to West Palm Beach, Florida, I boarded the 12-berth Dolphin Dream II and met up with my companions for the next six days and our host, Captain Scott Smith. Initially attracted by its spotted Atlantic and bottlenose dolphins, Scott has been visiting the banks off Grand Bahama for the past thirty years and has an intimate understanding of the tides, currents and reefs.

I was sharing a room with Mike from Texas, a veteran of two Dolphin Dream expeditions, and the rest of the passengers were a single US female, an American couple, an Aussie father-daughter combo and a group of five Dutch divers. Over dinner a few shark stories were swapped, and there was a distinct air of happy expectation, possibly assisted by Captain Scott declaring that all beers on the trip were free. As soon as dinner was over we left our moorings for the night crossing to the Bahamas.

Once at Tiger Beach we moored up to a buoy. A steel drum with bits of fish carcass

stood on the aft of the port deck, to which Scott added some fish offal and some tuna heads before he started pumping the stinky grey gunk out into the sea. Plastic crates were filled with more carcasses and some fresh snapper the crew had caught, and were suspended aft of the dive deck and from a couple of buoys. Within 10 minutes dorsal fins appeared and lemon sharks dotted the bright blue ocean.

The pre-dive briefing was simple and succinct. We would be moored here for at least 24 hours, as the sand was 6m below the boat no buddy pairs were obligatory and the only limit on dive time was the rate we used our air.

"Don't hang around on the surface, don't fondle the sharks, do have fun. Pool's open!"

The lemons cruised around the dive platform and we waited for a gap in the traffic to stride in. Travis and Connor of the crew handed our cameras down and we sunk down to the sand.



Five lemon sharks, all pretty much fully grown 3m specimens, one of whom was in the latter stages of pregnancy, glided around with much more grace than a human in the same state, checking out the bait boxes but pretty much ignoring us divers. Mostly they stayed close to the sand, occasionally resting and opening their mouths to pump water through their gills to breathe without swimming.

I'd never encountered lemon sharks before and the thing that struck me was the number of remora hanging off them. One of them must've had over 20 suckered up to its brownish-bronze skin. A 3m tiger shark put in a brief appearance and then moved on. Contrary to popular belief, tiger sharks are shy and wary; they don't grow so big and so old by blithely approaching anything new without much caution. The lemons, on the other hand, and a fearless loggerhead turtle, happily cruised around us.

At such a shallow depth and with very little finning to do, my first dive lasted over

two hours as I lay on the sand and let the sharks swim around me, making the most of the light and shooting without my strobes and using manual white balance. After tea, cake and a battery change, I headed back down for more of the same.

After another hour underwater a 3,5m tiger with a permanent, lopsided grin turned up and swam around in an oval pattern, coming up to one of the bait boxes, and then gliding away to reappear a couple of minutes later, over and over until I was low on air again and my stomach was rumbling.

We stayed moored up at Tiger Beach overnight, and after breakfast the lemon shark contingent had grown to 14, the smallest being over 2m long and around my age. Mature lemons can live an estimated 70 years, mainly living off a diet of slippery fish, hence their long and pointy teeth.

The pregnant female was still around, and her bloated abdomen looked ready to release her litter of eight to twelve live pups. I wondered how that worked – would



## Giant Stride

Shark Central

By: Christopher Bartlett

they just slip out as she swam around, or would she go through the same drama as human females?

I swam under the boat to beyond the bow and inspected the chain we were moored to. Running perpendicular to the boat, its wrist-thick links were adorned with coral growth. A small rock harboured an eel and cleaner shrimp and a school of cottonwicks decorated some finger coral in the early light.

In the afternoon we upped anchor and went to a spot where dolphins are regularly seen. With two lights dangling under the boat we slipped into the silent, otherwise inky black ocean as soon as curved fins appeared on the surface. Underwater the ocean was alive with high-pitched squeaks as the spotted Atlantic dolphins darted around us, teasing those of us with cameras.

It was impossible to get a clear, in-focus shot, but was most amusing as the dolphins appeared like ghosts and whirled around as if to say to their fellow mammals "hey human, this is how to dive."

The next morning Scotty cruised around looking for his friends and within forty minutes had identified the unmistakable notched dorsal fin of Chopper, the alpha male of the area, who he had first seen thirty years before, and we jumped in. Scuba was impossible as firstly by the time we'd have kitted up and jumped in they would have gone, and more importantly, the dolphins were after some fun. The best way to prolong any interaction was to free dive down and twirl and spin in the most dolphin-like way possible.

Travis used a UPV to keep one pod interested, as I followed another. Every time they seemed to be disappearing I'd dive down to five metres and spin/twist as much as I could and they would come straight back, chirping and chattering and shaking their heads in approval. Incredible.

After lunch we moored up at The Mountains, thus named due to the reef topography. The tops of the reef (or peaks of the mountains) were 13m deep, and the sides sloped down another 17m to a sandy bottom. The sides had small caves, overhangs and gullies with plenty of reef



Recreational



Technical



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Resort



life and coral coverage. Connor placed a bait box on a ridge and soon more than a dozen Caribbean reef sharks had joined us. They were a mixture of juveniles and sub-adults, the longest being two-metres long. A nurse shark put in an appearance and was soon using her mouth, adapted to feeding from the floor, to suck bits of fish out of the crate. It was a scenic site, but for the time being was tiger-less and lemon-free.

When my buddy and the other divers were low on air they ascended to the boat overhead. I was alone and sat on the bait box for five minutes of shark-petting. Some people say it's wrong to touch wild animals, I used to too. Then I learnt to put sharks into tonic immobility, and the only thing I now consider 'wrong' about it is how absolutely amazing it feels. It feels like being in love with a big fish.

For our third dive of the afternoon we visited the Sugar Wreck, a shallow wreck that has been broken open by successive storms but that is home to large schools of snapper, turtles, French angelfish and

lobsters. Being a shallow site it was a good choice after the deeper dives of the afternoon. As the sun dropped and the moon began to shine, a lobster scurrying across the rocky bottom caught my eye and I stayed down so long watching it, that it ended up as a night dive.

At The Mountains I lay in the rocks next to the bait box, more like a sniper in dead ground than a diver. It did occur to me at one point that I was lying next to a box of dead fish and must've looked pretty deceased myself, other than the odd bubble stream. To a fish equipped with the unique electrical-field-detecting seventh sense that is the ampullae of Lorenzini, however, we must have appeared very much alive and inedible as the two dozen sharks cruised merrily over and around our hideouts. There were plenty of lemons and reefies again, a nurse shark and a hammerhead, possibly the daddy of the family the great hammerhead, *Sphyrna Mokorran*, in the distance.

We headed to the sands where Connor was going to do a feed. As we knelt or lay



in a circle the lemons cruised in along the bottom and started getting a little frisky. One of my strobes was given a sniff and a nibble and my grey free diving fins seemed to catch their eye. I was lying prone in the sand to get a lemons' eye view when I felt my fin being tugged gently. I turned to see a male lemon shark feeling my fin like a puppy with a new toy. I gently pulled it away and the curious chap moved on. Three shy tigers turned up and had a short mosey around before disappearing into the blue, and then it was time to head back to the boat. As I finned I felt myself kick something. Rather odd as I wasn't over any reef and was a few metres off the sand. I looked round and saw my fin-fancying male lemon shark friend again, sort of sniffing out my left fin again. As soon as he saw me looking at him he skulked off on a tangent like a naughty schoolboy.

