

October / December 2018

# OZ DIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

**CHRISTMAS ISLAND**

**THE SALEM EXPRESS**

**TO DIVE OR NOT**

**SHARKS**

**CLEANING STATIONS**

**REBREATHER TECHNICAL TRAINING**

**NORTHERN SULAWESI  
MANADO TO LEMBEH**



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OZDIVER

IT IS THE JOURNEY AND NOT THE DESTINATION - WWW.OZDIVER.COM.AU

October / December 2018





# Editor's Deco Stop

Having met many interesting people on my dive travels, I've realised that divers are a unique breed. It doesn't matter what language they speak or what culture they hail from, they stand out in their behaviour, interests and lifestyle.

However, I believe there's a big difference between actual divers versus people who have diving qualifications. For some, diving is a hobby. A couple of times every year they will dust off their diving gear and go and do a couple of dives. Their holidays aren't planned around diving, but around the place they choose to stay.

If there is a dive site nearby, the gear is brought along, but if there's no diving in the area, so be it and the gear stays at home. For these people diving remains a hobby and not a lifestyle.

Then you get the real diver, the person who lives, breathes, thinks and eats diving. Some of them even worship it. Their entire life is planned around diving. I sum up these divers as follows:

- They work to dive; it's a top priority in life.
- They plan their holiday destinations around dive sites.
- Dive gear is the first thing they pack for holidays.
- Most of their friends are also divers.

- They don't care what they eat on the trip, as long as the diving is good.
- They don't care how far they have to travel in order to blow some bubbles.
- They care for the environment.
- They will dive, no matter how big the party was last night.
- They become grumpy if they haven't dived for a couple of weeks.

Believe me, I meet interesting divers in my line of work – divers who go and sit in a swimming pool once a week just to blow bubbles, because the ocean is too far. Who take better care of their diving equipment than most other possessions they own. Diving is the only lifestyle they know and they live every day to dive.

I'm like that, too. Putting on my diving gear and doing a backward role, life stops for me. There's no more running around and worrying budgets and politics. For the hour I'm underwater, I'm free from everything. For those 60 minutes, life on the surface is in pause mode and I enjoy every second of it.

I think there's no place on earth that can give me the freedom and quietness that I experience on a dive, where the only sound I hear is the sound of my bubbles. I won't ever give it up.

### The Editor & Publisher

#### Johan Boshoff

*-it is all about the journey and not the destination*

#### Matthew 6:33

*But seek ye first the kingdom of God, and his righteousness; and all these things shall be added unto you. ☑*



# OZDIVER

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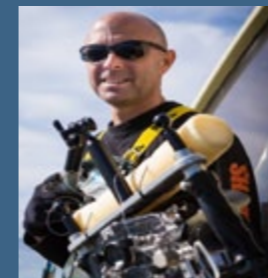
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Johan Boshoff

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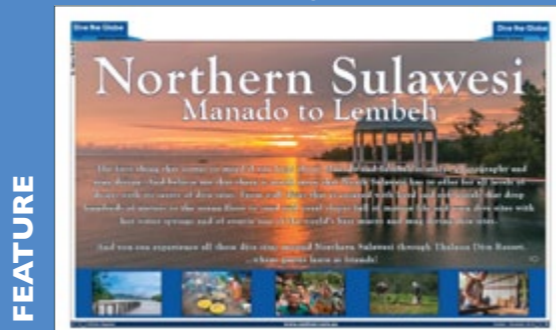
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# Log Book



Dear Mom,

How are the azaleas? You always loved those flowers more than anything else! I thought of them while diving just the other day... how the cat kept playing with the flowers until the ground was covered in colour, until there was not even one flower left on the bushes. I always wondered what happened to the cat after that.

That new azalea bush you planted after that episode really grew well, it must be that excessively deep hole you dug to plant it in... anyway, as I was saying, the colourful coral reef bits on the white sand under the water really made me think of those petals on the ground under that azalea bush.

The gentle fin strokes of divers neatly trimming the tops of the ancient corals made me think of that cuddly cat, gently pawing every flower until there was not a bud left, the far away sound of whale song underwater faintly reminding me of the keening sound we as kids heard that night when we went to bed and you took the spade to go feed the

cat. You still said it was a lonely dog far away baying at the moon.

The only sound not present on that dive was the strange thud we heard just before the keening started on that dark night... remember? Strange how the mind sometimes plays tricks and just throws you back to childhood.

Anyway, as I was saying, there we were, gently floating above an unspoiled reef; I was in any case... Some divers focused on their morning exercises, kicking vigorously to pretend to stay of the bottom whilst simultaneously supplying food to a myriad of colourful reef fish by gently brushing their brand new Moplin blades through a variety of beautiful corals, fat sea cucumbers, slow slugs, shapely sponges – creatures too numerous to mention. Nature is so wonderful – as one dies the other thrives and these guys were helping others thrive as best they could.

Other divers focused on the art of buoyancy, this means, apparently, spending most of

their dive either inflating a BC – a strange device that fits on your back, will tell you more in later letters – or deflating it.

This of course means that I only saw them sometimes – the times they passed through my field of vision on the way up and then again when they came down. By repeating this numerous times during the dive they are meant to achieve a strange state of nirvana known as 'neutral buoyancy'.

What counts here must be the average depth achieved during this manoeuvre. The art of buoyancy also seems easier to achieve by having a bigger BC than other divers. This also assists when breaking away from coral entrapment – when hunting coral (they hunt in packs I've heard), tries to trap you by

attacking the various instruments, cameras, slates, buoys, torches and regulators that any true diver must have – a truly horrible fate.

Mom, I have to tell you what happened next as you will be so very proud of me, but I must dash as there are some people outside loading my new 4x4 on a truck – must be the service contract I took out when I bought it. People are really nice; they pick up your vehicle at your house for servicing even if you have not made any payments for three months! I just need to go and find out when they will bring it back. I promise to write soon.

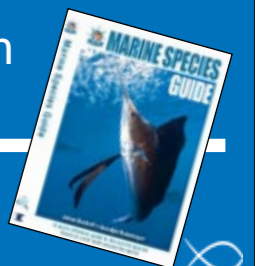
Your loving son,  
The Dive Instructor



## 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

## NEW MARES PRESTIGE SLS

### COMFORT, CONTROL AND CONVENIENCE IN A SLEEK NEW LOOK


Stability, comfort, control, convenience and durability – such are the benchmarks of a great BCD. The newly released Mares Prestige SLS encapsulates the essence of these characteristics, channelling years of extensive research and development into a single, top-of-the-line product that meets and exceeds these traits.

The new Prestige SLS offers excellent lift capacity, but is lighter than ever before, making it a great solution if you intend to travel with your dive kit. The reduced total weight, which ranges from 3.3kg to 4kg, is made possible with the use of rugged and durable 420 denier nylon, which is not only extremely lightweight, but highly resistant to tears and abrasions.

As far as fit is concerned, thorough and detailed research into the chest and shoulder area has resulted in a new dedicated profile cut specific to each BC size. This, in addition to the functional swivelling shoulder buckles, provides a truer fit and unprecedented freedom of movement and comfort. The inclusion of two trim weight pockets also allows for even weight distribution and promotes a more balanced dive profile.

Prestige SLS uses the innovative second generation of Mares recently introduced SLS system (Slide and Lock), which has now been reduced in size whilst maintaining its most successful characteristics. The most notable of these traits is the innovative guided tunnel to direct the pouch effortlessly into place. When this is performed successfully, the weight pocket will show a green tab as visual confirmation of correct insertion, and will actively lock the pocket into place, so you're assured of stable and secure weight retention. The quick release mechanism also means the pouches are swiftly and easily ditched if necessary.

For configuring your dive kit and accessories, Prestige SLS includes four Stainless Steel D-Rings as well as an additional two techno polymer D-rings, allowing for a range of accessories to be attached to the BC in a personalised and convenient way. The jacket also includes two 3D self-draining pockets with zip closures, so you can effortlessly, safely and easily access all your bits and pieces.

Available in two colour options, a smart blue or crisp white, the new Prestige SLS is not only functional and comfortable, but strikingly sleek and sophisticated as well. Head to the Mares website [www.mares.com](http://www.mares.com) to find your closest outlet today! 



# Australia's Inspiring Cavers - Richard and Craig upfront at OZTek

## All about the Adventure

Richard Harris and Craig Challen will be presenting the complete story of this incredible rescue - the logistics, the politics, the hardships, the worry, the equipment, the schedule. Explained by the people who were there, ask questions and shake the hands of our real life cave diving heroes.

Celebrating 20 years of diving adventure, OZTek2019, is the only Australian bi-annual one-stop adventure into the dynamic world of diving, bringing together the world's greatest divers, scientists, explorers, trainers and photographers. Impossible to replicate, prepare to absorb the excitement, discover new adventures, destinations and possibilities.


Each presenter brings unique, inspiring, exciting and sometimes, sobering topics, directly to you. They provoke awe, provide knowledge, improve methodology and above all, entertain. Richard and Craig are two wonderful examples of the calibre of OZTek presenters.

As well as the incredible stories - there is MUCH MORE to experience...

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# Five Tips for Getting Started with Underwater Photography

Visit [www.padi.com](http://www.padi.com) | Written by Underwater Photographer and PADI

Instructor Matt Testoni.

Underwater photography is taken up for a number of reasons with the most prevalent being the desire to share the unique views and moments only a scuba diver gets to experience. However for a number of reasons, the world beneath the waves can be a hard place to take a good photo.

So if you're keen to start capturing the ocean, here are a few helpful tips to get you started.

## 1. Start with a small camera.

Whilst lots of people these days have a nice DSLR camera that takes amazing images above water, don't be tempted to try and take it beneath the waves just yet. Start with a smaller, compact camera that has a few basic settings such as aperture and shutter priority modes. Underwater photography can be expensive and overwhelming and those that start with the biggest baddest camera setup from the start are less likely to continue with the hobby. You will also save yourself a few dollars which can be spent on visiting that dream dive location instead.

## 2. Underwater photography is very much about artificial light.

Not all underwater photos require an artificial light source and indeed many award winning shots are taken without them. However have a strobe and/or a video light will greatly increase the range of subjects and types of photos you can take. The general rule is spend twice as much on your lights than your camera when first getting a photography rig setup. The best camera is useless in many situations without a strobe. There are many different opinions about strobes and video lights but a good starting point is a single strobe and a small focus/video light. From there you can shoot and capture good images of most underwater subjects.

## 3. Buy your camera housing first.

Unfortunately not all cameras on the market have an underwater housing that is cheaply and easily available. Some camera brands make housings for their models whilst others leave it to the third party companies. Therefore it is worth buying a camera-housing package or double checking that your new camera has the option to delve into the ocean depths.

## 4. Practice with your camera.

Going overseas to amazing tropical dive locations with clear blue water is one of the highlights of being a scuba diver. Often you encounter rare and beautiful animals that few people get a chance to gaze upon. As an underwater photographer you will definitely want to capture these moments, however you also want to enjoy them. If you haven't practiced with your camera you may spend these moments awkwardly fiddling with setting and ultimately missing out on unique and special experiences. Practicing at your local dive site or even just off the beach before you go for that tropical dive will let you capture these moments with ease whilst enjoying them.

## 5. Be a respectful dive buddy.

Scuba diving is all about everyone having fun and it's important to remember this when starting out in underwater photography. You may want to get the perfect photo of a vibrant Nudibranch but your dive buddies will easily get bored of a seaslug crawling across the sand after a minute

or two. Take a few shots and move on and everyone will remain happy, you will find something so incredible it warrants twenty minutes in one spot and will captivate all divers – not just those with a submersible camera.

You can see more of Matt's amazing photography at [www.instagram.com/matt\\_testoni\\_photography](http://www.instagram.com/matt_testoni_photography).

Ready to get started? Find out more about the PADI Digital Underwater Photographer course by visiting [www.padi.com](http://www.padi.com) or your local PADI Dive Shop. 




## 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) 

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# OZ DIVER



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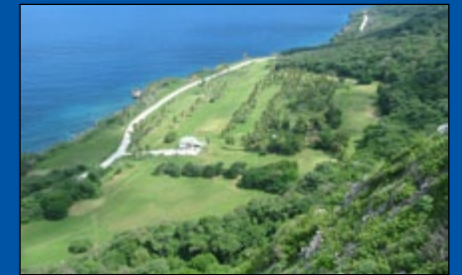


By Simon Mallendar

# Christmas Island

So here we are. Five divers and I, hanging at a depth of 18m, about 80m from the reef edge over an unfathomably deep drop off, looking at each other. Did that just happen? Did we just have a rather intimate close encounter with the largest fish in the world? Apparently so.

Tobias Freidrich



By Simon Mallendar



We were alerted to this gentle giant's approach by our dive guide Hama, who, hanging out in the blue, spotted the gentle giant approaching and alerted us with a crazy rattling of his tank-banger. Scott Portelli, the keenest photographer among us (and fastest swimmer), had swum out into the blue twice as fast as the rest of us to get that one great shot before she turned away.

But she didn't turn away. She kept on coming, swam up to and around Scott, passing right in front of us, pausing only for a moment to look Scott in the eye and smile.

Well it looked like a smile – she opened her mouth slightly, turned gracefully and 10 seconds later had dissolved into the deep blue from whence she came, leaving us gaping incredulously at each other. We're going to remember this day for the rest of our lives. In fact, today has been a long day full of wonders that started at 3am as we witnessed the spawning of several million red crabs on the shoreline of Christmas Island.

We had all been so desperately hoping to see a whale shark, had I not captured it on camera, I could well have just made the whole experience up in my head. It was that surreal. The whale shark is the largest living fish on the planet and completely harmless (unless you're a plankton or red crab larvae – then you're lunch) and to be engaged by such a creature leaves an impression that will never wash off.

As an ocean-going filter feeder, we know very little about their movements and behaviour. There are a few places where encounters with divers and snorkelers are almost guaranteed. At Christmas Island encounters are not exactly common, but when they do occur they are

completely natural, and very special.

The whale sharks are often sighted around the time of the annual red crab migration, when the red crabs release their eggs into the ocean to spawn, which in itself is one of the most amazing wonders of the natural world and why we'd been up since 3am to observe it. The red crab, (population 60 million) is Christmas Island's (population 1200) endemic land crab, and every wet season if the conditions are right, they all come down to the beach to fulfil an annual reproduction ceremony.

The males head off first and dig a cosy little burrow near the shoreline. The females arrive a few days later, having made the 5km trek at an average speed of 1km per day.

The whole exercise is dependent on there being enough rain to keep the crabs moist on their epic journey, and, on the phase of the moon. The crabs only release their eggs just after the turn of the high tide when the moon is in its final quarter and the waves are at their lowest.

This gives them the best chance of standing



Justin Gilligan



Justin Gilligan



Justin Gilligan

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By Simon Mallendar

in the shallows on the shoreline without being washed away by waves and shimmying their precious payload of eggs into the out-going waters where they will be carried by the out-going tide to spawn in the waters off Christmas Island.

Turning from eggs to larvae to tiny red crabs (about the size of your pinkie fingernail), they return 6 weeks later to make the 5km journey back into the wet interior on their own. So, after getting up before dawn to witness the amazing spectacle of several thousand red crabs shimmying their eggs into the sea, a spectacle duplicated at all the beaches and coves around CI, we grab some breakfast and head out for a day's diving on Hama's dive boat which is called 'Feral'.

The unique location and geology of Christmas Island delivers corals that are twice the size and extent that you would expect, and because there is so little fishing in these waters, the marine life is as abundant as it is diverse – you'll be hard pushed to see such numbers and variety in any other one place.

The marine inhabitants of any diving destination are defined by its terrain and location. Christmas Island scores high on both counts: being the top an extinct, steep sided volcano that rises 6,000m from the sea floor below and located 300km south of Java in the Indian Ocean.

10° south of the equator with abundant sunshine and nutrient-rich up-wellings, the steep-sided walls are covered in pristine coral reefs down to 20 or 30m where great gorgonian sea fans take over. Conditions like this are perfect for all kinds of fish – from the smallest to the largest and Christmas Island boasts about 650 identified species all up.

The coral reefs are home to great shoals of herbivores, and parrotfish, surgeons and unicornfish can be seen working their way along the corals on every dive. On the near-vertical walls, the fusiliers stream up and down in search of plankton, and in the pocillopora coral heads, humbugs and hawkfish play hide and seek with divers as they pass.

There are dive sites all the way around the island and not all are steep walls. Some of the bays have shallow reefs sloping down to

the drop-off. In the sheltered areas feather stars congregate creating a small and colourful meadow, and it's here that turtles are often found resting. Giant morays hiding amongst the corals and rocks keep watch, as wrasse, rabbitfish and titan triggers cruise by.

The Island also has its share of caverns and caves and some of these weave through the volcanic rock coming out into the ocean below the waterline. They are easily explored by divers who can surface inside the caverns to see great stalactites hanging above them. There is no urban pollution from the island and being 300km from any neighbour means that the waters are exceptionally clear. It is often possible to see the reef sharks and eagle rays patrolling the reef wall 20m below.

Being steep-sided allows deep water pelagics to come in close to the island's shoreline so you can expect to be treated to some exceptional, though often brief, encounters with ocean going manta rays, scalloped Hammerhead sharks and other delights on your average dive day: perhaps a school of silky sharks cruising around 10m below you or a pod of spinner dolphins playing around you.