The lemons and the Caribbean reef sharks hung around the boat though, and after dinner we jumped in and did a night dive – with sharks – an excellent if slightly unnerving concept. The two lights hanging

from the stern and the dive platform lights cast a circle of light close to the boat, but a few fin kicks and I only had the light of my torch to rely on. It was pretty eerie. I sensed something behind me and saw two 3m lemon sharks coming up on my right shoulder. When I shone my torch on them they circled once and swam off to inspect some other divers. Good fun, but pretty creepy, and I found myself drawn to the lights of the boat. I wondered if a tiger would show up, and waited half an hour, but if one was there she stayed out in the darkness.

On the second dive Connor took down some bait for a feed, and the tiger was certainly keen. We were in a loose circle on the sand and Tigger was coming in close to each diver, sometimes head on, moving in calmly but assuredly. Sensibly divers let the graceful giant fish pass, moving out of its way or gently pushing it aside with a camera housing or dome port. I wasn't sure whether I was imagining it or not, but I seemed to get extra attention, or maybe it was the white diffuser plate on my larger strobe. I moved behind a low



rock encrusted with coral and an orange barrel sponge to compose images with a more interesting foreground, and held my camera for portrait shots, the smaller strobe positioned to the side to illuminate the foreground, the larger strobe up in the air. Tigger came in to the bait box and past Connor, and then went up and over my bit of rock and I snapped away, noticing her pause briefly and eye my strobe again.


On her second pass, just as I had got a good shot, she twisted her head back to the right. I saw her nictating membrane flutter over her right eye, and then my strobe was in her gaping maw. This wasn't a nibble like yesterday, she had a firm grip and was not keen to let go. As it was a four-day-old camera and wide-angle lens in the housing, I wasn't willing to let go either. She was over the top of me, her mouth to my right, her underbelly above me.

After four or five seconds I started to get worried about the state of my strobe, so I reached up and gave her a tummy rub with my left hand, manoeuvring my camera out

of her mouth with my right, and thankfully she let go. I decided to stick to video and landscape format shots for the rest of the dive.

On the last dive of the trip we moved over to the reef and the bait was placed at a sandy crossroads where two gullies intersected. The tiger from the first dive was joined by a second of the same proportions, and just as we got out of the water, a third, larger female turned up. She was close to 4m long and had an impressive girth to match.

I hung in the water and savoured their graceful magnificence, the result of 400 million years of evolution, and thought what an amazing five days it had been. For anyone who wants shark action from dawn to dusk, with plenty of tiger shark time, this is the trip of a lifetime.

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





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# What's in a Name?

It's a gorgeous fish, elegant, almost magnificent with its lofty crest sweeping straight up and back from the flat front of the face, and tapering most of the length of the body.

## Giant Stride

What's in a name?

Once you can actually find it, it stands apart with its clean pastel pink hue. At the same time it looks mournful, or maybe haughty, permanently down at the mouth, with a sulky, protruding lower jaw.

It's in the scorpionfish order, and looks more similar to the waspfishes than anything else, but in some ways it behaves more frogfish-like, the smooth reddish coloration helping it hide in plain sight amongst sponges, where it is notoriously difficult to find.

It lives at regular diving depths of 5 to 30 metres, and is not particularly rare or uncommon, and it can grow bigger than your hand. It can just be rather difficult to find. Divers will often swim straight past without even realising it is there.

Common names of animals can be illogical, odd or just plain wrong.

Crabeater seals never eat crabs. Peacock mantis shrimps are neither peacocks, nor mantises, nor shrimps. And blackfishes, also known as pilot whales, are not fishes and are dolphins rather than whales, are dark grey/brown rather than black, and are famously bad as pilots.

Common names also vary; the same bird that Europeans call the 'Great Northern Diver' is the 'Common Loon' to north Americans, and the 'Grey Nurse Shark' (which isn't a nurse shark) is known elsewhere as 'Raggedtooth' or 'Sand Tiger' (it's not a tiger shark either!!).

The common name of our splendid fish has a different problem; it's outdated, politically incorrect, ignorant and rude. This fish has been called the 'Red Indian Fish', because the magnificent crest of spines brought to mind to an unknown diver of yesteryear the



By: Jamie Watts and Malcolm Nobbs

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headdress of some native Americans. 'Native American Fish' seems odd to be attached to an Australian endemic, and it's a magnificent member of the prowfish family, so I'm going with 'Magnificent Prowfish'.

Malcolm tracked down the fish at Bare Island and nearby Henry Head which is in Botany Bay, Sydney.


He had some help with techniques to find these fish from biologist Dr Dave Harasti, who noted; 'This fish is sought after by divers along the east and west coasts of Australia, around to South Australia, from Moreton Bay in Queensland to Bateman's Bay in southern New South Wales'.

Dave suggests an interesting way to locate prowfishes. He had entered an underwater photography competition held on a Night Dive at the Jervis Bay

docks. All of the entrants were keen to find a photogenic prowfish but came away frustrated.

Dave spotted little footprints in the seabed with a little line in the sand, created by a trailing tail. He followed this strange trail for about 10 metres.

At the end of it, of course was a prowfish. The next night Dave looked for more such trails there, and very quickly this technique became his reliable go-to method.

The family Pataecidae includes only three members of the scorpionfish group, all known only from Australian waters, known as the Australian Prowfishes; the Warty Prowfish *Aetapcus maculatus*, the Whiskered Prowfish *Neopataecus waterhousii* and of course *Pataecus fronto*, the 'Red Indian Fish' or Magnificent Prowfish. 





# Felicitas

**Forklifts, excavators and explosion danger: the Felicitas slate mine in the Schmallenberger Sauerland is an impressive mine for the adventurous.**

As often happens, I make this trip with my regular diving buddy Willem Verrycken. Willem has announced our presence in advance. Early in the morning we load the car and leave for Sauerland, a 3.5 hour trip by car.

Once we arrive, we meet the manager of the mine. He tells us something about the history.

The Felicitas mine is located around 2 kilometres north-west of the Kneipp spa Bad Fredeburg, which is a district of the town of Schmallenberg in the Hochsauerlandkreis with a population of around 4,000.

In the immediate vicinity, there are other recreational areas such as the Hennesee and hiking trails through the Rothaargebirge (e.g. The Great Escape of the Sauerland). The mine was opened in 1850 and owned by the company Hesse & Schneider KG until 1990. It was then sold to the company Magog GmbH & Co. KG, which also holds the only current slate in North Rhine-Westphalia.

Via an inclined shaft with a length of approximately 130 m and a ventilation shaft, the mine was opened. The mine consists of two footbridges at a depth of 32 and 46 m. A



reel and a trolley were used to transport the stone along the inclined shaft directly into the splitting house. In recent years, diesel vehicles were used for transport underground. The mining took place in chambers. These were about 15 m long and 4-5 m high. Since the 1970s, mining was mechanised by mobile saws and hydraulic splitters.

### Back in time

Once we have set up our rebreathers, we put on our suits with heating. the water here is about 9 degrees Celsius all year round. We make our way to the shaft, do the necessary checks.

Willem is the first one to go through the shaft, which is quite steep to a depth of 30m. Because several divers have already gone into the water before us, visibility is very poor here and we have to follow the line by touch. At a depth of 12m and 20m we lay down the bottles with our deco gases.

At a depth of 26m we reach the junction and turn left as agreed. This is the new part of the mine, here the slate was mined by machine. Before the dive, Wolfgang gave us an extensive briefing, which we used to plan our dive. Probably to protect the miners.

Further on, the machines loom up from a dark mine. These machines have been left in place because it would take too much time and money to dismantle them.

There is an excavator and a large forklift truck in pristine condition. Willem poses by these machines so that we can see them on film. We swim further down the corridor, on ground level there is a beautiful large saw blade. The corridor is supported by iron profiles and plates, which results in loose rust swirling down regularly. The main corridor is beautiful, from here there are many side corridors, which we enter by making a "jump". After 35 minutes, we return and do our obligatory deco in the shaft.

### History lesson

During a break of about 2 hours, where we can drink coffee for free. Wolfgang tells us about the history of the mine. We discover that the part that we have now dived was still in use until 1994. The corridor to the right is the old part, which we are going to dived later. This is where the slate was mined from 1850 onwards. The slate was cut by hand and worked with dynamite.

### Explosives storage

In the afternoon, we leave again for a second dive, but this time I don't forget to connect my heated undersuit. The aim of the dive is now to do the old part of

the mine.

We go back down through the main shaft where our bail out gases are still lying around, quickly check them. We continue our way and turn right.

Immediately it is clear that the corridors are narrower. It's a totally different mine to the one we had this morning. Walls are coarser and there are slate walls. Along the way, we come across pipes that were there to dry out the mine. Along the way we come across a remnant, a bottle, Willem poses eagerly, and I take some photos.

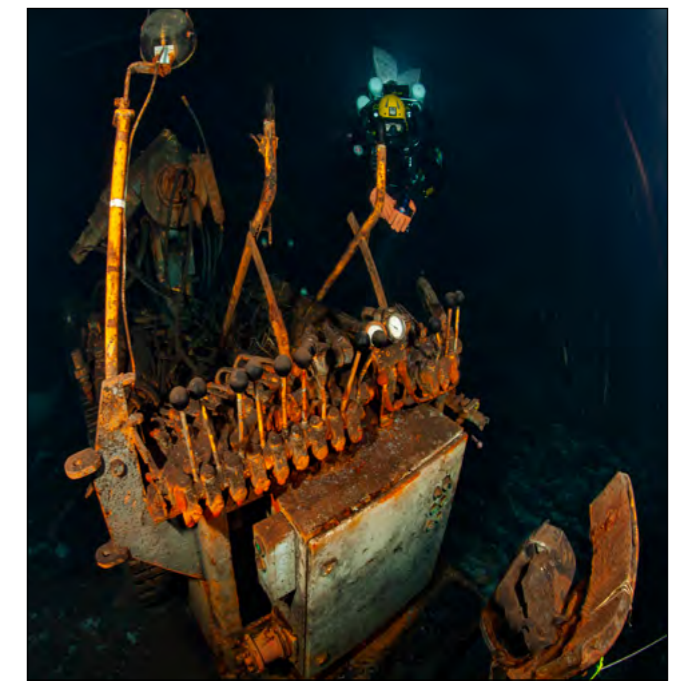
We go further into the corridor, and now we come to a beautiful door, which is open. this was the storage room for the dynamite. we take a look in the room, but find no remains.

After the room, we go further into the corridor, and we come to a junction, we take the right turn, here the corridor becomes slightly narrower, but we come across a wall with an opening. Here I shoot again some pictures of Willem.

Unfortunately time passes faster than we want and we have to turn back, on the way we stop at an old electricity cabinet before we do our obligatory deco.

Happy as 2 children we come out of the water with a big smile and immediately start analysing our dive.

Conclusion, we have to come back here. ◀

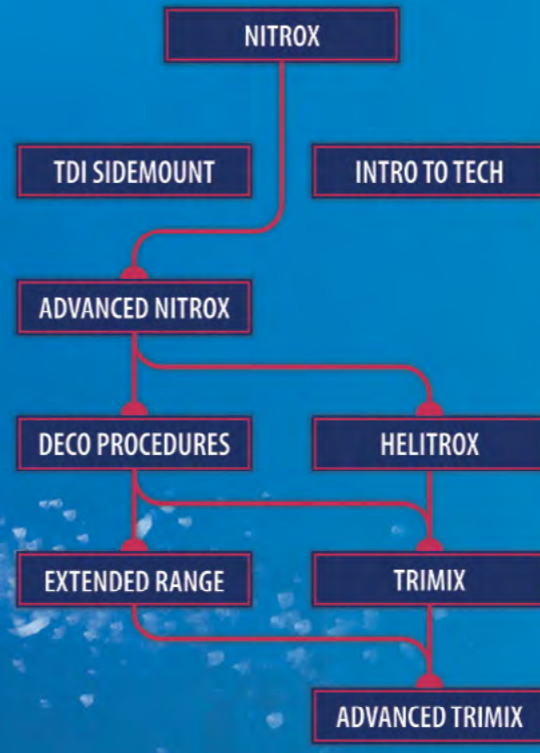




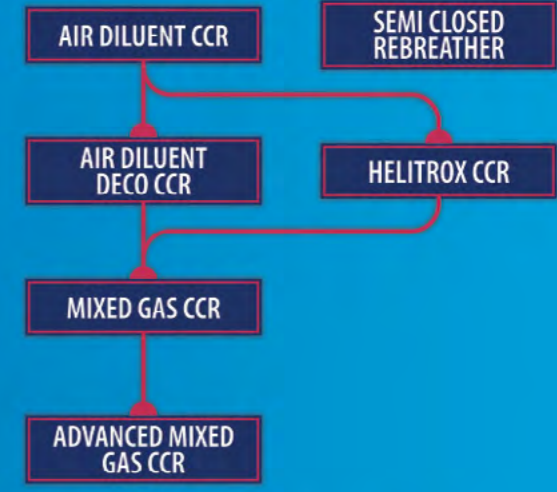
**TECH  
DIVERS  
TRAINED  
HERE.**



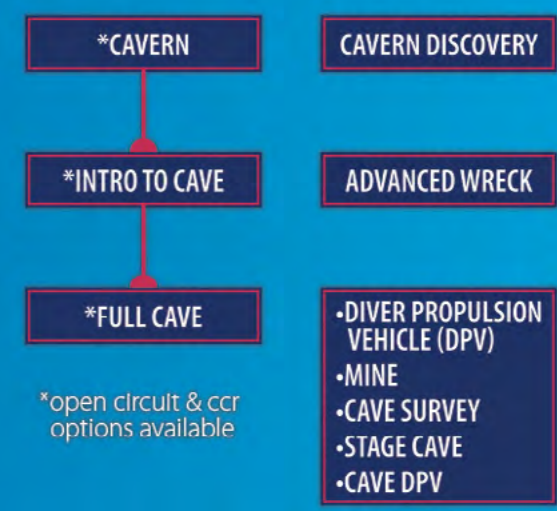
**OPEN CIRCUIT**



**REBREATHER**

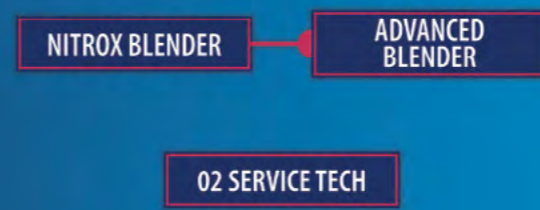


**OVERHEAD**



\*open circuit & ccr options available

**SERVICE**



**PROFESSIONAL**



Photo By: Kurt Storms



# What is your Favourite Dive Kit?

## Q & A

### Nuno Gomes



My technical dive gear and configuration have evolved from the basic side mount configuration. Some of my early cave and salvage dives (in the Vaal Dam) were done with side mounts without a

Buoyancy Compensator.