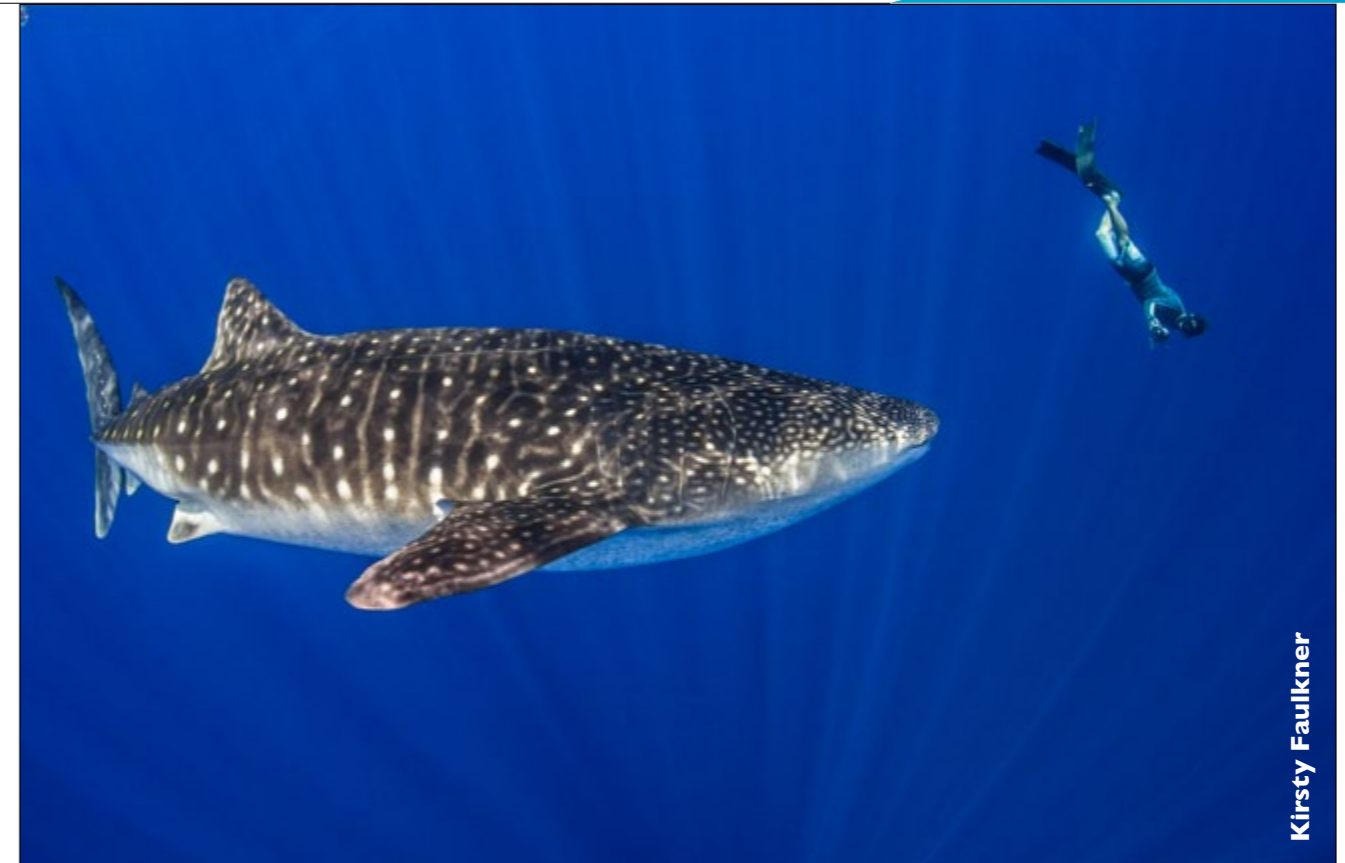
And maybe, just maybe, if the rains are right, and the moon is waning and all your Christmas's come at once, you'll have an encounter with the largest, gentlest giant you could hope to meet. An encounter that will make you an ocean advocate for life.

#### Signature Dive Sites

Where your dive guide takes you will always depend on conditions on the day, but be assured, it's all good! Spend a few days on the island however, and you are bound to visit these signature dive sites.

#### Perpendicular Wall

As the name implies, Perpendicular Wall is completely perpendicular to the ocean's surface. It falls away almost vertically a few metres from the surface, the corals leaning out as far as they can to catch the sunlight. Large gorgonians extend perpendicular to the wall to catch as much as they can from the passing currents. It's a riot of colour and teeming with fusiliers who seem to take great pleasure in schooling up and down the vertical wall, whilst the other reef fish travel horizontally along it.



Kirsty Faulkner



Gary Bell

By Simon Mallender

The dive starts under an overhang with fantastic sea fans and falls away pretty much vertically as you head left towards the north-west tip of the island. The wall is literally teeming with life: great coral and shoals of fish both small and big like this Blue-lined Angelfish. Along the wall, sea fans, feather stars and hydrocorals add even more colour, and at the end of the dive there is a lovely 5m reef to explore while you do your safety stop.

**Flying Fish Cove**

Christmas Island's Flying Fish Cove shore dive rates as one of the best shore dive in the world, and one you can easily do on your own, having rented a tank from one of the local dive operators, and it's more or less in the centre of town.

Step into the turquoise water from the beach of the boat ramp, and within a few metres you'll be surrounded by pristine coral gardens. Follow the line of the ramp straight out until you hit the drop off. Turn towards your left and work your way down the drop off to about 18m just following the slope along. After about 20 minutes come back up the 9m on the slope, turn sharp left towards the shore line, and then work your way back along the shallows at 9m and navigate back up the ramp via the two chains which are laid out like airport landing lights to guide you back in.

It's very easy dive – you really can't go wrong and you'll see more fish and coral types in that one dive than you'd see in a week at other places, including several species of butterfly fish, hawkfish, squirrelfish, rock cod, blue tangs and the odd turtle. In season it's also fairly common to encounter whale sharks at the drop off.

After the dive, there are toilets and showers in the carpark where you can wash down your gear and gas barbeques to knock up some lunch.

**Thundercliff Cave**

There is in fact more than just one cave, it's a system of caves that you can actually follow deep inside the island, but most divers visit the first two: a big open chamber with very nice blue light at the entrance and a second cave beyond and accessible via the first.

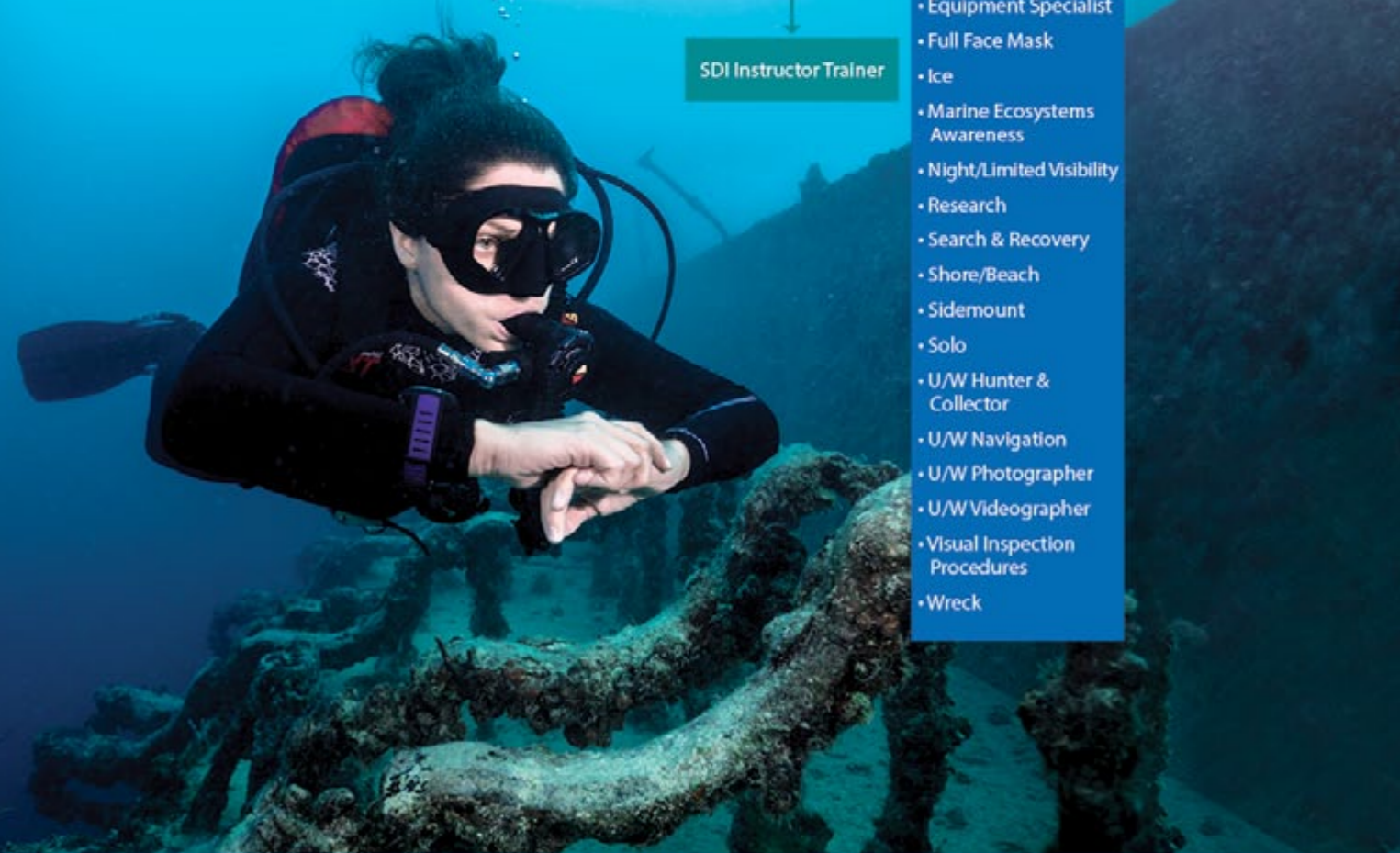
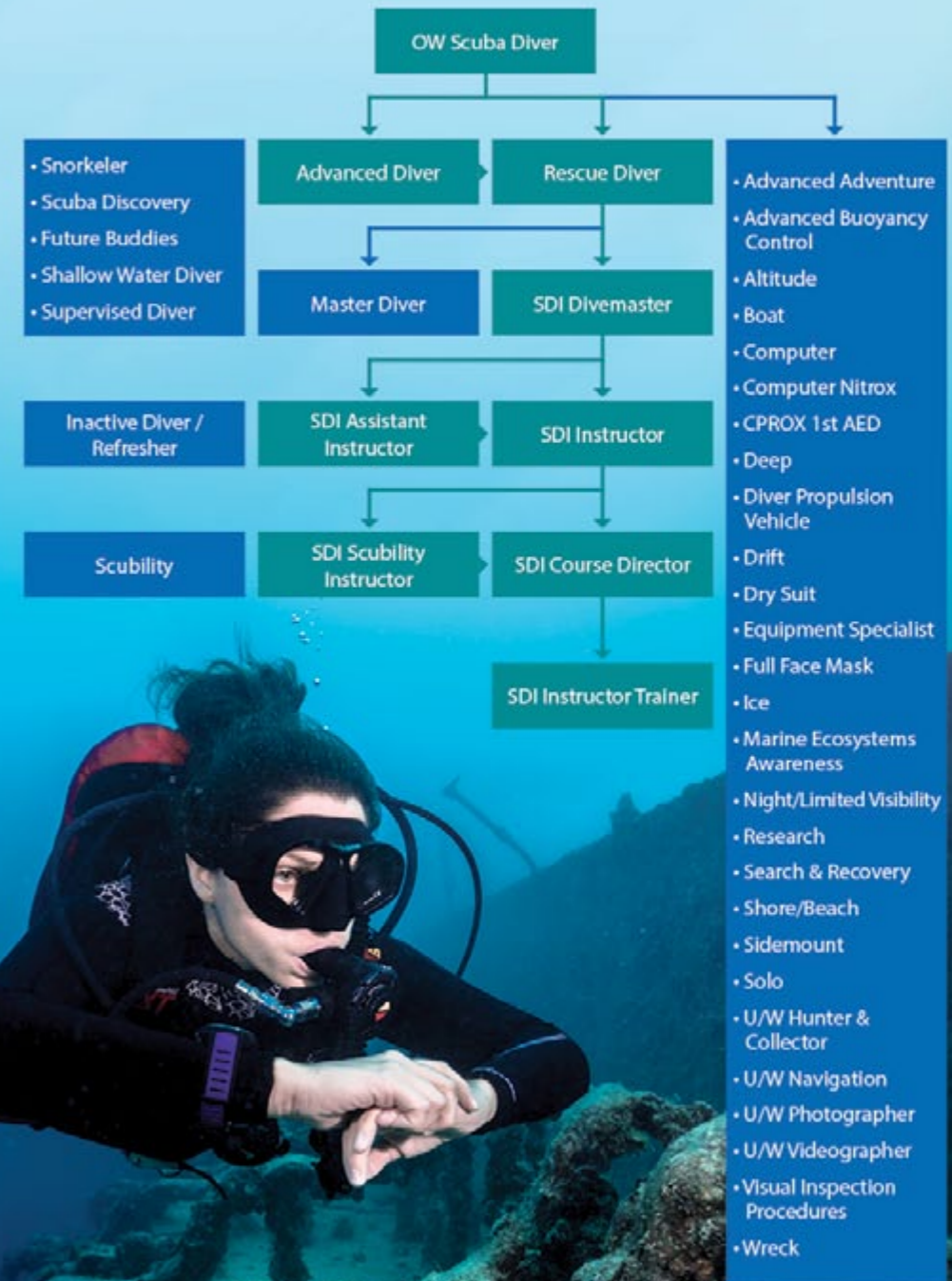
The second cave has the more interesting stalactites and stalagmites: particularly one tall thin column which looks almost too thin, as



Chris Bray



Scuba Divers Trained Here



By Simon Mallender

it is almost cylindrical rather than the typical conical shape of a stalagmite. There is also a formation referred to as a hanging shroud.

Outside the cave there is a flatter reef at about 12m which had lots of the usual reef suspects: leatherjackets, several species of butterflyfish, surgeons and a host of goldspot seabream.

**Shore excursions**

There are plenty of wildlife encounters to be found on dry land in between dives on Christmas Island, and in fact, being quite small, whichever you choose to explore, whether that's hiking, bird-watching or scuba diving, all activities can be undertaken as a day trip from the main settlement, funnily enough called Settlement.

Take one day to trek through the Dales along marked trails that wind through tropical rainforest and waterfalls, looking down amongst the winding roots of the giant figs for the island's endemic land crabs. There are literally tens of millions of them throughout the forest, from the abundant red crab to the massive robber (sometimes called coconut) crabs.

On another day, visit the Daniel Roux caves: there are no lights, no handrails, no steps and no admission fees so be sure to take a couple of touches to see the magnificent stalactites and stalagmites that rival the majesty of any cathedral. The cave is home to a large colony of small bats, who tend to go where they hang, so it can get slippery underfoot so be careful where you put your feet, and don't wear your Sunday Best.

There are other little features of natural wonder scattered throughout the island: remote beaches where turtles nest, a little sunny grotto of salt water (called The Grotto) and the Blow Holes on the south coast where the Indian Ocean is forced up through volcanic shafts expelled in plumes of spray. Looking up, large frigate birds can be seen riding the ocean breeze scanning the waters below for dinner, and tropic birds loop the loop, dancing in the warm air currents.

Looking down, you might find some Brown Boobies nesting on the ground, their eggs, laid literally on what amounts to a huddle of sticks and stones. These birds have no fear of humans, so there's no need for an enormous

camera lens you can get a close up with your iPhone.

On the way back, a visit to the golf course offers great vistas over the ocean and the chance to see another rare specimen the red-footed boobies – a great colony of which – will live in a single tree.

And all this in a place where, at the end of a great day's exploring, a multicultural society offers the prospect of a great Malaysian-style curry, an authentic Chinese dish, or good old-fashioned fish 'n' chips with a cold beer or a chilled chardonnay at the Golden Bosun Tavern – the best place on the island to catch the Indian Ocean stunning sunsets.

**Dive Operators**

There are two dive centres on Christmas Island, Extra Divers, who can cater large groups of up to 16 divers, and Wet n Dry Adventures who offer an intimate experience.

**Wet n Dry Adventures**

Wet n Dry Adventures, a PADI dive centre, is a small and friendly family business that



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By Simon Mallender

has been operating on Christmas Island since 1994. The operator is Hama, his 2IC is Linney, and his boat, which takes up to five divers, is called Feral. Hama's philosophy is to fit two dives into a half day so that you are free to use the other half day to see more of Christmas Island.

Linney bakes something fresh every morning: apple turnovers, date and walnut cake, or muffins, so between dives, there's fresh bakery and hot drinks to look forward to. [divingchristmas.com](http://divingchristmas.com)

**Extra Divers**

Extra Divers Australia is a full-service dive operation with a boat that takes up to 16 divers moored at the Wharf in Flying Fish Cove that has been operating on Christmas Island for just over 12 months.

They offer the full gamut of SSI courses including TDI Tech Diving courses, though PADI courses are also available on demand. At the dive centre you'll find full sets of brand new dive gear – including dive computers – to hire and for sale.

The custom-build dive boat (surveyed for 18)

with a diver limit of 16, has been recently refurbished before its transfer to Christmas Island. [extradivers-worldwide.com](http://extradivers-worldwide.com) (search Australia)

**More Information**

**Getting there**

You can fly to Christmas Island from Perth (twice weekly) or Jakarta (weekly). Occasional charter services are also available from Kuala Lumpur. More information on the Christmas Island Tourism Association website.

**Where to Stay**

Accommodation on Christmas Island ranges from boutique hotel rooms to self-contained and lodge style properties – there's something to suit everyone. Many offer ocean views, and all provide the personal service that you'd expect from smaller operations. Visit the Christmas Island Tourism Association website for more information and how to book.

**Getting Around**

For a truly enriching wildlife experience, take a guided nature tour with Indian Ocean Experiences. [indianoceanexperiences.com.au](http://indianoceanexperiences.com.au)

**Find Out More:** [Christmas.net.au](http://Christmas.net.au)



Kee Seng Foc

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# Cleaning Services

**Who maintains health and beauty on the reef? Cleaning crews on the reef are families of delicate, dedicated little creatures, who gently pick off the crustacean ectoparasitic growths that occur from time to time on the skin, in the gills and between the teeth of the reef fishes.**

The most conspicuous of the cleaners are the bluestreak cleaner wrasses (*Labroides dimidiatus*). With mouths set on the front of their heads, a pair of canines on each jaw and a split lower lip they are perfectly designed for grooming. They set up shop on cleaner stations, usually under an overhang where there is less exposure to predators.

They are usually found in family groups where juveniles are black with a brilliant blue band while adults vary a little from blue to beige to pale yellow with a black stripe.

If you look out for these cleaner stations, you can often enjoy the extraordinary sight of a minute fish fearlessly cleaning inside the mouth of an almost soporific tiger rockcod (*Epinephelus posteli*)

Roaming cleaners are the bi-colour cleaner wrasse (*Labroides bicolor*). This is a much bigger fish, growing to around 14cm, and while the black and yellow striped juveniles often work on a cleaner station, the adults hunt for clients. They are strongly coloured, with a black to blue head which suddenly

changes to yellow near the tail. They feed on parasites and dead or diseased skin, and use a bobbing, weaving motion to tout for their services.

As long as the cleaners are at work, the fish are relaxed, and some amazing pictures can be taken without surprising them. If the cleaner station is near a cave, the wrasses are often assisted by the banded boxer shrimp (*Stenopus hispidus*) who, if you put a hand into their territory, will obligingly clean underneath your nails.

They always live in pairs, hanging under ledges, waving their feelers around to attract clients. Morays are primary customers of these shrimps.

The relationship between cleaner and client is one of trust. The fish almost goes into a trance, allowing the cleaners access to the most sensitive parts of its body. The cleaner removes parasites and dead skin carefully and painlessly.


And this is where the mimic sabre tooth blennie (*Aspidontus tractus*) takes unfair

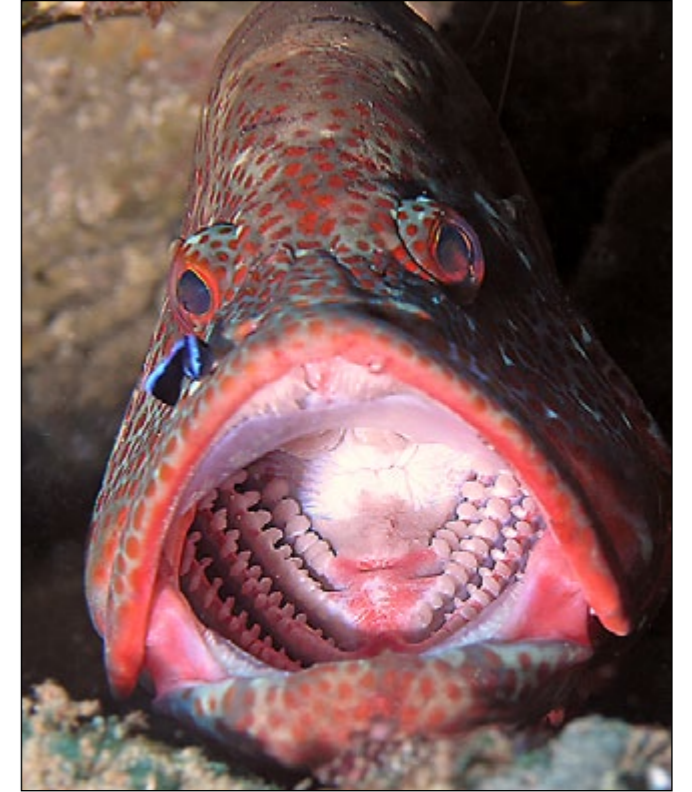
advantage. A ferocious predator, these blennies are only 5-10cm long. They are almost identical to the gentle cleaner wrasses but their mouths are on the underside of their heads. The unsuspecting prey settles back, relaxes and opens his mouth.

The blennie will actually clean for a while until the fish has reached the trusting trance-like state. Then he strikes. Using his immensely strong canines the blennie will rip a chunk off the gill or out of the flesh of the trusting client.

I watched a 1.2m potato bass settle back under a ledge, thinking he was going to be cleaned by the family of cleaner wrasses who had established a cleaner station there. They were joined by what looked like an identical cleaner, who immediately dived into the open mouth of the rock cod. Suddenly the huge fish snapped his mouth shut, shook himself and swam away at speed.

The sabre tooth had taken a pin-head sized chunk of flesh out of his open gill, and the potato bass clearly experienced a jolt of extreme pain. It makes you wonder how

many marlin and sailfin actually survive the extremes of pain and exhaustion they must suffer before being tagged and released by the benevolent fishing fraternity. 



# Red Tides

**The term red tide is misleading, as this occurrence has very little to do with the tides and the water may be black, brown or any other colour. These blooms are caused by extremely dense concentrations of suspended microscopic plants called phytoplankton. The colour varies according to the species of phytoplankton, the time of day, the concentration and the angle of the sun.**

Red tides occur mainly along some of the coast lines. The prevailing winds normally blow the surface waters away from the coast. This water is then replaced by cold, nutrient-rich water from the deep and with this come cysts (seeds) of minute plants called dinoflagellates. Upon reaching sunlight water, these cysts germinate, grow and divide, sometimes reaching millions of cysts per litre of water, and form what is called the phytoplankton bloom.

Most plankton blooms are healthy and are responsible for the productive fisheries along the coasts. Usually, once nutrients are depleted, the dinoflagellates form cysts once again, and sink to the sea floor. If, however, this bloom is forced against the coast by winds or currents, resulting in extremely dense concentrations, a red tide occurs. A more accurate term for this is a harmful algal bloom (HAB).

## HOW RED TIDES AFFECT THE ENVIRONMENT

**Physical damage:** Dense concentrations can clog a fish's gills so that it suffocates.

In 1962, it caused 100 tons of fish to suffocate and die. Some dinoflagellates actually feed on fish tissue, resulting in the fish's death in just a few hours.

**Oxygen depletion:** Red tide can kill indirectly by using up the oxygen dissolved in the water. Once all nutrients have been depleted, the phytoplankton dies. Bacteria then decompose the dead plants, depleting available oxygen and leading to the death of other animals. Animals that are able to move migrate towards the surf, where there is more oxygen due to wave action. Mass crawl-outs of crayfish have occurred and as much as 1 500 tons crawled out in 1997.

**Direct poisoning:** Toxins produced by some dinoflagellates are some of the most potent poisons known to man. Toxins of this nature have caused the death of entire populations of mussels and perlemoen in certain areas. Mussels, clams and oysters are filter feeders and accumulate toxic phytoplankton in their digestive systems, which then causes illness or death in anything eating them, be it marine mammals, birds or man.

Red tide causes five different types of poisoning harmful to man.

**Paralytic shellfish poisoning:** This is not what you get after a woozy at your favourite seafood joint.

Just one mussel that has accumulated this toxin can be fatal. Initial symptoms are tingling of the lips, tongue and fingertips, then numbness of the arms, legs and neck. Later on, one experiences dizziness, a lack of muscle coordination, vomiting and respiratory failure, and death occurs within two to 24 hours.

**Diarrhetic shellfish poisoning:** These symptoms occur within four hours and last three days. They include diarrhea, nausea, vomiting and shivering. The symptoms can be confused with gastroenteritis from eating shellfish from polluted waters.

**Neurotoxic shellfish poisoning:** The symptoms include hot and cold reversals, dizziness, tingling and dilated pupils. They usually disappear after three days.

**Amnesic shellfish poisoning:** This


intoxication from phytoplankton called diatoms causes cramps, vomiting, disorientation and memory loss.

**Aerosol Toxins:** This does not refer to CFCs. In 1995/6 residents in Hermanus and False Bay experienced coughing, burning noses, difficulty with breathing and skin irritations.

When affected people left the area, their symptoms were relieved. It was later found to be due to a bloom of dinoflagellates, which have been encountered since but they have not produced the same symptoms.

## RED TIDE WARNING

Scientists have concluded that red tides are occurring with greater intensity and more frequently than in the past. This may be a result of human activities such as an increase in pollution, over-fertilisation, sewerage and changes resulting from the so-called greenhouse effect.

The transport of dormant cysts in the ballast water of ships is thought to contribute to the spreading distribution of outbreaks. 



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# Saving the sea's 'Gentle Giants'

Humans are killing just over 100 million sharks per year – that's 100 000 000.

## PART II

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 their depths. This campaign has the dual distinction of being both one of the most one-sided conflicts ever to occur, and yet 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 seem to still inspire fear in most people despite almost three decades passing since *Jaws* was seen in our theaters. On average, only five or six people die from shark attacks every year, yet is estimated that at current rates of harvest, humans are killing just over 100 million sharks per year – that's 100 000 000.

To effectively defend Whale sharks from slaughter, their biology and behaviour needs to be known and incorporated into any conservation plan. This is a bit

of a stumbling block, as our knowledge of them is highly incomplete, with even basic life history parameters remaining blank spaces on a fact sheet. The Shark Research Institute (SRI – [www.sharks.org](http://www.sharks.org)) based in the United States, has started a multinational study of Whale sharks to help fill in the gaps.

Biologists use direct observation, placard identification tags, photographic spot-pattern identification, and satellite telemetry tag technology to determine Whale shark population size, structure and movement patterns. SRI played a part in a major Whale shark conservation victory – the placement of Whale sharks on Appendix II of the CITES (Convention on International Trade of Endangered Species) treaty. While this placement requires countries that harvest Whale sharks to provide documentation of their landings, an upgrade to Appendix I would ban all international trade in Whale shark parts.

In order to get the desired upgrade, hard data will need to be presented at

CITES, including an estimate of population numbers for Whale sharks. Censusing Whale sharks is a daunting task but is not out of reach. SRI researchers have studied Whale shark distribution and abundance patterns in the Indian Ocean since 1993.

They have placed visual ID tags on over 200 Whale sharks from areas off South Africa, Mozambique and the Seychelles. Aerial studies along the coast of South Africa from 1993 to 2001 documented an 83% decline in Whale sharks. Last year, SRI decided to rededicate efforts to the Indian Ocean, specifically a newly discovered Whale shark aggregation site at Mafia Island, Tanzania.


A network of Whale shark researchers in the Indian Ocean is being established to collaborate and compare data so that a better large scale picture for the species across the entire ocean basin can be seen. In addition to work in Tanzania, Whale shark researchers in the Red Sea, Kenya, Mozambique, South Africa, the Seychelles, Madagascar, the Maldives, India and Australia are joining forces to try and characterise the population and movements of the sharks.

### How you can help

Now any diver with a camera can help research efforts by taking a photograph of the side of a Whale shark and uploading it to Ecocean at [www.ecocean.com](http://www.ecocean.com).

As a reward for uploading a Whale shark picture, Ecocean will keep you up to date on the status of your Whale shark via email. Once the image is spot mapped and added to the database, you will be informed whether you have sighted a shark already in the database or added a new individual.

Thereafter, if there are additional sightings of the same Whale shark, you will again be notified by email of the date and location 'your' shark was seen again. You will also be aiding researchers as they have access to the database. Stopping the war on sharks will not be easy, but armed with additional knowledge and public support it can be accomplished.

As long as sharks are being killed, I will be in the trenches and looking for reinforcements to aid in the battle for salvation of the most captivating animals I have been fortunate enough to encounter. 



# Incident Insights with the Divers Alert Network

**In this case a technical diver gets DCS despite diving well within his limits.**

**The Diver:** 37 year old living in Singapore, who has been a DAN AP Member for three years.

**The Diver's Experience:** Certified Tec Diver with 70+ lifetime dives. Commenced diving in 2014.

**The Trip:** 3-day trip to Tulamben, Bali.

**The Dives:** Three days of diving, 2-3 dives per day; each dive was for 40-60 minutes, maximum depth was 46m, diving on air and a deco gas of EANX (80% O2 / 20% N2).

## The Profiles

### Day 1

- Dive 1: 27m, Total Dive Time (TDT) 50 mins, Air, Surface Interval (SI) 1:11.
- Dive 2: 27m, Air, TDT 45 mins.

### Day 2

- Dive 1: 45m, TDT 64 mins, Bottom: Air, Deco: EAN80, SI 2hrs 38 mins.
- Dive 2: 46m, TDT 73 mins, Bottom: Air,

Deco: EAN80, SI 16 hours.

### Day 3

- Dive 1: 46m, TDT: 69 mins, Bottom: Air, Deco: EAN80, SI 2 hours
- Dive 2: 44m, TDT: 67 mins, Bottom: Air, Deco: EAN80.

## Onset of Symptoms

In the lead up to this trip the diver suffered a cold and sinusitis. He suffered exhaustion due to the challenging conditions on Day 3 and general tiredness, as well as a headache with shimmering lights prior to commencing the final dive as well as pain in the left ear and in the right shoulder, along with his faculties feeling a little dulled.

After surfacing from the final dive he found it a little hard to breathe, shortly after was dizzy, felt nauseous and vomited. Numbness and tingling commenced in the right and left arms, plus joint pain in the right arms and legs, left ear discomfort (like water in

the left ear canal), and the onset of severe vertigo.

## Diagnosis: Decompression Illness

**Treatment:** The diver was given immediate oxygen first aid and taken straight to the hospital where he continued breathing oxygen (10 litres / minute via a non-rebreather mask) until being recompressed the following day.

The diver received 3 Recompression

## Treatments:

- 6th February 2017: US Navy TT6. On completion of the treatment the diver reported an 85% improvement. On re-evaluation the following morning he reported slight dizziness, no vomiting, slight numbness and tingling in the right arm.
- 7th February 2017: US Navy TT6
- 8th February 2017: US Navy TT5.

## The diver was given the following recommendations after the final treatment:

- To avoid strenuous activity, hot water baths/sauna, and alcohol for 7-10 days.
- Not to fly or drive through mountain or altitude for a minimum of seven days.
- To drink lots of water (3-4 litres per day); and
- To follow up with a diving doctor after 2-weeks / before diving.

**Recovery:** Whilst most of the symptoms alleviated after the chamber treatments, the diver (2 months later) continues to recover and still gets low level vertigo, which he would categorise more as light-headedness rather than dizziness, especially after flying. The diver was informed that it can take up to 6-months for this to fully dissipate.

## Costs:

- Treatment 1: USD\$4,000
- Treatment 2: USD\$4,000
- Treatment 3: USD\$2,400
- Doctor's Fee / Disbursements: USD\$700

Total expenses were USD 11,100 .... Fully covered by DAN

## Analysis:


The diver has previously experienced skin

DCS whilst completing his PADI Tec 40 and 45 dives. He developed an itchy rash on his stomach after EACH deco dive. Although at that time was told by his Instructor 'not to worry about it'. With this second incidence of DCI the diver has been advised to undergo testing for a PFO (a small hole between the left and right upper chambers of the heart that up to a quarter of the population has) ), which makes people more susceptible to DCI.

The diver has been advised not to dive until he has been tested. Once again this incident highlights the need for contacting DAN as soon as you experience something abnormal during or after any dive. Unfortunately, symptoms of DCI are often easily explained away by the diver as being only minor or attributed to some other cause, particularly when impaired mental processes are one of the symptoms. Anything abnormal occurring after a dive should be considered as a possible DCI and should be discussed with a diving doctor.

Had this diver contacted DAN after the initial symptoms appeared it is likely he would have been advised to breathe oxygen and cease any further diving until he had been properly examined by a diving doctor. As a result he may have avoided experiencing such severe symptoms or the need for as many, or any, recompression treatments and possibly the long delay in recovery.

## Final Word from the Diver

My experience with DAN has been entirely, wonderfully different to your traditional insurance company. Not only did DAN help guide my treatment, they also removed the stress of making financial arrangements. [www.danap.org](http://www.danap.org) 



# Global News

## DOING WORLD OCEAN DAY RIGHT: VOLIVOLI RESORT FIJI'S HUGE EFFORT TO HELP CLEAN UP OUR OCEANS.

The message behind World Ocean Day is perhaps more poignant this year than ever before. With a global focus on reducing our use of plastics, limiting our carbon emissions and generally cleaning up our act for the good of the Earth that we all share, and for our sustained survival on this amazing planet, more attention than ever before has been thrown at a cause which truly affects us all.


The crew from Volivoli Resort in Fiji embraced the day on a grass-roots level, by involving the local community and many of their guests in a clean-up extravaganza to celebrate both World Oceans Day 2018 and World Environment Day 2018.

Volivoli is Fiji's premier dive resort, and a leading SSI Dive Facility located on the northern most tip of Viti Levu, Fiji's main island. They pride themselves on their close-knit family of staff, their second-to-none hospitality and their holistic, sustainably minded attitude towards running this stunning, world-class resort. They are also actively involved with Mangroves Fiji and play a major role in the protection of Vatu-i-Ra Conservation Park.

The crew from Volivoli started their World Oceans Day weekend with 30 children and teachers from the local Naria Primary School. This group participated in a foreshore clean-up among the mangroves at Volivoli Point, and afterwards had some fun beach games including sack races and tug-of-war. Early in the afternoon, local students sat down for an education session, with the main focus being on how single use plastics harm the environment and marine life. This was followed by a picnic lunch and certificate of participation presentations. Later in the day it was time for the grown-ups to do their part, and volunteers came together to donate their time and support for this extremely important cause.