At this stage I use back mounted independent cylinders with side mounted stages on the wing harness. I do not use side mounts by themselves very often, unless there is a specific situation that requires it.

My regulators of preference are Poseidon Cyklon 5000's because

they do not have a right side up or down and are very easy to buddy breathe with, even in an emergency. I always use two wings for complete redundancy (in buoyancy). █

### Barry Coleman



Need I say that my favourite gear is the Evolution rebreather with my Gavin Scooter?

I like to take it easy on a deep dive and let the scooter do all the pulling – it saves me all that heavy breathing, reducing all the loading.

It may look like something out of Star Wars and I am sure the fish think that exactly – those who watch sci-fi

that is! If it is open circuit, then side mount is my way to dive, although at the end of the day these are all just tools for us to explore the wonders of our ocean, to help us do what we want to do as safely as possible.

I am very comfortable with a rebreather, yet others may not be, this does not mean it is right or wrong. What we must not forget is that the objective is to visit and see the beauty of our seas and not get caught up in how we do this and what is better or not.

Let us stay focused on exploring the oceans as safely as we know how and leave the criticisms for others. █

### Pieter Smith



I have been diving Poseidon Cyklon regulators for many years and it is by far my most favourite gear.

It was introduced to the diving industry in 1958 and was the first single hose regulator with demand valve situated at the mouth.

Today it is still amongst the top regulators and is preferred by many cave divers due to its robust, durable design and the fact that it can be used either way up.

I use them on my back tanks, side mounts and also on deco tanks. It is a comfortable fit in the mouth and once you have gotten used to it, it is less comfortable diving with a regulator that has a narrower mouthpiece.

In technical diving it is very user friendly and I find it important to be able to use a demand valve from

either side during a dive.

It has a simple design with no 'quick settings' or unnecessary 'add-on's' one normally gets with products which have been on the market for a long time to keep buyers interested.

The Cyklon is one product that has stayed more or less the same over the last 50 years and that is evidence of its functionality. I don't leave home without it! █

### Pieter Venter



For most diving, my favourite gear for a comfortable and pleasant dive is trilaminate dry suit, which feels like a hammock in the water, twin 12l steel cylinders, two Cyclon 5000 regulators and lightweight Tusa

or Mares fins.

I also use a VR3 computer with a back-up Mares computer. For light I use a Lola HID light which is small and has a metal tube attached to my back plate, out of the way but reachable, which provides three hours of light. I prefer a see-through silicone mask as it allows me to see light in the periphery and even to see items on my chest.

I also have two small lights mounted in my hoody, which I need to upgrade. I normally also carry a spare light in a pocket on my back plate's waist belt.

I also have a few other items for safety.

Oh yes, never forget the big diving knife to slash at nosy sharks and enemy divers. Gear with which I had lots of fun is a good, powerful scooter. █

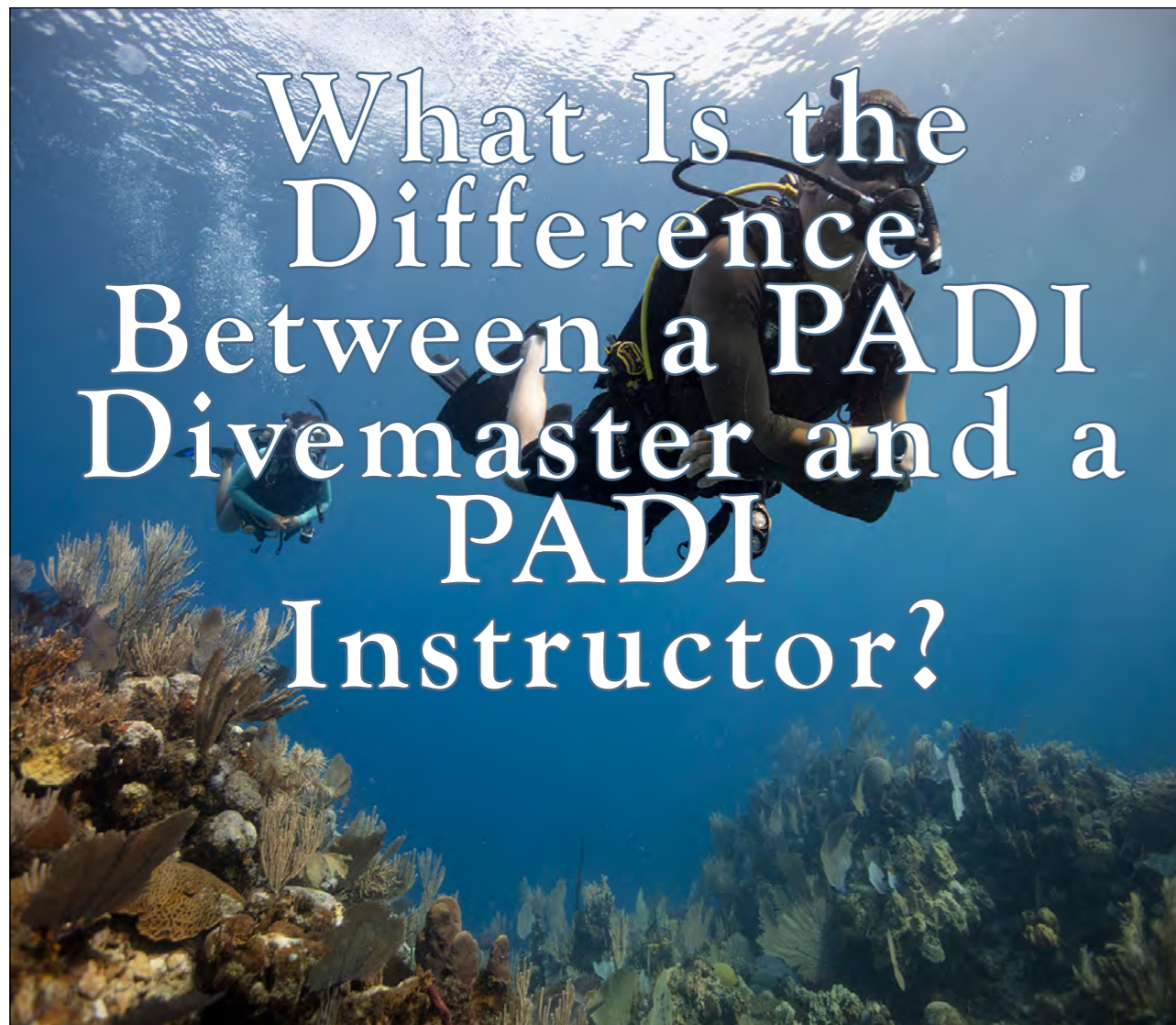
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5★ PADI DIVE RESORTS INDONESIA



# What Is the Difference Between a PADI Divemaster and a PADI Instructor?

Are you thinking about transitioning from scuba diving being a hobby to making it a career?

Are you trying to decide whether becoming a PADI Divemaster or PADI Instructor is the right role for you?

If you are feeling the calling to become a PADI Professional it's important to understand the difference between working as a Divemaster and an Instructor.

Both of these positions play an important part in the diving industry but in very different ways.

## PADI Divemaster

A Divemaster is primarily a "dive leader", who leads and is responsible for the safety of other certified divers.