Overall the clean-up day attracted the support of 77 participants, made of the local community, as well as the staff and customers of Volivoli Beach Resort and Ra Divers. This motivated crew collected an estimated 1,000kg of waste from the foreshore and waterways, maintaining the reputation of Suncoast as one of Fiji's most pristine regions.

In the late afternoon and into the evening, the resort held a post clean-up beach party, where they gave away \$11,546.00 in prizes to their hard working and dedicated volunteers as a little extra reward and thank you for donating their time.

What did you do for World Oceans Day 2018? SSI would love to hear about the efforts and events in your local area, so share your photos and stories with the SSI world at [australia@divessi.com](mailto:australia@divessi.com). 



VOLIVOLI BEACH RESORT AND RA DIVERS FIJI



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## Propeller Injuries and Boat Awareness: DAN Revitalises Safety Campaign

Sadly, within the first four months of 2018 there have been at least three fatalities of divers/snorkellers caused by collision injuries from boat propellers; one each in Thailand, the Philippines and Indonesia. It is likely there were additional incidents, as many injuries often go unreported.

These figures are of great concern to DAN and should be of concern to all divers. We felt it was timely to revitalise a safety campaign that focuses on creating awareness of propeller safety. Propeller injuries are unfortunately far too common in diving accident reports despite often being preventable.

Many propeller incidents occur in remote locations where the medical facilities available to treat injuries sustained may be insufficient, and the licencing and regulating of boat drivers may be poorly regulated or not exist. This is not to say that countries like Australia and New Zealand are immune to such incidents, reporting simply highlights a greater occurrence in other countries of the Asia-Pacific.

What are the main causes of propeller incidents?

Having reviewed reported incidents from the past ten years there seems to be four main categories of causes:

- 1) Boat operators unaware of divers in the area coupled with insufficient lookout for the conditions.
- 2) Boat operators attempting to move the boat while divers were nearby in the water.
- 3) Divers/snorkellers surfacing in the path of boat traffic, failing to use a flag or buoy, or undertaking diving activities in an area frequented by boats.
- 4) Divers being pushed into boat propellers by waves or currents.

These indicate the need for a two-pronged approach to increase the safety of divers/snorkellers in relation to propellers:

1. Working with divers/snorkellers to increase their awareness of strategies to avoid propeller incidents, such as:

- The use of clearly visible dive flags.
- The use of diver's floatlines and/or SMBs.
- Being vigilant in avoiding areas with known boat traffic.
- Avoiding surfacing or swimming at the stern of the boat without the crew's knowledge.
- Ensuring divers follow crew instructions when attempting to board the vessel.

2. Reinforcing to boat operators that they need to be diver aware, by:

- Having an adequate lookout at a high point to be able to see divers who will be low in the water;
- Recognising the different types of dive flags (and light signals at night), which indicate divers are in the vicinity.
- Being aware of the laws and regulations regarding exclusion zones and speed limits that surround 'Diver Below' warnings, if any. In the absence of regulations, care and slow speeds are still required.
- Ensuring they do not have the propellers engaged while performing pick-ups; and receiving confirmation that all divers are clear of the propellers prior to re-engaging.

If divers and boat operators work together, propeller injuries and deaths can be reduced, even eliminated.

DAN is running a safety and campaign until the end of 2018, predominantly on our socials (Facebook or Blog). If you miss anything you can catch up on the DAN Asia-Pacific website. We encourage you to support the campaign and share the information provided with your diving friends so that we are all working together to prevent unnecessary injury and loss of life.

Safe Diving, Scott Jamieson, GM, DAN Asia-Pacific

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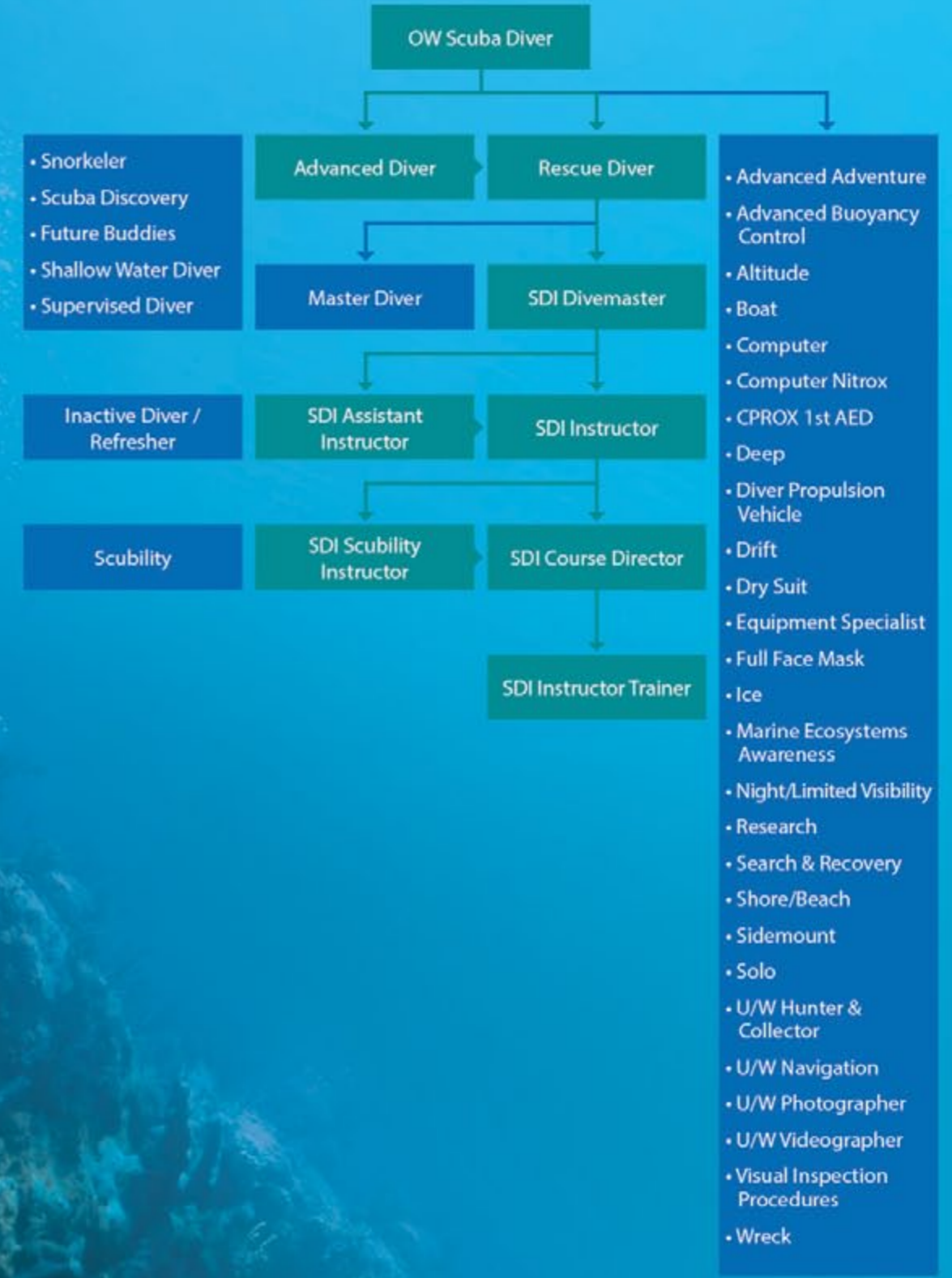
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# Northern Sulawesi

## Manado to Lembeh

The first thing that comes to mind when you hear about Manado and Lembeh is macro photography and mug diving, but believe me, there is much more that North Sulawesi has to offer for all levels of divers with its variety of dive sites. From wall dives covered with hard and soft corals that drop hundreds of meters to the ocean floor and sand and coral slopes full of marine life to even dive sites with hot water springs and, of course, one of the world's best macro and mug diving dive sites, North Sulawesi has it all.

And you can experience all these dive sites around Northern Sulawesi through Thalassa Dive Resort...  
where guests leave as friends!



By Johan Boshoff Northern Sulawesi is a short flight from Bali and Manado is seen as the main gateway to the province; around the northern peninsula of Sulawesi there are a number of islands to explore.

Most people think that North Sulawesi is mostly only about diving, but there is so much else on land to create a unforgettable adventure, Go and climb a volcano and walk around the crater edge, have lunch at a local fish restaurant built on bamboo platforms on top of the fish farm, visit Ranopaso hot springs, and if you can handle it, then try to visit the extreme market.

There are so many things that you can do so remember to keep a few days open to experience the surroundings.

What makes this a special place underwater is that Northern Sulawesi is located at the convergence of three large bodies of water: the Pacific Ocean, the Sulawesi (Celebes) Sea and the Indian Ocean, forming a prime food source for countless species.

The tidal flows and varied underwater landscapes also contribute to the richness of

this treasure below the ocean surface. And on top of all that, it is situated in the heart 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.

The area got its name for the staggering number of corals (nearly 600 different species of reef-building corals alone), and the region nurtures six of the world's seven marine turtle species and more than 2000 species of reef fish.

Waters around North Sulawesi offer five unique diving areas, boasting over 150 different dive sites from the walls in the north, macro critters in the east and even dugongs and wrecks in the west with water temperatures between 27 and 30 degrees. The main areas are Manado, Bunaken, Bangka, Popooh and Lembeh.

And then in the heart of all this you get Thalassa Dive Resort in Manado and Lembeh. Thalassa is a 5 Star PADI Dive Resort with great accommodation, services

and dive centers that will cater for all your needs.

And if photography is your game then their dive guides have some of the best eyes in the world for spotting those things that we normally just swim past.

**Manado area**

All around the mainland, dive sites are diverse from the sloping sand grounds to coral oases which are surrounded by ocean creatures, and if you love mug diving, the house reef at Thalassa Dive Resort is great with a large cluster of yellow elephant ear sponges; truly unique to this part of North Sulawesi. And as the locals say, the mainland always delivers!

If wreck diving is your cup of tea, then the Molas close to the resort is a must.

The Molas Shipwreck is a dive site right in the backyard of Thalassa. It is a very big wreck and is approximately 40 meters in length and 8 meters wide. At the bow it lies around 22 meters deep and at the stern of the wreck you can still find an intact

propeller at 41 meters.

The wreck is for advanced divers only with very little bottom time and you would need to dive it more than once to explore the whole ship with all its compartments, gullies and chambers.

It is pretty much intact, although due to the amount of divers which are visiting this amazing wreck, it has started to deteriorate a bit. All over the wreck you have nice swim through's, especially where the steering cabin used to be.

The two winches and the fully overgrown boom are host to a wealth of tiny critters. The fish life in and around the wreck is pretty spectacular too, with a lot of snappers, batfish and the occasional reef shark cruising around.

**Bunaken area**

The Bunaken Marine Park was officially established back in 1991 and covers roughly 890 km2 and includes the islands of Bunaken, Siladen, Mantehage, Nain and the impressive inactive volcano of Manado Tua.



Northern Sulawesi

Northern Sulawesi

By Johan Boshoff  
The islands are fringed by sea grass meadows, a shallow reef top, and finally sheer walls that drop to well over 1000 metres in many places covered with soft corals and hundreds of sponges.

Because of the deep waters surrounding the islands and the steady currents that sweep through the park, the waters are highly rich in nutrients.

Encrusting the walls are over 300 species of coral, and more than 1500 species of fish can be seen.

The stunning sheer walls have many cracks, crevices, caves and overhangs, which provide a suitable shelter for a wide variety of marine life.

You can expect to find an astonishing number of turtles swimming freely around the walls; Napoleon fish, dogtooth tuna, large schools of reef fish and sharks are frequently spotted hunting in the depths.

Look a little closer at the walls and you will see an incredible variety of macro life.



**Bangka area**

Bangka Archipelago lies off the northern tip of Sulawesi and encompasses four islands in the chain; Lihaga, Tindila, Talise and Bangka. The islands are large columns of volcanic rock rising from the depths and around the island you can find steep drop-offs as well as slopes and pinnacles full of soft corals, sponges, sea fans and crinoids. The islands are quite exposed and often get strong currents making it an ideal area for drift dives around steep pinnacles where pelagics come to feed.

The reefs host all kinds of scorpionfish, frogfish, crocodilefish, sharks and Napoleon wrasses. Around some of the dive sites you will encounter large schools of snappers, surgeonfish and fusiliers.

A very popular dive site here has an underwater hot spring which makes this place a really special dive.

**Popooh area**

Southwest of Manado, these mainland muck diving areas offer truly exciting and unique

marine animals – well-camouflaged sea horses and octopi can be found among the sea grass! But one of the main reasons that you want to dive in this area is to see a dugong feeding on the beds of sea grass.

**Lembeh area**

A two hour drive east from Manado will get you to the harbour for a 15 minute boat ride to the island. Lembeh Island is about 16km long and 2km wide on the eastern side of the mainland and it is separated from the mainland by a narrow stretch of water known as the Lembeh Strait.

This is known as one of the world's best macro/mug diving wonders.

The area is completely different compared with the rest of North Sulawesi and it is famous for the black volcanic sandy slopes and coral areas that are home to some of the weirdest and most outlandish sea creatures your eyes will ever come across.

Mandarin fish, many different octopi (blue ringed octopus if you're lucky), nudibranchs, all kinds of frogfish, sea horses, and



Paul Vingerhoets



Paul Vingerhoets

By Johan Boshoff

endemic species such as the Lembeh sea dragon and the Banggai cardinal fish can be seen.

Lembeh also offers more than just mug diving with other dive sites with large schools of various fish such as surgeons, snappers, oriental sweetlips, bannerfish and big groupers, along with dive sites with fascinating ship wrecks. The wrecks are covered in both corals and creatures making them fantastic to explore.

Lembeh Strait is a unique experience with no equals in the world.

Diving North Sulawesi can be done all year around with water temperature around 27-30°C and visibility up to 40 meters on some dive sites.

With Thalassa Dive Resorts you can discover the best of both sides of North Sulawesi. Although both resorts fly the same banner, each resort offers something unique and different.

The Manado Resort sits well outside of the



Northern Sulawesi

Northern Sulawesi

By Johan Boshoff

hustle and bustle of Manado City, near the tiny village of Molas and offers a variety of accommodation options from bungalows and cottages to hilltop rooms hidden between the lush, green gardens.

The Lembeh Resort has a uniquely different vibe. There is a black volcanic sand beach straddling a romantically quiet cove, with the remains of a wooden ship right in front.

The resort is built up on a terraced slope, with all bungalows and single deluxe rooms overlooking the sea.

Each resort has a dive centre which is fully equipped with a separate camera room that will cater for all your needs with professional staff who will guide and help you throughout your stay in North Sulawesi.

For more information contact Thalassa 5 Star PADI Dive Resorts Indonesia.

Visit [www.thalassamanado.com](http://www.thalassamanado.com) or contact them on +62 812 435 00 956 or [info@thalassamanado.com](mailto:info@thalassamanado.com)



Paul Vingerhoets



# RAID ANNOUNCES

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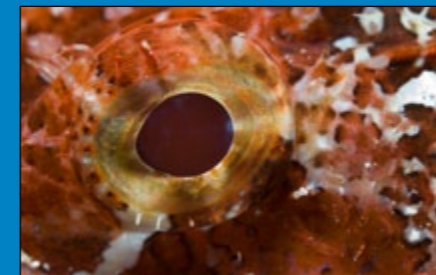
Rock your Sidemount course today – contact a RAID Dive Centre and book your course.



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# Saudi Arabia

That the Red Sea is a beautiful spot to dive is well known to most of divers. Divers from Europe fly to the Egyptian part of the Red Sea on a daily basis. Each day over and over again hundreds of dive boats sail off to discover the beautiful world of the Red Sea, but visions of over-crowded harbours and traffic jams with divers underwater almost spoils the fun. As the Red Sea is much larger than only the Egyptian part we became curious to discover diving possibilities in other parts of the Red Sea. This time we flew a bit further south where we examined the diving possibilities in Saudi Arabia.





At first sight the main difference between diving in Egypt and Saudi Arabia seems to be the number of divers you will encounter in the water. In Egypt it is no exception that dozens of dive boats are on the same dive spot at the same time.

That is something that will not happen to you in Saudi Arabia. With only a limited number of liveboard boats in the country there will be no other divers at the same place. We were thus curious to discover whether the limited number of divers also meant that the life underwater was better in relation to Egypt.

Saudi Arabia is a strict Islamic country in the Middle East. The kingdom of Saudi Arabia is the largest country in the Arab peninsula. Thanks to its size it has borders with many countries: Jordan, Oman, Koeweit, Qatar, United Arab Emirates and Yemen. The country is led by king Abdullah Bin Abdulaziz Al Saud and his family. Although most people will envision desert when thinking about Saudi Arabia, it appears to be much more varied; there are forests, grasslands, mountain areas, and of course also the well-known desert. Thanks to the wealth of oil, Saudi has become a prosperous country.

Our attention though is on the coastline of Saudi Arabia, in particular the coastline of the Red Sea. The sea is well known to us from our trips to Egypt, but we were more than curious to meet the underwater life over there.

For our first trip we decide to go to the Farasan Banks, which lies at the same height as the border of Sudan with Eritrea at the other side of the Red Sea. From the airport of Jeddah it is a three hour drive to the harbour where our liveboard was. During the drive we only saw sand, big caramel plains lying before and behind us – it is almost a depressing sight.

At Farasan Banks the quiet azure ocean is varied with little white islands. The diving around the Farasan Banks mostly consists of real wall dives. At the east and the west

of these islands and reefs the walls go into the depths for more than 500m. In the northern and southern areas of the Farasan Banks some shallower plateaus can be found – no wrecks have yet been discovered in this area.

Arriving at our first dive spot for the trip, Canyons, it immediately strikes us that we are the only boat to be found there. Where can you still find this? We remembered the situation where dozens of boats are together at the same dive spot in the Red Sea – this could be promising. And the first dive certainly was very special. Enormous coral gardens welcome us underwater, but we also find nudibranchs and other small animals such as gobies on sea whips.

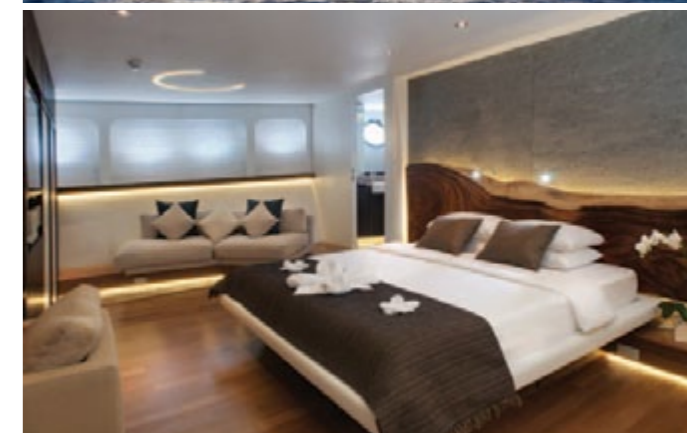
A trip around Farasan takes you from the harbour of Al-Lith in the direction of Jebel Al-Lith and the islands of Malattu, Dohar, Marmar and Jadir. Besides beautiful dive spots this area has some nesting areas where birds and turtles find their breeding grounds.





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*"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*



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By Fiona McIntosh

At our second dive our dive guide was very enthusiastic at the briefing. We dived on Gorgonian Point, one of his favourite spots. Due to the name we assumed that we would find a lot of gorgonians at the site, but it would not be the first dive site where the name has nothing to do with what you actually find underwater. Each country has, for example, a Shark Point, where for years no sharks have been seen.

Yet this time the dive site really did live up to its name. At a depth of 30-40m we swam along a number of gorgonians – and these were not your normal gorgonians – the size of them was really amazing, the biggest we have ever seen; metres high and metres wide they decorated the reef. But it wasn't just their size which was special, but also the fact that they were entirely intact, which is unique.

Besides these gorgonians we also found a metre wide and long garden with bubble coral, and of course the well-known crabs and shrimps. At the end of the dive we

encountered a grazing turtle and deep beneath us a shark passed by. But our first day's diving wasn't done yet – we still had to do a night dive. In this area it is difficult to find a protected anchor place for the night dive, and with a limited number of anchorages, the number of dive spots is also limited. Fortunately there is always something nice to find during a night dive; shrimps hiding in small holes in the reef or scorpionfish lying down perfectly camouflaged. Under overhangs on the reef several fish tried to catch some sleep to prepare themselves for a new day. After the dive a nice dinner was served on the top deck – spiced fish, pasta and other delicacies under a clear sky filled with stars welcomed us on the first night.

The next day we stood again with full expectations on the back deck of the ship. What would this day bring for us? The first dive was at the south side of Malathu Island. Underwater we notice a splendid coral garden, and just like the day before we are surprised by the virginity of the



underwater landscape. We, however, hardly get time to take a good look at these corals as a school of fish comes from far towards us, asking for closer inspection. As we come closer the scope of this school becomes even more impressive – it proves to be an enormous school of barracudas. Gracefully they swim around us.

On the fourth day of our trip we thought that we had seen most of the surprises over here. But while diving on dive sites like Ciopi Reef, Eagle Island, Danak Island and a number of other dive sites we saw things that we had never before seen. We found black corals at several places; sometimes they were relatively small branches, but especially on Muddhar we saw enormous trees of black coral on the south side of the reef. With a length of at least 3m, these were the biggest chunks of black coral we had ever seen.

Apart from the black coral we encountered something else on these dive sites – on a number of branches of black coral we noticed a brightly coloured mass. On closer inspection it proved to be a type of sponge, yet from a distance it looked like a slimy mass hanging down from the branches. We asked our dive guide about these sponges and it appears that these dripping sponges are so far only found in Saudi Arabia. It is an endemic species only seen on the reefs of Farasan Banks. The colours of these dripping sponges were phenomenal – bright red pieces were varied with almost fluorescent yellow and white pieces of sponge.

Divers with a love of the small things will have more than enough to see in Saudi Arabia. Beautiful nudibranchs, such as the white and black *Halgerda willeyi* and the brightly coloured *Nembrotha magalocera* decorate the reef. Small shrimps try to hide themselves in remote areas and on the many sea whips both shrimps and small gobies are found. On sandy pieces of the reef you will be surprised by the variety of life found there, like small cuttlefish or symbiotic gobies.

In between dives there is the possibility to visit one of the very small islands. On these small islands you will meet no inhabitants; they are too small for that, and as a result, a lot of birds and salamanders have made these small islands their home or breeding grounds. If you are unlucky not to have seen turtles during your diving you will certainly find proof on these islands that they occur in this area, including skeletons of dead turtles.

With our dive trip at Farasan almost coming to an end, it is time to do some exploration dives. As of the number of known dive sites is still relatively small we were asked to take a look at a new dive site to figure out whether it would be worthwhile going there. It is really exciting to have no more information about the site you are going to visit other than the depth of the reef. According to some local fishermen there might have been a wreck at the spot, yet on the given coordinates where they had dived before no wreck was found – we were going to explore the rest of the reef. The start of our dive was just like every other in the area – we saw nice soft corals, black coral, gorgonians and other



By Fiona McIntosh  
types of coral, while the small stuff was also very well represented. We were a bit disappointed though, as we had hoped to discover something new and become famous! At the end of the dive we decided take a look at the other side of a big rock, and what we found there was a splendid reward on this nevertheless already beautiful dive holiday. Behind the rocks lay the wreck of old a steam ship.

The propellor of the ship lay behind a large rock, the axe lying on top of the rock and on the other side of it the steam turbine could be found. It is clear that the wreck had been here for many years as soft corals, sponges and thousands of glassfish have transformed the wreck into their home. This was an amazing end to this week of diving, as we were the ones to find the first wreck on the Farasan Banks.

For our second trip in Saudi Arabia we decided to go to the Yanbu area in the north. This area lies at the highest point of the south border of Egypt and Sudan. The surroundings here are a bit different to what we had seen at the Farasan Banks. Here, as far as we could see, were vast areas of azure blue water. Underwater we were treated to steep drop-offs and loads of wrecks. The vastness and the calmness is really a contrast to the life on shore with its numerous gas stations and big, bulky shopping malls.

For this trip we were able to use rebreathers. When arranged in advance with our tour operator, [www.diveaway.be](http://www.diveaway.be), it is possible to have enough oxygen on board for a rebreather. Again we were amazed by the steep drop-offs we encountered there. We hung for minutes besides the drop-off, enjoying the immense golden gorgonians. The pink coloured soft corals seem to be bigger there than we had ever seen before.

We encountered the mysteries of the ocean while discovering several wrecks on the bottom of the ocean. Corals have taken over the outside of the ship, trying to make a new home on the steel hull. Anchors lay at aimlessly on the bottom of the sea. On


the larger wrecks we were able to explore the insides of the ships; descending into the core of one of the vessels we discovered how well preserved the engine room still was. The insides of wrecks are also a favourite hiding place for dozens of glassfish while the propellers of the ships always allows for beautiful photo opportunities.

While ascending after a dive here it is always wise to look into the blue or up to the surface, as when the water is not too warm you have a change of encountering the big stuff, such as sharks, although enormous schools of barracuda's will be frequently seen here. Thousands of silvery barracuda's circled around our heads during one ascent, and it was almost as if we had entered into a fish soup.

After the diving there is always time to visit the old city of Jeddah. For Western women a visit to the city is a bit different. In this strongly Islamic country, all women have to adapt their clothing to the local uses and wearing an abbaya is mandatory.

A head cover is not necessary but the long black dress is a must. Men also need to adapt; trousers are mandatory.

Different mosques in this part of the city are beautifully decorated by the minaret. The houses are not very well maintained, but the artistic handwork of the wooden balconies of the houses is amazing. The local people of the old city of Jeddah proved to be very nice - everywhere you go they welcome you, and of course, you are invited into their shops. If you like fresh herbs, you certainly must pay a visit to the old city as several shops display their brightly coloured spices in their windows, and various quantities can be bought good prices.

After the trip we can look back on some surprisingly good travels. All the promises of untouched reefs, sharks and small life were realised. In the Yanbu area, loads of wrecks were visited and we never saw such big gorgonians in our lives. For us it certainly will not be the last time that we pay a visit to Saudi's beautiful underwater world. 

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# Thalassa Dive Resorts

## Lembeh

Thalassa Dive Resorts is situated in Manado and Lembeh where you can discover the best of Northern Sulawesi in Indonesia.

Thalassa Dive Resorts Indonesia that is situated in Lembeh and Manado where you can discover the best of both sides of Northern Sulawesi. Although both resorts fly the same Thalassa banner, each resort offers something unique and different.

Compared to their resort in Manado, Lembeh has a uniquely different vibe. There is a black volcanic sand beach straddling a romantically quiet cove, with the remains of a wooden ship right in front.

The resort is built up on a terraced slope, with all Bungalows and Single Deluxe Rooms overlooking the sea. The dive center with rental equipment area is right next to the jetty.

Our main restaurant is called Santai, meaning "relax" or "cool off" in Indonesian. Relaxing and staring out into the Lembeh Strait, with a gentle sea breeze to accompany you, is pure bliss.


Santai's contemporary style mixes with echoes of traditional life, giving the place a boutique resort feel, and is definitely more "beachy" than Manado.

Under a tropical roof of palm leaves, the

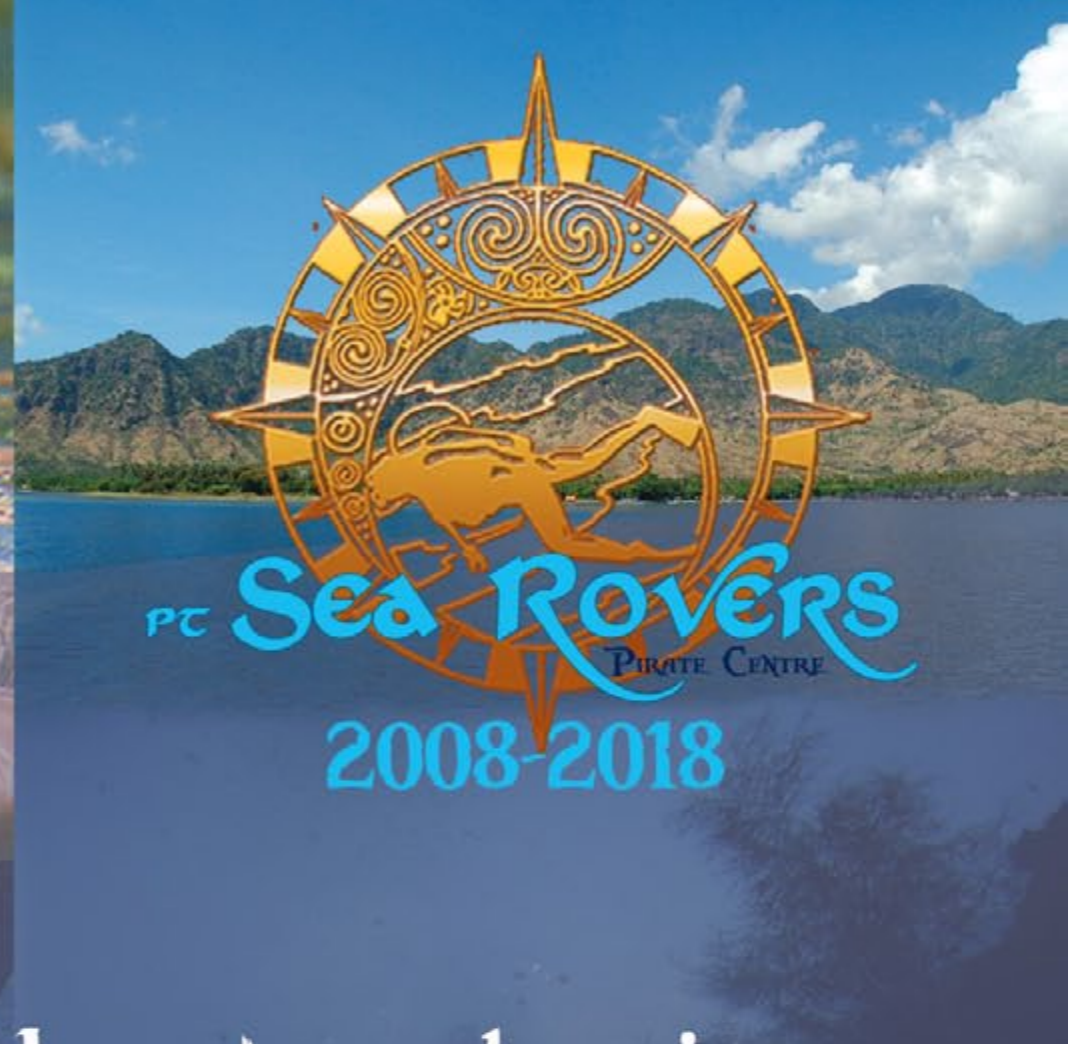
Sabar lounge, with its traditional wood oven for our famous pizza nights, directly overlooks the beach.

All of this combined make Thalassa Dive Resorts Indonesia a special experience...

For more information contact Thalassa Dive Resorts at [info@thalassamanado.com](mailto:info@thalassamanado.com) or visit [www.thalassamanado.com](http://www.thalassamanado.com) for more information.

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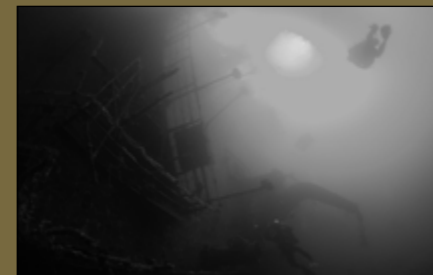


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# The Salem Express to dive or not

This wreck is rapidly becoming one of the best known and most controversial wreck dives in the Red Sea. There is much debate in Egypt and beyond as to whether visitors should be allowed to dive on the wreck and, with so many rumours and fallacies surrounding its demise, it is difficult for divers to make an informed decision about whether the dive is right for them.





By Chris Gooda

On Monday, November 30, 1964 the Fred Scamaroni, named after a Corsican resistance leader in the Second World War, was launched in La Seyne (near Toulon), France. After her first sea trials, fire ravaged the engine room at the end of June 1965 and it was only after 11 months of rebuilding that she was finally able to make her maiden voyage from Marseille on Tuesday, May 17, 1966.

She was a very advanced vessel for her time. One of the earliest 'roll-on/roll-off' ferries, she boasted liftable car decks, adjustable pitch propellers (allowing improved acceleration and better efficiency at speed) and a cutting-edge ballast system allowing the vessel to adjust to the heights of different docks.

Troubled with further engine fires and small collisions, she spent 11 years plying her trade in the Mediterranean for a variety of French shipping companies until, in 1980, she was sold to Ole

Lauritzen for \$4m, and renamed the Nuits Saint Georges. He planned to use this vessel to start a new shipping line and its first route was to be between Ramsgate and Dunkerque.

This venture was only to last for five months as, because of the exposed nature of Ramsgate, inadequate dredging of its harbour and blockades of Dunkerque by protesting French fisherman, the company was liquidated in September 1980. The ship was then immediately sent to Vlissingen in Holland to be decommissioned.

A year later in November 1981, the ship was sold to the Lord Maritime Enterprise in Egypt for 3,6m guilders, and after being renamed the Lord Sinai, she began working in the Red Sea in what was to become the final chapter in her story.

From 1982 she provided a service between Suez and Aqaba (being renamed the El Tahrir in 1984).



By Chris Gooda

In 1988 she was sold for the final time, to the Samatour Shipping Company, and was given her now infamous name – the Salem Express. For the following years she provided a popular service between Suez, Safaga (in Egypt) and Jedda (in Saudi Arabia) until tragedy struck on the night of December 15-16, 1991.

She departed Jedda with 578 passengers (mainly Egyptian workers returning to their families from Saudi Arabia) and 72 crew, on her 800km journey to Safaga. Captain Moro, a former teacher at the Egyptian Naval Academy and an experienced seaman, was at the helm.

The majority of the voyage passed without incident despite very strong winds and high waves.

As the ship neared Safaga the captain made the fateful decision to take a short-cut through the Hyndman Reefs,

which would put the boat in calmer waters and shave at least an hour from the journey time compared with the normal offshore route.

Just before midnight the ship struck the southernmost of the Hyndman Reefs, opening the hull on the starboard side. The force of the impact also opened the bow doors and the ferry's fate was sealed. Water rushed into the undivided car deck and the ship immediately began to list heavily to her starboard side.

Panic quickly spread amongst the passengers and soon the engines and generators stopped, near darkness aggravating the situation.