If you've ever taken an overseas trip where you've been allocated a dive guide, they are most likely a Divemaster. They know the dive sites like the back of their hand and they organize groups, logistics, and they manage any issues that might occur.

They are responsible for the planning, dive briefings, rental gear allocation, boat coordination as well as the activities underwater.

PADI Divemasters are also able to assist PADI Instructors with courses, from the PADI Open Water Diver course through to continuing education courses. However, a Divemaster may not teach PADI core courses independently.

So, if you want to lead dives and assist Instructors, (but teaching is not your calling) the PADI Divemaster is the right choice for you. In order to become a Divemaster you must be 18 years of age or older, fit to dive, and hold the following certifications:

Open Water Diver, Advanced Open Water Diver, Rescue Diver, and have your current EFR Primary and Secondary Care (CPR and first aid). You must also log 40 dives before you

can start the PADI Divemaster program and 60 logged dives before the course is complete.

The PADI Divemaster course will take your dive skills to the next level as well as learning about planning and coordinating trips, reviewing your rescue skills and learning how a dive operation works from the inside.

**Open Water Scuba Instructor**  
A PADI Open Water Scuba Instructor is able to teach all PADI core courses from Open Water Diver up to PADI Divemaster level.

The primary role of an Instructor is to teach, although in some areas, Instructors will also guide certified divers on dive trips. As a diving Instructor you have the



ability to give someone the gift of becoming a scuba diver! You also help people to build confidence, overcome fears and experience an entirely new world. If you are a people-person and you like to teach, then this is the role for you.

To become a PADI Instructor you will first need to gain your PADI Divemaster certification. PADI Divemasters with at least 100 logged dives are able to enrol in a PADI IDC (Instructor Development Course). The IDC also includes the PADI Assistant Instructor course as well as the Instructor component.

If you are short on time or finances, you are able to take the IDC in two steps by becoming an Assistant Instructor first and then an Instructor later.

During your PADI IDC you will learn how to conduct PADI courses in a safe and professional manner and you'll build on the skill demonstrations you learnt in the PADI Divemaster course.

You will also gain a better understanding of the diver educational and training programs offered by PADI.

Upon successful completion of the IDC you'll take a PADI IE (Instructor Examination) to confirm that you have understood and can carry out what you learned during the IDC.

Have you decided which is the right career for you? Learn more about the PADI Divemaster and Open Water Scuba Instructor course so you can start your scuba diving career! [▶](#)





Few things can make you feel as free and at one with the world around you as freediving. The act of freediving is as old as time itself. Over 6,000 years ago, Chinchorians, ancient Chileans, used freediving to collect food and goods to trade from the Ocean. To the outsider, freediving may look like not only a challenging and intimidating sport but downright dangerous. However, freediving is anything but; done safely and responsibly, this immersive sport will literally take your breath away. Competitive freedivers may be able to hold their breath for 4 – 7 minutes and dive hundreds of feet underwater, but don't let that intimidate you.

These extreme times and depths are not the goals of recreational freedivers. As a recreational freediver, you will, however, learn that your body is capable of doing more than you ever thought possible. Reaching these kinds of personal limits, experiencing an inner peace like no other, and exploring the underwater world in total silence are some of the reasons why freediving is so amazing. Here is a list of the top eight reasons why we think freediving is one of the most amazing physical activities on the planet.

#### Our top 8 reasons why freediving is amazing:

##### Reason #1: Experience the ultimate feeling of freedom

Not only does freediving strip scuba divers

from of their restraining BCDs, heavy tanks, and dangling hoses, some highly experienced and competitive freedivers will tell you that the purest form of freediving is even without fins. Whether you choose to wear fins or not, the freedom you feel submerged underwater with only a mask on your face is what brings breath-hold divers back again and again.

Nothing on earth compares to the feeling of unrestricted movement you experience in a gravity-free environment.

##### Reason #2: Master your body

Physical fitness is important in the sport of freediving, but the best breath-holders have learned to master their bodies not only physically but mentally. The more you train at freediving, the better you get to know your body and its limits. As you learn how to push the boundaries of your body gently, you will learn how to master your mind as well.

##### Reason #3: Find peace and tranquility

Much of the desire freedivers feel to stay underwater longer comes from the overwhelming sense of peace and tranquility all breath-holders experience every time they dive into the deep blue. With all sounds drowned out, including the beat of your own heart, you will experience a profound silence unparalleled to anywhere else on earth. This sense of calm envelopes you as soon as you dive below the surface, bringing a wave of pure peace that lasts the entire time you swim through this tranquil environment.

##### Reason #4: Increased fitness

Learning to control your thoughts and mind is a large part of freediving, but so is your physical fitness. As you train, you will inevitably increase your body's ability to swim further and faster than before. You will improve muscle tone and expand your lung capacity. As your body starts to perform at a higher level of fitness, you will see this spill over into your breath-holding capabilities. Increased fitness brings increased circulation, making your body more efficient and able to perform at higher levels than you ever thought yourself capable.

##### Reason #5: Be at one with the Ocean

Unlike scuba diving, freediving allows you to move through the aquatic world in complete silence. Doing so does not scare the fish away, allowing you a closer and more intimate way to experience the underwater world around you. You will never feel as one with the ocean as you will when a school of fish engulfs around you as if you were one of their own.

##### Reason #6: Learn to manage stress

An essential component of freediving is breathing. Specific breathing techniques are used at both the beginning and end of a dive. Mastering these breathing techniques not only allows you to dive deeper for longer as you improve, but the benefits carry over into the "dry" side of your life. Learning to take long, deep,


cleansing breaths is shown to decrease stress. Another large part of freediving is learning how to control mind over body, which also teaches you to deal with stressful situations more calmly.