Within 20 minutes the Salem Express had sunk, the speed of the incident and the immediate heavy listing meant that none of the lifeboats could be properly launched and other, smaller vessels in

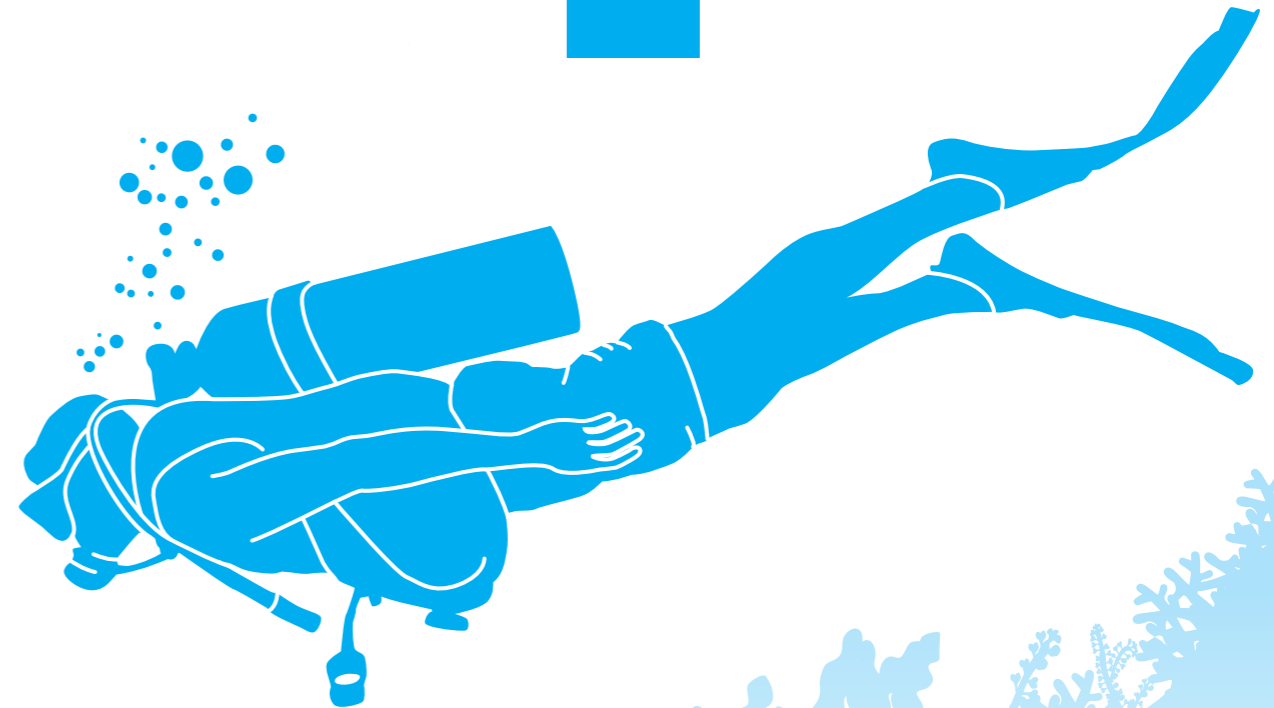


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the area could only watch in horror as the situation unfolded, unable to assist due to the horrendous weather.

A total of 470 people lost their lives that night. The majority of the 180 survivors battled the storm force wind and waves to swim the 6km to shore. Many of the victims went down with the ship and, despite a valiant recovery operation, the wreck was eventually sealed with many bodies still inside.

Today the wreck lies on her starboard side in 30m of water, her shallow port side just over 12m from the surface.

The wreck has become a haven of marine life. Frogfish are often spotted on the two masts protruding from the upper decks, beautiful red tube sponges adorn the wreck and the profusion of acropora and pocillopora finger corals shelter a dazzling array of brightly coloured coral guard crabs.

The almost horizontal port side of the ship is densely populated with many different species of pipefish and several different species of parrotfish graze on the algae covered surfaces.

When divers first explored the wreck, many pieces of luggage and personal belongings were scattered across the sea floor. Whilst over time weather and irresponsible divers have dispersed the majority of this debris, there are still tell-tale reminders of the ships tragic demise.

Currently there are no restrictions on diving the wreck and it is ultimately a matter of personal choice to decide whether you will jump in the water here. This article should provide the information you need to make that decision (which should not be taken lightly). For those who choose not to visit the ferry there is a small grotto (reef) to the east of the wreck which offers a pleasant dive and a chance to see a collection of nudibranchs and

juvenile wrasse. If you do choose to dive the wreck, please stay outside – the wreck is a grave and victims do remain trapped within.

Unfortunately some disrespectful and ill-informed divers do still penetrate the ship to steal trophies and take irreverent pictures which they later publish on the internet.

### Salem Express myths

\*The Salem Express was filled with pilgrims returning from the Hadj – The Hadj pilgrimage had taken place in June 1991 and, whilst there will have been some pilgrims travelling outside of this time, most passengers will have been Egyptian workers returning to their families.

\* An extra deck had been added to the ferry, making it top heavy and allowing it to roll over – This is simply not true, photographs of the boat from when it was first built show an identical design to the wreck that remains today. The myth probably arose from confusion with another ship-wreck.

\* The ferry was massively overloaded – According to the Saudi Arabian authorities the ferry was officially carrying 578 passengers and there is no reason to doubt this figure. When new the boat was licensed to carry 1 120 passengers at night, so regardless of changes to the boat's licensed capacity the boat was undeniably not overloaded.

### Statistics (as published in 1966):

Length: 115m  
 Width: 17,83m  
 Draft: 4,92m  
 Power 14,880hp  
 Top speed: 20 knots  
 Vehicle capacity 140/230  
 Cargo capacity: 192 LIM (Lanes in metres)  
 Passenger capacity: 1 256 (day)/1 120 (night)  
 Crew: 11 officers and 63 seamen



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# Photographic Competition



Lynn Labuschagne



Marthinus Coetzee



Sandy White



Willem Kuperus



Shane Willard



Nick Turner



Sean Morris



Marlene Neethling



## Winning Photograph


Nicolene Ockers

## How to enter your photograph

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### Submit your photo!

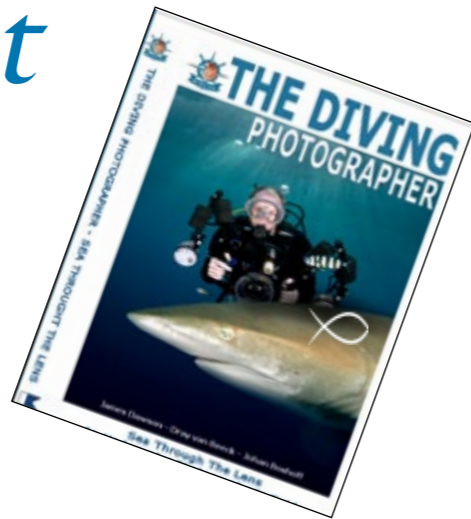
- Photographs may be taken above or below the water, as long as diving remains the theme.
- The Name of the photograph must be the photographer's name.
- Photographs must not be bigger than 5 MB per photo.
- Submit your snaps in high-resolution (at least 150 dpi) in jpeg format.

E-Mail your photos to [info@ozdiver.com.au](mailto:info@ozdiver.com.au)  
"photographic competition" 



# Expose it right Underwater

## Available Light.

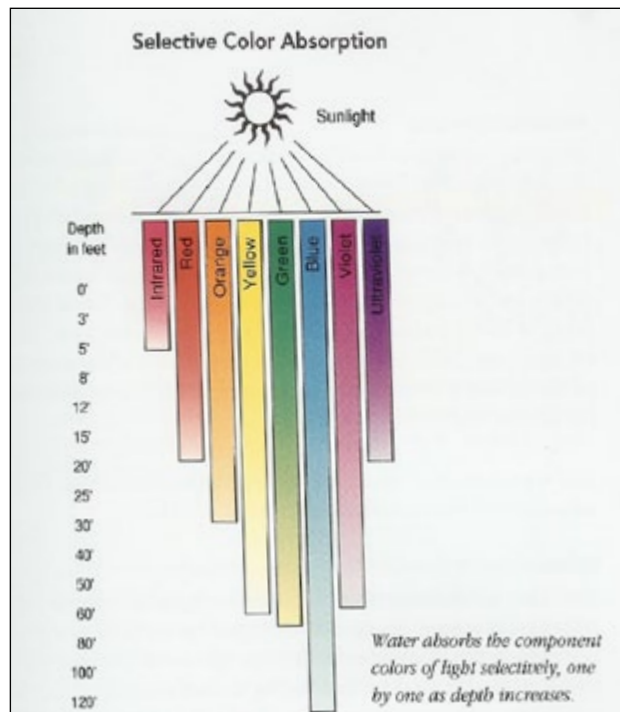


Underwater photography is rapidly becoming more popular and is no longer an elite diving speciality. Most scuba divers taking up the challenge of underwater photography are your true recreational divers who just want to have fun and be able to relive those special diving moments.

The problem is that they often come back after a dive and are disappointed with the results. They then seek the assistance of a much more experienced or professional

underwater photographer – only to walk away even more confused than before. In this new series, I am going to take you through the basics of underwater photography. It is not difficult and anybody is capable of taking good photographs – the first thing you need to decide is how serious you are about underwater photography. In other words, how much do you want to spend on underwater photography equipment? Unfortunately one must realise that the quality and capabilities of your equipment will affect your photographs, but at the same time, you can still take amazing photographs with entry-level equipment. The secret is to know your equipment and what its limitations are and, most importantly, to never give up. Underwater photography requires effort and lots of practice.

So let's start with the exposure. One of the most common problems I encounter is that very few people take the time to read the camera's manual. The advantage of reading your camera's manual is that you will have a good idea where all the settings are found in the camera's menus. This is important when you want to start manually changing the settings on your camera. You can know all the theory behind underwater photography but if you don't know how your camera works you are at a serious disadvantage! So why such a big issue about knowing how your camera works? It is all about



exposure! This is the one fundamental basic in any form of photography and you are going to need to understand your camera to get it right. Without good exposure, the photograph is going to be ruined. So let's look at what exposure is and how can we turn those disappointing photographs into winners.

### What is exposure?

Exposure is basically taking control of the available light and 'painting' it onto a light sensitive device. The way light is controlled is managed by four factors.

- Available light
- Lens aperture
- Shutter speed
- 'Film' sensitivity

To work with any of these factors we need to first have some sort of reference to work from. This information is obtained from the camera's internal light meter that measures the light reflected off the subject and through the lens. I want to talk a little about the one factor that we have little influence over – available light. Yes, I know we can use artificial light, but we first need to understand a little bit about the characteristics of light underwater. What happens to the natural light? You must understand that water is 800 times denser than air, therefore light travels slower through water than through air. Light also scatters, losing colour and intensity.

There are three factors that effect light underwater:

- Reflection – This is when light is reflected off the surface. This is caused by the angle of the sun onto the water and the sea conditions. Ideal conditions would be midday in calm waters.
- Refraction – This is the bending of light as it passes from air to water. This is why subjects appear to be a third bigger.
- Absorption – Light is made up of a spectrum of colour and when it enters the water the different colours are absorbed as we go deeper.

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

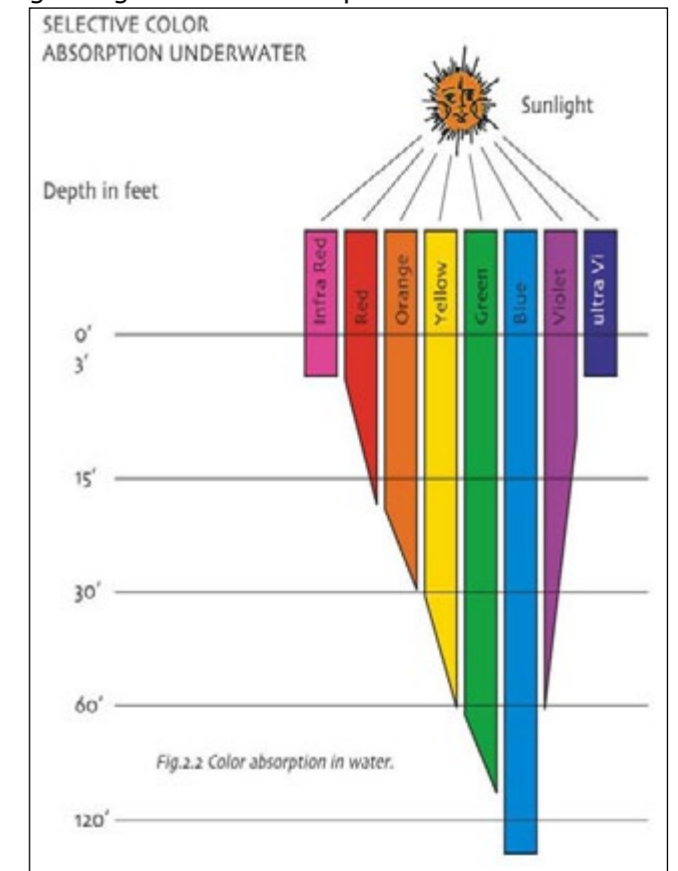
Light absorption is you biggest enemy underwater and with artificial light we can regain the colours lost due to absorption. Now using strobes has its own challenges – a strobe is an electronic device that emits light that is almost the same as perfect daylight. It 'paints' your photograph with the colour that was lost as a result of absorption. The best way to get rich colours is to get as close as you can to your subject and use artificial light.

The one main problem with strobes is 'backscatter'. Backscatter is all the small white dots you often see on your photograph. This is caused by small particles that are suspended in the water that act like small mirrors reflecting light back to the camera. This really does not do your photograph any good.

There are two basic things you can do to prevent backscatter:

- Improve your diving technique.
- Adjust the position of your strobes.

In the next issue I will be talking about lens aperture and how this plays a role in getting the correct exposure. ◀



# Photo Editing

When looking at your photographs you may notice some small areas which are overexposed or underexposed. When using tools such as Brightness/Contrast, levels or curves you will find that the whole image is adjusted at once, not just the area which you want to fine-tune. You will find that if you adjust the photograph for a small overexposed area then the rest of the image will be underexposed and vice versa. An easy way to fix small areas in photographs is by using the Dodge (Lighten) and Burn (Darken) function.

## The Dodge and Burn Function

The Dodge or Burn tool uses the paintbrush to lighten or darken your image by simply just painting over the image slowly.

There are several adjustments you can use to fine-tune your brush and painting technique to give your image the best result when adjusting the contrast and brightness throughout the photograph.

First you must create a duplicate layer of your image to work on. By doing this you can at any time turn the layer on and off to view the differences between your adjustments and the original image by clicking on the 'eye' icon. Go to the Layers Panel, right click on the layer and select 'Duplicate Layer' then rename the Layer 'Dodge & Burn' to keep things simple and organised.

Selecting the Tool:

- From the Top Menu in Gimp click on Tools, Paint Tools, Dodge / Burn.
- Press 'Shift + d' on the keyboard.
- Click on the Icon on the tools palette.

## Opacity

This controls the strength of the brush you are using – the lower the opacity the more 'invisible' your brush strokes.

## Brush

Select a soft brush with faded edges. This will avoid distinct streaks and lines when adjusting your image. This will allow you to change the image by slowly blending the changes on the photograph so the results of your touch-up are not visible. When using a mouse you do not need to use the Brush Dynamics settings and there is no need to select 'Fade Out' 'Apply Jitter' or 'Hard Edge' Range

## There are three modes:

Shadows restricts the effect to the darkest pixels (shadows on the image).  
Midtones restricts the effect to pixels of average tone (average shade of the photograph).  
Highlights restricts the effect to lightest pixels (the bright whites/overexposed pixels).  
Exposure

Exposure defines how much the tool effect will be strong, as a more or less exposed photograph.

Default slider is 50 but can vary this from 0 to 100. It is very important to adjust the exposure to a low level (eg. 10-15%). This will allow you to gradually change the contrast and brightness of the photograph when painting over the image. The lower the opacity the more subtle your change on each brush stroke will be. This will allow you to slowly and safely modify your image step-by-step.

## Resizing the paintbrush

A very useful shortcut to use when using Gimp is the brackets which will resize the brush [ = smaller ] = larger.

Zooming in when working on your image  
When working on your image, press the Ctrl button and zoom in using the scroll on the mouse. This will allow you to quickly zoom in and out of your image when editing.  
Method

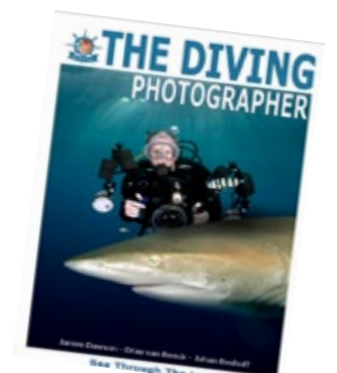
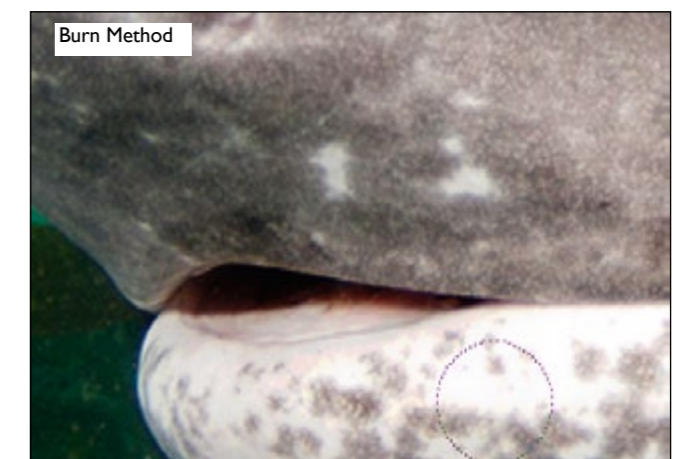
All you need to do then when you have the brush selected is to paint slowly over the desired areas in the picture and you will slowly see them



darken (Burn)/lighten (Dodge) and change. Keep going until you are happy with the result. Remember that if you think that you have painted an area too dark then just either undo your last step or last few steps or alternatively touch up by holding down the ctrl button and it will switch to Dodge mode and you can brush over the same area to lighten it again.

Always check your progress with the original image by clicking on the 'eye' icon next to the layer (in the layers panel) you created to turn it off and on.

You can then check your results as you go along and will have a better idea of how much you want to adjust your image to get the best result. ◀





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# Antarctica



Diving the most southern part of the world:

By Andre Croné

It seems like we have just left the scene of a Hollywood movie. The images of amazing icebergs, the penguins, seals and leopard seals are still printed in our minds. It has been an amazing week.

For many people the Antarctic continent might be the last continent they would think of when planning a dive trip – its cold and sometimes harsh conditions don't sound too appealing to the average holiday diver. But we really enjoyed this trip.

The beauty of the almost unexplored dive sites in Antarctica is fascinating. This trip has left us with a deep respect for our fragile nature.

In the past, man could only dream about the existence of a southern continent and for years scientists excitedly discussed the possibility of its existence.

They believed that the world should have such a continent since the Earth consisted of so much land volume in the northern hemisphere that it then should have a counterweight in the

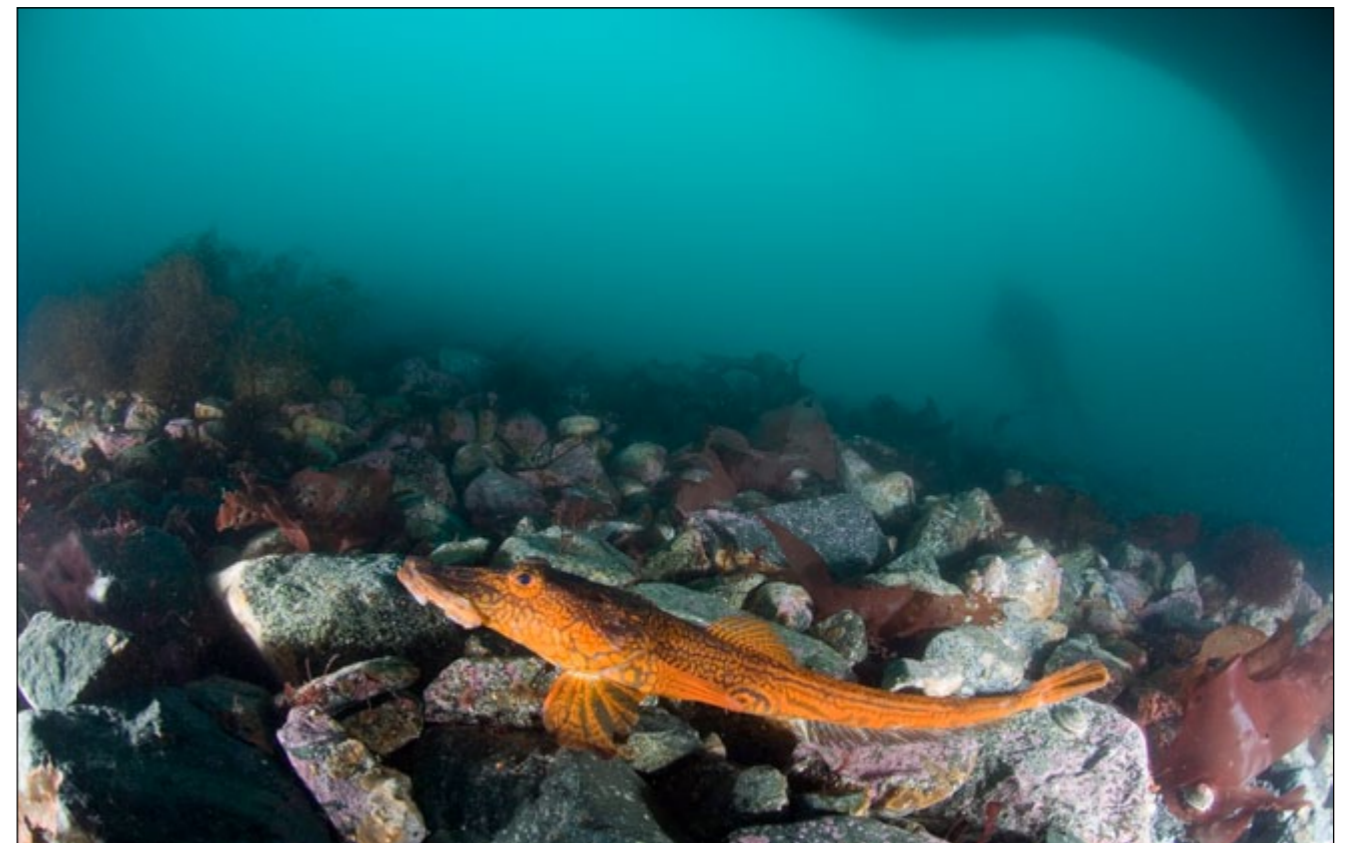
south to equalise the planet.

Expeditions were formed to find this mysterious continent. The Portuguese made the first progresses – during one of their trips they could prove that one could sail around the African continent. Later on Tierra del Fuego in southern America was discovered.

All of these were important discoveries, but it made the lost continent even more mysterious. It was thought that the continent would connect Africa, South America and Australia. With every expedition taken they proved it did not!

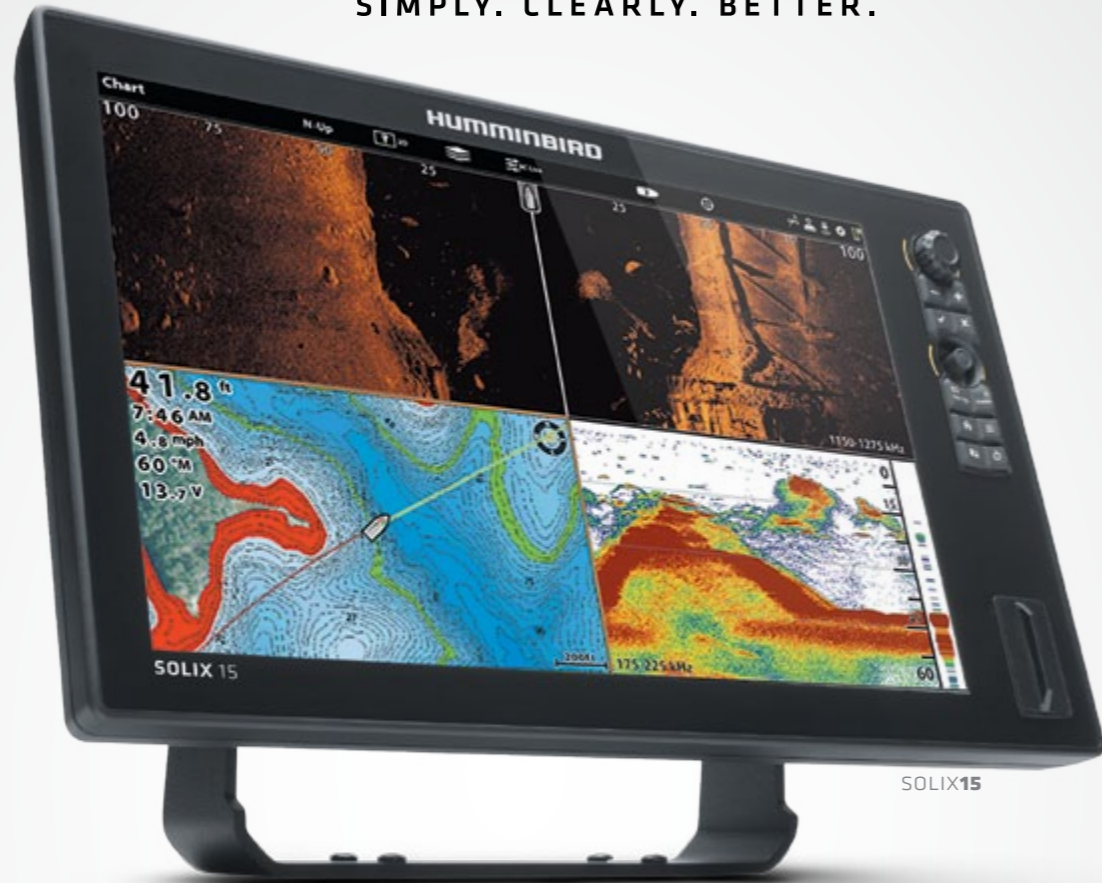
Still, scientists believed there must be an Antarctic continent. But due to horror stories of blizzards, thick ice and fog it would take ages for adventurers to continue the search.

At the end of the 19th century this southern continent started to gain interest again. In 1841 it was the adventurer Ross who passed the Antarctic Circle. But he was not to lucky as he got stuck in a thick pack of ice. This part of Antarctica is now known as the Ross Sea. He did not





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By Andre Crone reach the actual South Pole, but he was the first to go that far.

Later on other adventures such as Robert Falcon Clark Scott, Ernest H. Shackleton and Roald E.G. Admundsen tried to beat each other in their search for the actual South Pole. Who would be the first to write history? Eventually it was Admundsen who succeeded, being the first man to reach the geographical South Pole.

### How to get there

Even in modern time traveling to Antarctica from Europe will take you a long time. It first takes you to Buenos Aires, Argentina and taking a short break in this city is worthwhile. We visited the Boca-area of the city, with the stadium of Maradona. We were really impressed by the beautiful coloured colonial buildings in the city which represent the rich cultural existence in this city. Walking through the city, on every corner of the street, we were welcomed with salsa and tango music.

The appealing music left us with no

choice; we just had to go into one of these bars and enjoy ourselves. With this joyful music combined with a good meal we prepared ourselves for the rest of our trip.

From Buenos Aires we boarded one of the daily scheduled flights to Ushuaia, the southernmost city on the globe. From Ushuaia you are still two days sailing away from the Antarctic continent.

After a short break in the city we boarded our ship and took our two-day boat voyage before we could spot the first inlands of Antarctica.

The boat trip takes you through a famous part of the South Seas - the Drake Passage. The passage is known to be treacherous because of its rough seas and strong winds.

Centuries ago, seafarers were unable to travel the passage and even now it is still a difficult part of the trip. When we started the boat trip all passengers were enjoying the views outside or were just reading in the lounge; when entering the Drake Passage more and



# Giant Stride

Antarctica

By Andre Croné

more passengers returned to their cabins, sea-sick. Fortunately they all recovered when we left the Drake Passage again.

We traveled aboard a Russian vessel, the Professor Mischeev. Originally used as a research vessel, the Mischeev is chartered by Ocean Wide Expeditions and is ideal for traveling in the Antarctic Circle.

The vessel was built from the strongest available materials and has a reinforced hull to endure the ice. The ship is navigated by a friendly Russian crew and the expeditions are led by an international team.

On board we met people from all over the world. There was a small group of divers on board planning to explore the underwater world of the Antarctic, however, most of our fellow adventurers were simply nature-lovers hoping to see the rare and distinct wildlife, and the stunning icebergs found in the Antarctic.

The distinct species of flora and fauna found in the Antarctic is very delicate thus requiring vigilant protection.

Tourism in the Antarctic is strictly regulated and tour operators have formed the International Association of Antarctica Tour Operators (IAATO), creating strong regulatory policies to control tourism in the area.

An example of these regulations is the obligation for each ship traveling in the Antarctic to submit their route manifest. Speaking to one of our dive guides, Rupert Krapp, we were told that, although IAATO creates a lot of administrative day-to-day paperwork, they believe that good documentation of all tourism activities is clearly necessary.

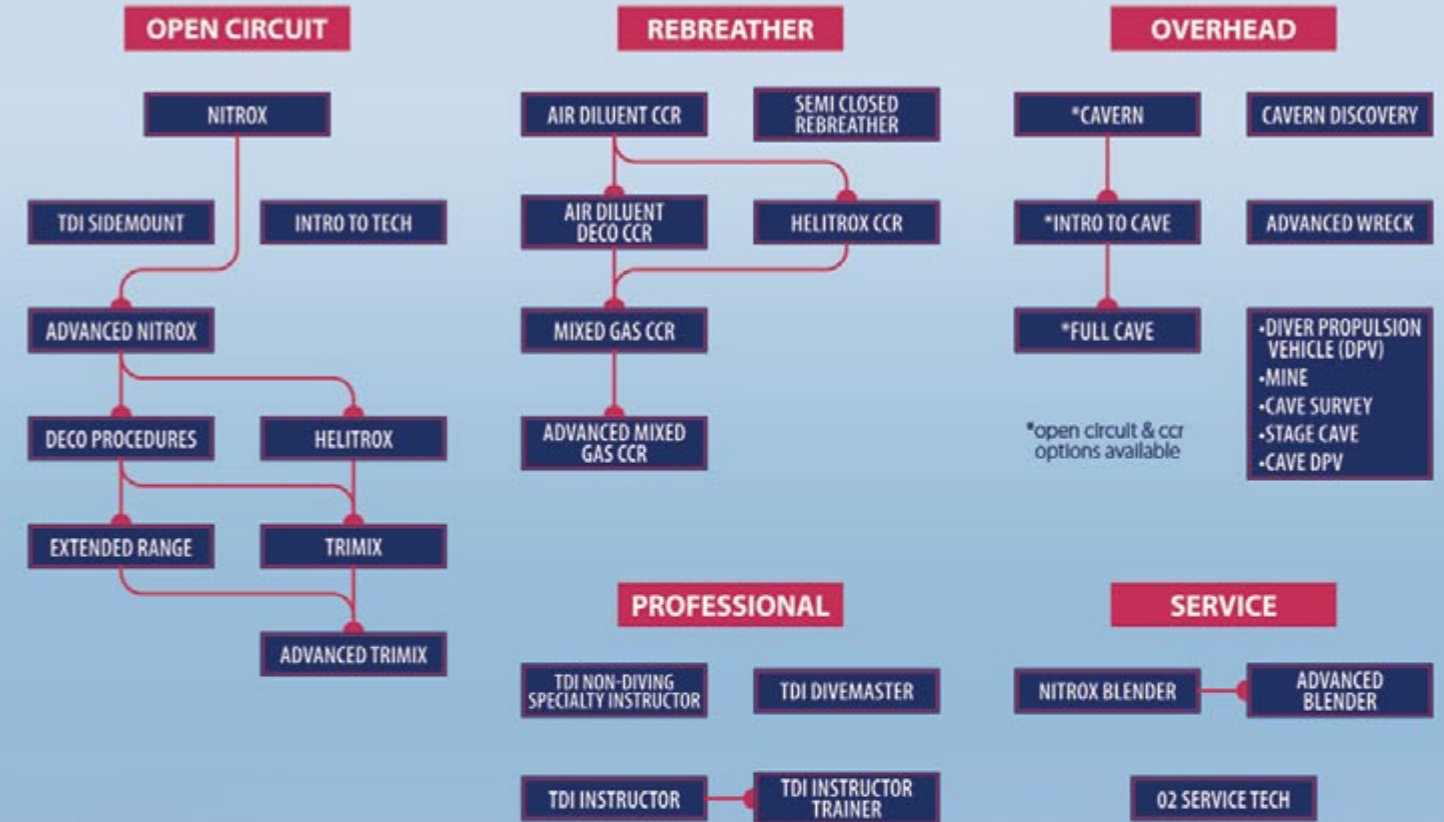
Also, the IAATO members keep in close contact during season planning and also throughout the season to coordinate and cooperate as much as possible.

This creates a sense of shared responsibility and community which benefits all members.

According to Rupert, the major motivation has always been to create a framework for proper conduct, documentation and statistical data



## Tech Divers Trained Here



## Giant Stride

Antarctica

By Andre Crone

accumulation, which enables IAATO to prove to government agencies as well as to members' customers that conservation and tourism can work together, and that tourism activities do not exploit or damage the unique nature of Antarctica to any significant extent.

Rupert said, "If one imagined that there were no mutual agreements (IAATO is a voluntary organisation and all regulations have been developed by the members for themselves), there would be no way of knowing who visits which places when and how often, with how many passengers, and for how long... which would create a logistical nightmare for the expedition leaders and ship's masters."

There are several coveted and highly popular landing sites which quite possibly would be totally overrun with ships and landing passengers."

### Diving

Diving was our main reason for visiting Antarctica so when we arrived we were eager to get started. Diving in the

Antarctic is quite an undertaking, yet divers are briefed during all stages of the trip.

Every trip to Antarctica is an adventure – the nautical route as well as the dive sites cannot be pre-determined as local weather conditions can and will always influence the trip.

From Zodiacs, divers go twice a day into the deep ice cold water of Antarctica. Subsequently, divers have the possibility of making a maximum of ten dives during the trip, if weather allows. Before each dive, divers get a mandatory briefing about the dive site. You will also be briefed about the do's and don'ts while diving in Antarctica.

The main do's when diving the Antarctic sea involve equipment. You must have two coldwater suitable regulators. For the rest of your equipment you must only bring equipment that you're used to. For example, trying a full face mask for the first time in the Antarctic is not on.