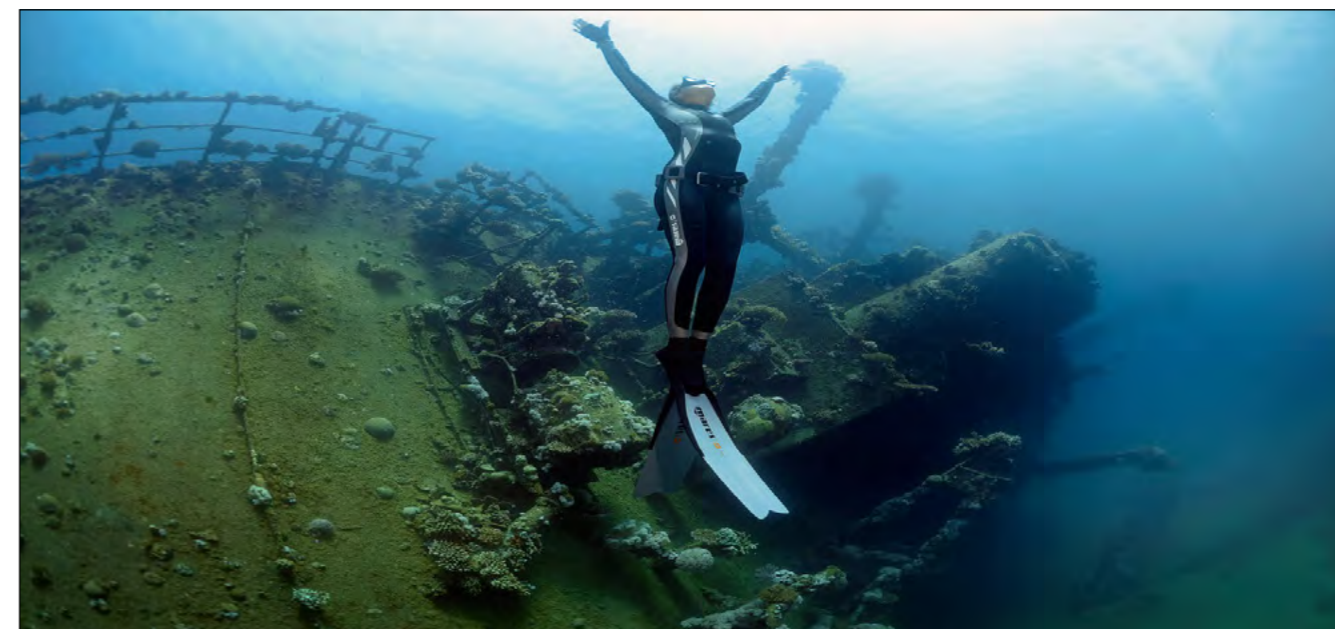
##### Reason #7: Feel accomplished

Nothing beats the sense of pride felt in yourself every time you dive deeper or hold your breath longer than you ever have before. This feeling of overwhelming accomplishment drives every freediver to be the best at this sport as they can be.

##### Reason #8: Become an Ocean conservation advocate

Freedivers have a privileged, personal connection to our oceans. You will get to experience the ocean in its most raw form, providing you with a knowledge and passion for the underwater world most people on the planet will never understand. As a freediver, you can use your unique experiences and exciting platform to help conserve and advocate for our oceans. These are just a sampling of the many reasons why freediving is so amazing. Join the growing world of freediving. SSI offers many levels of freediving.

Visit [divessi.com](http://divessi.com) to find a freediving Training Center near you. Don't wait another day to feel the ocean wrap you in an overwhelming sense of freedom and peace as you glide effortlessly through its depths. Start freediving today! 



# OZ DIVER



# IT'S FREE & IT'S ONLINE



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# The Dive Spots of NEW SOUTH WALES

The Dive Spots of New South Wales is an indispensable guide for all levels of divers and snorkeler, broadening their horizons on places to visit and dive/snorkel in New South Wales.

Through extensive travel and diving, Johan Boshoff and Graham Willis bring you valuable information on more than 250 dive spots in New South Wales.

Important guidelines on each coastal dive destination include accommodation, facilities, travelling tips and dive conditions. Complete with photographs and more than 100 illustrated maps of each dive site.

All spots are star rated to cover depths, marine life and other essential information for the diving and snorkelling community.

To buy your copy for \$ 39.95, visit [www.ozdiver.com.au](http://www.ozdiver.com.au) or email [info@ozdiver.com.au](mailto:info@ozdiver.com.au)



The Dive Spots of New South Wales

## THE DIVE SPOTS of New South Wales



Graham Willis • Johan Boshoff

DIVE & SNORKEL GUIDE - TWEED HEADS TO EDEN

The Dive Spots of New South Wales is an indispensable guide for all levels of divers and snorkeler, broadening their horizons on places to visit and dive/snorkel in New South Wales. Through extensive travel and diving, Johan Boshoff and Graham Willis bring you valuable information on more than 250 dive spots in New South Wales. Important guidelines on each coastal dive destination include accommodation, facilities, travelling tips and dive conditions. Complete with photographs and more than 100 illustrated maps of each dive site. All spots are star rated to cover depths, marine life and other essential information for the diving and snorkelling community.



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The Dive Spots of New South Wales

3

# Gear, books, software, apps and scuba diving gadget reviews.

Here is a chance for your diving gear, books, software, apps and gadgets to be reviewed. If you have anything that you would like to share with the OZDiver Magazine and other divers, send an email to Log Book at [info@ozdiver.com.au](mailto:info@ozdiver.com.au).

# OZ DIVER

# Marine Species Guide

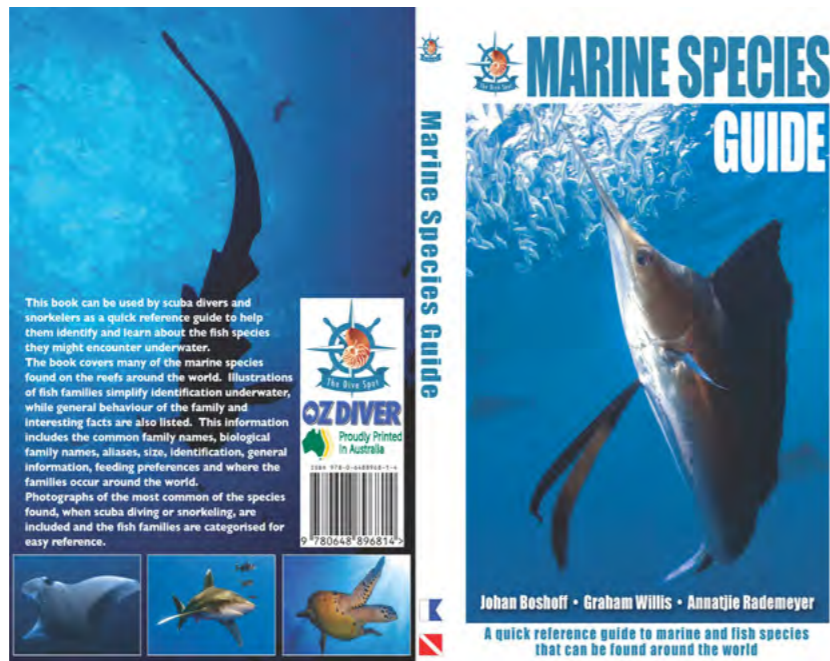
This book can be used by scuba divers and snorkelers as a quick reference guide to help them identify and learn about the fish species they might encounter underwater.

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.

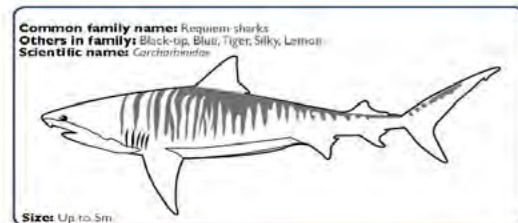
This information includes the common family names, biological family names, aliases, size, identification, general information, feeding preferences and where the families occur around the world.

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](http://www.ozdiver.com.au) or email [info@ozdiver.com.au](mailto:info@ozdiver.com.au)



## Requiem sharks



**Common family names:** Requiem sharks  
**Others in family:** Black-tip, Blue, Tiger, Silky, Lemon  
**Scientific name:** *Carcharhinus*

**Size:** Up to 5m

**IDENTIFICATION**  
**Tiger shark** (*Galeocerdo cuvier*): Greyish upper body with distinctive darker 'tiger-like' stripes. Up to 5m long, average 3m.  
**Black-tip shark** (*Carcharhinus limbatus*): Snout is pointed, long gill slits. Black tips on dorsal, pectoral, pelvic and caudal fins. Up to 2.8m long, average 1.5m.  
**Blue shark** (*Prionace glauca*): Long body, tapered at each end. Very long pectoral fins. Top of body darker blue. Tip of pectoral and anal fins are black. Up to 4.5m average 1.5m.

**GENERAL INFO**  
 Family consists of 12 genera and 59 species. The teeth are blade-like with a cusp. The sharks have five gill slits. They have a nictitating eyelid (third eyelid to protect the eye). Potentially dangerous.

**FEEDING**  
 Feeds on fish, seals, birds, smaller sharks, squid, turtles and dolphins.

**DISTRIBUTION**  
 Widely distributed in all of the tropical oceans of the world.

**Common species:**



Tiger shark: *Galeocerdo cuvier* Black-tip shark: *Carcharhinus limbatus* Blue shark: *Prionace glauca*

## Great white sharks



**Common family names:** Great white sharks  
**Aliases:** White pointer  
**Scientific name:** *Carcharodon carcharias*

**Size:** Up to 8m, average 4m

**IDENTIFICATION**  
 Large spindle-shaped body with a blunt, conical snout and large, triangular, saw-edged teeth. Large half-moon dorsal fin. Prominent black eyes. Head-grey to brown or black above, lighter on sides, white below.

**GENERAL INFO**  
 Lamnidae family consists of 3 genera and 5 species. The Great white is the only surviving species in the genus *Carcharodon* - Megalodon is extinct. The Mako, Salmon and Porbeagle sharks also fall under this family. Upper and lower lobe of the tail is nearly the same size. Females are generally larger than males. Weighs up to 2,200kg. Oviparous. Potentially dangerous.

**FEEDING**  
 They are carnivores and eat primarily fish, but are also opportunistic feeders. They will eat rays, dolphins, whales, seals, turtles, sea otters and penguins. Hunt with ambush technique.

**DISTRIBUTION**  
 Occurs in all subtropical oceans of the world.

**Common species:**



Great white shark: *Carcharodon carcharias*

# 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](http://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.

# The Eloquence of the Sardine

Humans have identified just a fraction of the 2.2 million species living in the sea. Roughly 91% of all marine species remain unknown: myths still to be written, discoveries still to be made, blank pages with room to dream . . .

In the book *The Eloquence of the Sardine*, already translated in 17 languages and released in August in Australia, french biophysicist and diver Bill François takes us on a global underwater tour to discover the secret life of fish, with a host of fun facts and amazing discoveries.

As a small boy, Bill François was frightened of deep water. Until a chance encounter with the elusive sardine set him on course for a life in marine science: a mission to better understand and preserve the underwater world, to find his place in that ecosystem and learn how to converse harmoniously with the ocean.

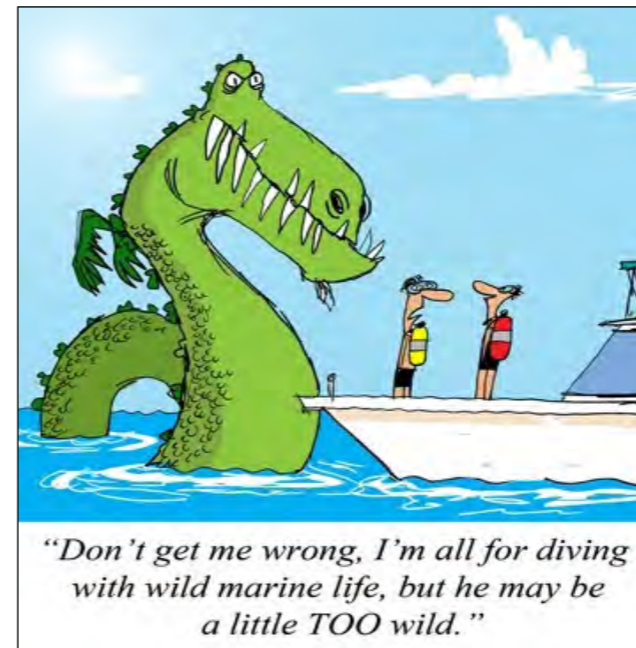
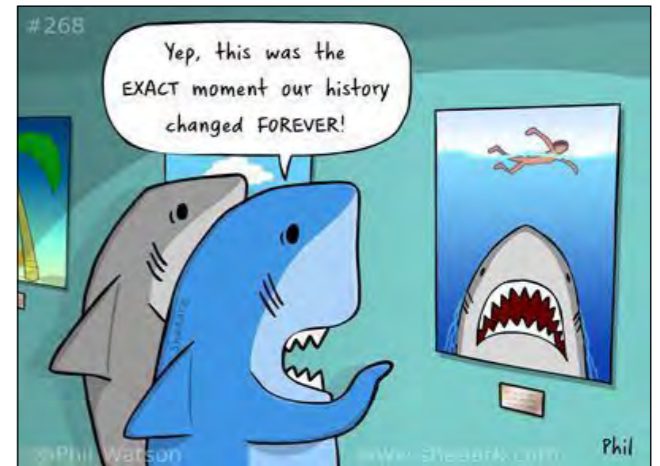
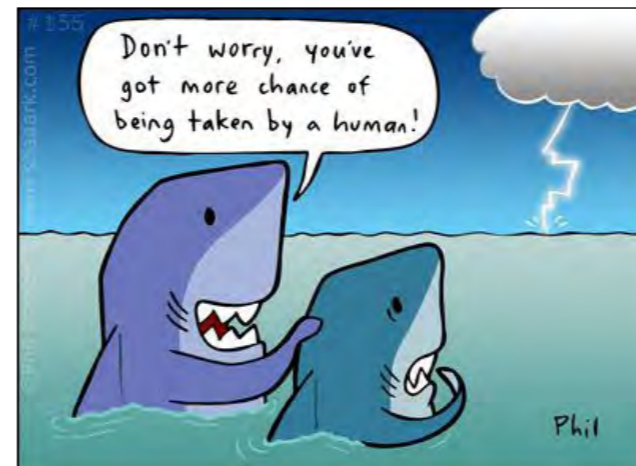
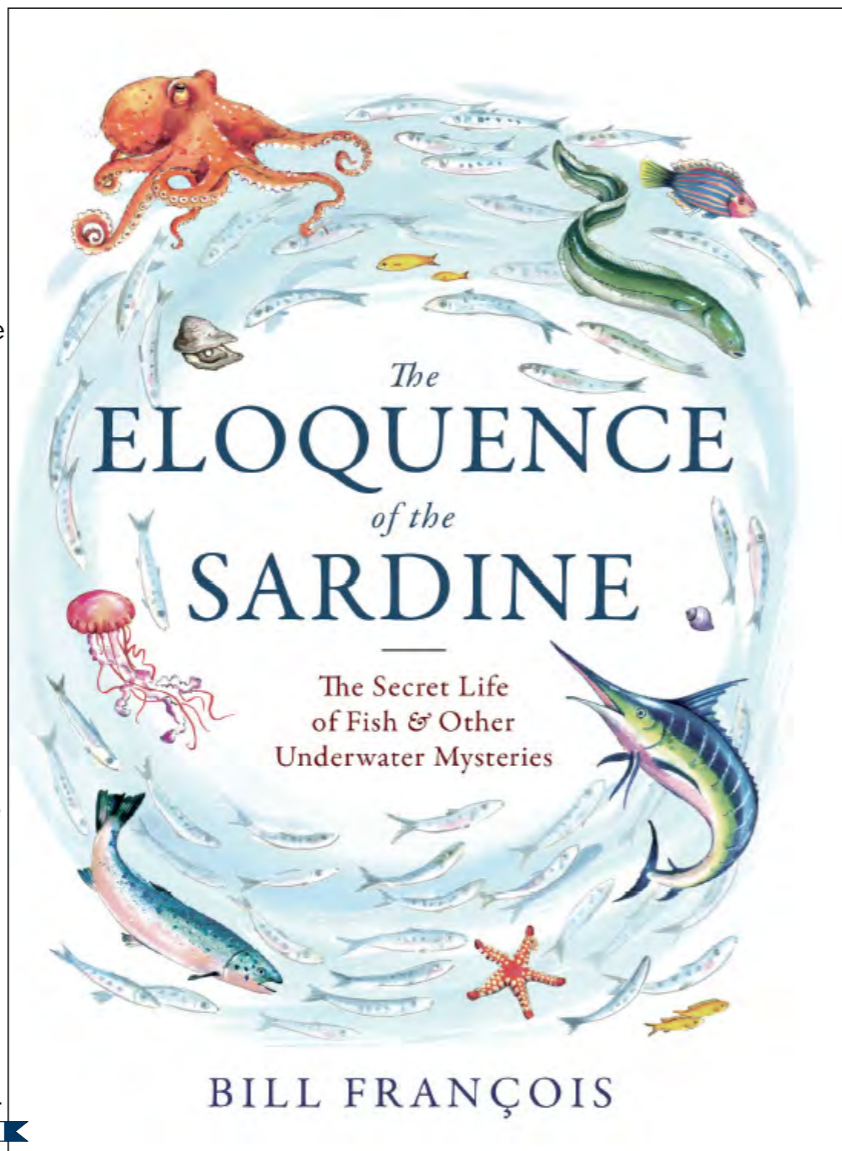
This is the beginning of a journey full of life and discoveries, vibrantly told in this small book of narrative nonfiction.

François unpicks the sound of the sea – an underwater symphony orchestra voiced by a choir of fish – and deciphers the latest scientific discoveries on the immunity of coral and the changing gender of wrasses. We visit the depths of underwater Paris as François delves into the mysterious world of the eel, and explore an extraordinary three-generational friendship between humans and killer whales, and the role a shoal of herrings played in Cold War tensions.

Drawing on history, myth and legend, but always grounded in science, *The Eloquence of the Sardine* will change the way you think about the sea in a poetic way. This book is aimed for all the ones who love the ocean and are curious about it : divers, sailors, fishos... Even experts in marine biology should find some original facts in it.

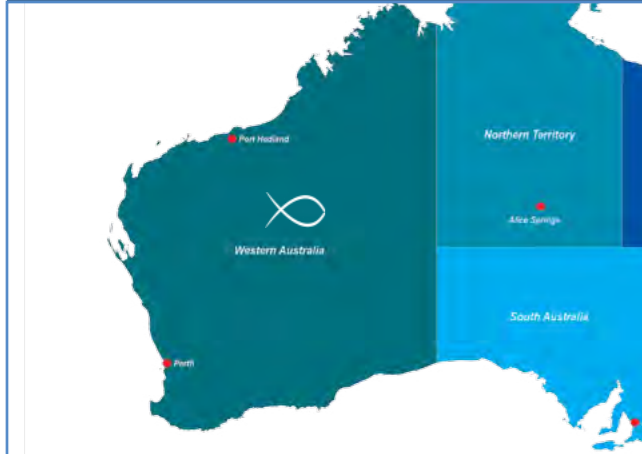
But it will also open the eyes of those who don't know this universe yet. It can thus be a nice present to introduce your friends and relatives to your passion for the underwater world.

*The Eloquence of the Sardine* – Bill François  
 Release date : Aug. 31st 2021  
 Editor : Little, Brown  
<https://www.hachette.com.au/bill-francois/the-eloquence-of-the-sardine-the-secret-life-of-fish-and-other-underwater-mysteries>




Send your  
 funnies to  
[info@ozdiver.com.au](mailto:info@ozdiver.com.au)

# Western Australia



## Perth Region

### The Dive Spot - South Perth



We specialise in a wide variety of dive related activities. Our scuba training range from beginners to the more advanced including specialities and professional courses.

Phone: +61 (0) 44 887 9903  
 Mail: [info@thedivespot.com.au](mailto:info@thedivespot.com.au)  
 Web: [www.thedivespot.com.au](http://www.thedivespot.com.au)

### Perth Scuba - Canning Vale



WA's largest dive shop, best range of snorkelling, free diving and scuba equipment. WA's PADI Career Development Centre offers courses from beginner to professional and TDI technical training. Perth Scuba has a free dive club offering twice weekly guided dives.

Phone: +61 (0) 8 9455 4448  
 Mail: [info@perthscuba.com](mailto:info@perthscuba.com)  
 Web: [www.perthscuba.com](http://www.perthscuba.com)

### 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

Phone: +61 (0) 89 448 6343  
 Mail: [troy@perthdiving.com.au](mailto:troy@perthdiving.com.au)  
 Web: [www.perthdiving.com.au](http://www.perthdiving.com.au)

### Diving Frontiers - Perth



For ALL your Scuba, Spearfishing and Freediving needs! Our SSI Instructor Training Centre teaches courses from Scuba Diver, right through to Instructor. Let our friendly and knowledgeable staff ensure you get the best quality service, at the best possible price!

Phone: +61 (0) 89 240 6662  
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 Web: [www.divingfrontiers.com.au](http://www.divingfrontiers.com.au)

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Since 2007 to service the Australian Dive Industry with the best scuba equipment available. We offer high-end gear, including recreational, technical and commercial equipment. Wherever possible we'll price match any online dive store to ensure you get the best deal!

Phone: +61 (0) 8 92400163  
 Mail: [info@scubaimports.com.au](mailto:info@scubaimports.com.au)  
 Web: [www.scubaimports.com.au](http://www.scubaimports.com.au)

### Western Blue Dive Charters- Mindarie



We are the only dive company north of Fremantle that operates seven days offering double dive charters, returning before lunch, and allowing you to catch crayfish if you wish. Being a small company we offer a personalised service at an affordable price

Phone: +61 (0) 40 954 5553  
 Mail: [info@westernbluedive.com.au](mailto:info@westernbluedive.com.au)  
 Web: [www.westernbluedive.com.au](http://www.westernbluedive.com.au)

### Blue Destiny Boat Charters - Fremantle



Blue Destiny is a Perth's premium dive boat for day trips to Rotto and Carnac Island. Our 68 feet catamaran is a stable and very comfortable boat. Departs from Fremantle daily for 2 dives with a full cooked lunch included.

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 Mail: [info@bluedestiny.com.au](mailto:info@bluedestiny.com.au)  
 Web: [www.bluedestiny.com.au](http://www.bluedestiny.com.au)

## 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](mailto:info@oceanodivecentre.com.au)  
 Web: [www.oceanodivecentre.com.au](http://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](mailto:kimroyce@gateway.net.au)  
 Web: [www.octopusgardendivecharters.com](http://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](mailto:scubageoff@yahoo.com.au)  
 Web: [www.facebook.com/AlbatrOZScuba](http://www.facebook.com/AlbatrOZScuba)

### Dive Ningaloo - Exmouth / Ningaloo



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 Web: [www.diveningaloo.com](http://www.diveningaloo.com)



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 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



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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



# 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

## Killarney Vale

### Pro-Dive Central Coast



Located between Sydney and Newcastle with daily boat dives to the ex-HMAS Adelaide artificial reef, only minutes from the local boat ramp. Online booking and dive sales available 24/7. PADI Instructor programs available.

Phone: +61 (0) 2 4389 3483  
 Mail: info@prodivcentralcoast.com.au  
 Web: www.prodivcentralcoast.com.au

## Nelson Bay

### Feet First Dive



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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

# 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 in 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

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