During the first briefing all regulators



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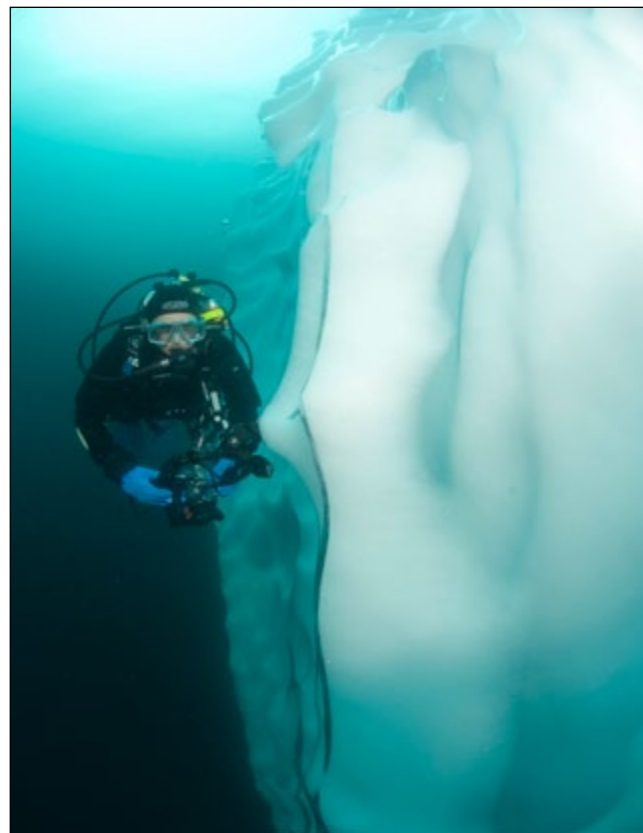
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were checked by the dive guides. Frozen regulators can cause massive problems, so always have a backup ready. To prevent accidents from frozen regulators in the first stage, one hose has to be connected to your BCD, and the other to your dry suit. Because of the temperature of the water, dry suits with suitable underwear are mandatory; one of the main do's for diving here.

In all briefings the dive guides explained the 'don't' for diving here. Rule number 1: never reach out to touch any wildlife and never harass penguins or seals. All visitors must respect the space of the Antarctic's inhabitants.

Another don't concerns ice-diving: never dive under ice without proper training and back-up (surface rope, dive tender and stand-by diver). We were only allowed to dive at the side of an iceberg. To prevent you from experiencing a quick end to your dive, do not pre-breathe your regulator above surface – it will increase the chances of a freeze-up. For photographers, it is wise to ask what the dive site will be like, whether is it



a wide angle or critters site. Diving schedules are very busy and early preparation of your camera may be necessary.

Our first dive of the trip was on Deception Island. Deception Island takes an important place in history as one of the main explorers of the area, Ernest H. Shackleton, was stranded here during his attempt to reach the South Pole.

Deception Island is a so-called caldera, a collapsed volcanic crater which is filled with water and is accessible to ships through one opening. It served as a natural harbour for many explorers, sealers and whalers. Deception Island was home to several land stations and depots for whaling as well as scientific activities.

As a dive site it is not the highlight of our trip. But this place is very good for our first check-out dive. Because diving here is especially extreme, the dive leader will choose an easy spot to enter the water to check whether the equipment is working well. After the check, the guides lead us under.

After traveling for five days we were very eager to go into the water, but it was hard to imagine how it would be to dive here. Would it be too cold? So we entered the water and the coldness pinched our skin, though with the protection of our dry-suit our body coped really well with the cold. Our faces, on the other hand, had a hard time. It really took us some time to adjust to the cold, but after a while we didn't feel the cold anymore and we could start enjoying ourselves.

Although this was not going to be the best dive here we got our first glimpse of what diving in the Antarctic Sea was like. Beautiful starfish and anemones welcomed us in their world. The bonus of this first dive was some seals passing by. Unfortunately the visibility was not too good, but we were really thrilled by the blue water, the coloured starfish and the seals. Imagine this when visibility was better. We couldn't wait to go on the next dive!

While diving in the Antarctic you will observe the diversity of the sea. On our next few dives we visited the wreck of an old whaling vessel. This



3 433 ton Norwegian whaling factory ship, 'the Guvernøren' caught fire in 1915. The crew managed to let it run aground at Foyen Harbor where we visited it. Actually, Foyen Harbor was named after another whaling vessel, the 'Svend Foyen' which was moored there in 1921-22, and this ship was named after the Norwegian inventor of the grenade harpoon... but that is another story.

Under water at the Guvernøren we could clearly see the ship which was standing on its keel. The stern of the ship was in relatively shallow water. A bit further on, in deeper water, we reached the bow of the ship. Impressively, the ship was still pretty much intact. Furthermore, the bow of the ship was covered with very beautiful sponges.

Diving the Antarctic means being creative for the dive guides. In the Ocean Wide's dive logbook is a list of about 30-35 known dive sites, but weather and ice can force the crew to go to unknown places and enter the water there. Yet that's one of the nicest things about diving the Antarctic; every dive is a surprise.

Ice diving was a very exciting part of the trip. Our dive guide Rupert continuously searched for suitable icebergs for the divers to explore. Diving around the ice can be dangerous, so to minimise the risk, the dive leaders searched for icebergs that were stable and steady on the ground. Diving around unstable icebergs may increase the chance that it will roll over while diving around it.

All the divers on board were in awe of the beautiful intensity of the ice when diving. Every iceberg has a different structure and colour. With the sun shining, I really was surprised by the beautiful colours reflecting on the ice – there were moments when the ice didn't look like ice at all – it was almost like diving next to emerald jewelry. During one of our dives, we observed one that almost had the form of a face. We laughed about this back on board; we had found an ice-face!

For divers who love to search for critters, there is plenty to see. Starfish and anemones can be found in varying colours while shrimps, nudibranchs,

isopods and small fishes are only a brief example of what you can see here. For wide angle photographers the Antarctic is an absolute treat. The icebergs are superb photographic subjects, as are the ice-fish we encountered with their beautiful, bright orange colour.

### Leopard seals

Diving with seals is an incredible experience. Several sorts of seals can be found in the Antarctic. While on search for the infamous leopard seals, we had the pleasure of finding some elephant seals and waddle seals during our trips around the ice. The highly sought-after leopard seals are considered to be the most ferocious seals in the Antarctic. Adult male leopard seals can reach a length of about 3m and can weigh up to 300kg, while the females are a bit larger. They can be found around the packed ice in summer, yet in winter they tend to stay in the northerly areas of the Antarctic.

Upon looking at the animal you start fearing them; leopard seals have a muscular, almost reptilian head. They have a strong neck and a big mouth with large, sharp teeth. Their throats are almost white with black spots, which, in fact, have given the seal its name. The body of the leopard seal is dark grey above and light grey below. The bodies of the leopard seals are very well adapted to life in the sea; their body is extremely well streamlined and with their strong flippers they can reach a speed up to 35km per hour, a bit faster than the fastest penguin.

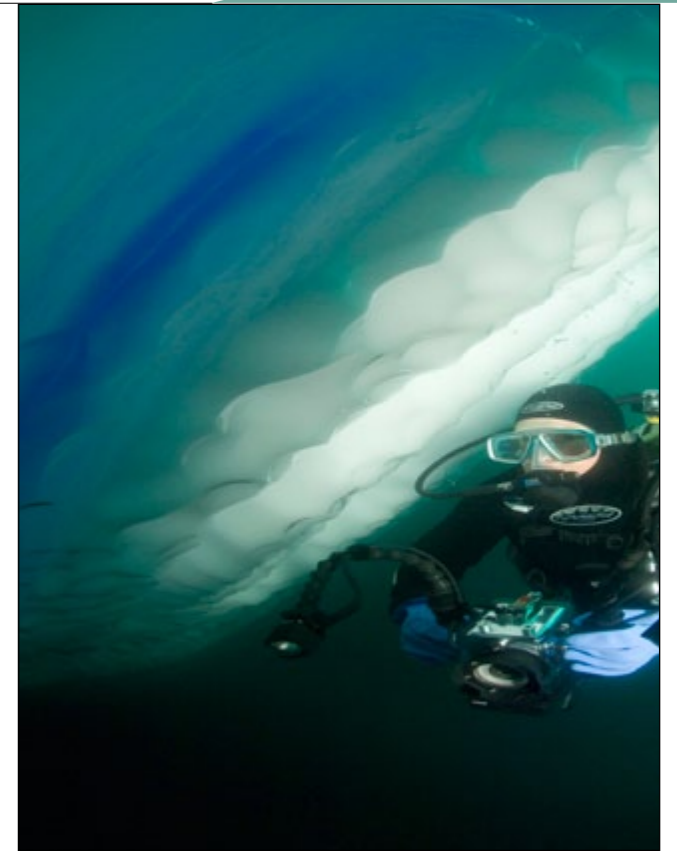
Their teeth are impressive; large and obviously very suitable for cutting and tearing the flesh of its prey, which is mainly penguins. You can find leopard seals waiting on a piece of ice or on a rock for their prey to enter the water. These seals are swift, killing in an instant. When no penguins are available, leopard seals are found hunting fish, squid, krill and sometimes other seals. There are many horror stories about leopard seals attacking humans and a few cases have been documented, yet most of the stories should be, just that, classified as 'horror.'

Little is known about the breeding

behaviour of leopard seals. For scientists and biologists it is difficult to follow them to their breeding grounds because of the shifting ice. The leopard seals live a solitary life – they are seen in pairs or small groups only when breeding. Although information about their lifespan is imprecise they are known to reach an age of 26 years. In the Antarctic seas the killer whale is the only known predator of the leopard seal.

Crew members and fellow divers said I was crazy when I told them my goal was to shoot pictures of a leopard seal attacking a penguin. All divers have heard at least one horror story of a seal attack – they thought it impossible to get so close. During a dive, we found one around an iceberg, however, visibility was dreadful and the animal was swimming too deep to photograph. During one of the last dives we discovered a seal that was feeding.

It was catching every penguin it could. I entered the water and swam to the animal. It was big; much bigger than I expected, almost 3m. I had to exorcise my fear and get close to the animal.



After a while it became curious and I was able to take many photographs.

After 20 minutes the seal caught a penguin, but I was too late. Yet, somehow, I knew this was my day. Shortly afterwards, the animal became agitated and more aggressive. It tried to push me away. This resulted in my vertical shot with the seal's mouth wide open – I was lucky. The seal then caught a penguin and started playing with it. That gave me the chance to take the pictures for which I traveled to Antarctica. Unfortunately, after being in the cold Antarctic water for 80 minutes, I then had to ascend to the surface.

### A rewarding trip

From speaking with the non-divers on board, they also found their trip to the Antarctic to be just as rewarding. When we went diving, they took land-based tours to see the birds, penguins and seals. They cruised around the beautiful icebergs, and for sure, these icebergs are not only beautiful underwater.

In the Antarctic region there are several different seals. The three common and well-known seals are the leopard seal (220-440 000), crabeater




seal (15-40 million) and the elephant seal (ca. 500 000). The weddell (ca. 800 000) and Ross seal (unknown) are much less frequently seen, since they are deeper into the pack. The Ross seal is still a bit of a mystery to scientists, as it is seen so seldom, hence we do not have any good numbers and facts about it. The fur seal is very common and easy to recognise, but is, together with the southern elephant seal, more of a Sub-Antarctic species.

The different birds were also an attraction to our non-diving passengers. There are many birds that visit Antarctica and its surrounding waters, especially from the albatross family and related families of sea birds. These typically show a beak with prolonged nasal cavities, hence their common name 'tubenoses' (Procellariiformes).

There are also gulls, but they are far less common since they are in fact more coastal than the tubenoses. The most common gull, the kelp gull, looks similar to our European Greater black-backed gull. But the main attraction and most prominent birds are by far the penguins, although only two species can claim to be true Antarcticans, i.e. living and breeding on the continent, while the majority are limited to the Sub-Antarctic islands (actually, penguins occur up to the equator).

The true Antarctic breeders are of course the emperor penguin and the adelic penguin, while the king penguin (resembling the emperor, but smaller) is Sub-Antarctic, i.e. found on South Georgia and other islands.

We can truly say that visiting the Antarctic is a very special experience, whether you are a diver or not! Around the world there is a lot of discussion about tourism on the Antarctic. Some people believe that tourism will damage the environment while others think it valuable for people to experience the beauty of this continent.

We must say that we agree wholeheartedly with the last assertion. The beauty of the area will wholly impress you. It gives you a better understanding of the fragileness of nature and the need to protect it. With the IAATO regulating travel and educating visitors, it is possible to preserve this delicate environment. 



DEEP  
DOWN  
YOU  
WANT  
THE  
BEST



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BOOK		MORE		DIM			
TEMP	23°C	ME	L2	STOP WATCH	0:21.16	TIME	12:24
DEPTH METER	29.3	DIVE TIME	21:	HEART	87	MAX DE	38.2
DECO STOP	3m	FOR	4:	TAT	7:	AVERAGE	15.3
TANK BAR	78	O2	21%	SET	5:		

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DEEP DOWN YOU WANT THE BEST

# Rebreather technical training

**It is widely accepted that rebreather diving has many benefits, and conversely disadvantages, one of which is the training required to understand and implement the quite complex failure analysis during any dive.**

There is of course the very simple response to any rebreather problem and that is to bail out to open circuit and abort the dive. This response would be the same as open circuit training – if you have a problem, find an alternative air source.

One could argue that a recreational rebreather diver carrying their own open circuit gas supply is possibly safer than an open circuit diver needing to find their buddy for gas (alternative air).

The more complex failure analysis skill development becomes a big issue when diving beyond recreational limits

or when direct, 'no stop' access to the surface on open circuit bail out is no longer possible. The correct decision-making process for any possible rebreather problem becomes an exponential risk.

The real issue that must be addressed by training agencies and accepted by divers is that the minimum required time underwater diving a rebreather must be increased beyond the equivalent open circuit requirements for any depths beyond the recreational limits, and the safety rules are to be followed at all times when using a rebreather.

Rebreather divers must not be looking for the shortest route and minimum standards when looking for rebreather certification. Any course with a minimal number of hours required or experience to dive deeper than the recreational limits should be avoided and rejected as unsafe.

Open circuit experience, no matter how advanced it is, will only help you with any open circuit bail out – other than that not much more, and in fact, it can even be a disadvantage, leading you to a false sense of security. Technical rebreather diving requires far more time underwater and development of failure analysis skills and therefore should require more logged hours than any open circuit equivalent.

Many trimix open circuit divers who have crossed over to rebreather, and within a short time are diving to the depths they had on open circuit, are dead today.

It is an unfortunate fact, but had they spent the time diving a rebreather and put in the same number open circuit hours or more, building up on rebreather skills, they may still be alive today. The majority of fatalities are diver error, and had there been more hours underwater between courses and depth limitations, perhaps we may not have had so many fatalities.

Training agencies perhaps need to assess the number of hours relative to depth certification and ensure that they are more than the open circuit equivalent for the respective depths.

They need to implement a higher quality control to ensure that training standards are maintained and monitored.

In the past, cave diving had a large fatality rate compared to the number of qualified cave divers, and on


investigation, many of the fatalities were unqualified cave divers and/or those with little experience (time underwater in caves).

This resulted in training standard amendments which had a favourable impact on reducing the fatalities. It is time divers make a conscious decision, not based on ego, to search out and find an agency with whom the standards require a greater number of hours underwater between certification levels, materials that are in depth and detailed, allowing one to make informed decisions and not simply be fooled into believing that they have mastered a rebreather after 25 hours or so and can take the next step/course to 50m or 60m.

Nothing less than 50 hours recreational rebreather diving within the last 18 months would be more acceptable.

This may or may not be the answer to reducing the fatalities, but until such time as divers accept that rebreather technical diving is more complex and should therefore take more time to learn and develop skills to dive deeper and shun the quick and easy route offered, then we will never know. Having said this, extended time also breeds complacency, especially when nothing untoward happens to the rebreather and the diver becomes careless.

This contempt for the rebreather, because unwittingly that is what it becomes, will be the nail in the coffin and must be avoided at all costs. There is no definitive answer – increasing the certification requirements relevant to the depth limits and attempting to change the attitude of divers may help.

Risk is all relative and we should stay in context – the benefits of rebreather diving are certainly worth any extra effort. 

By Barry Coleman



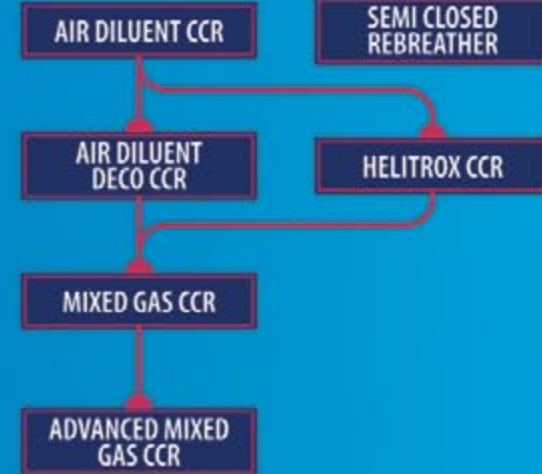
# TECH DIVERS TRAINED HERE.



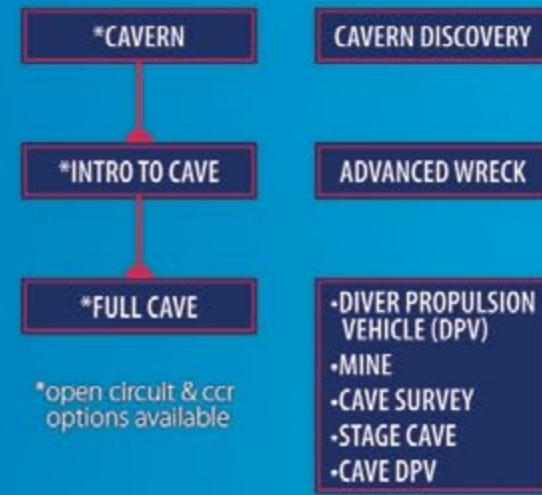
### OPEN CIRCUIT



### REBREATHER



### OVERHEAD



\*open circuit & ccr options available

### SERVICE



### PROFESSIONAL



# Which dive tables and dive programmes do you use to plan your dives?

Q & A

## Nuno Gomes



Over the years I have used almost all the dive tables and dive programmes available. I have done thousands of dives and quite a few hundreds in excess of 100m. I have suffered from decompression sickness once

following a dive to 253m.

Looking back, this tells me that all tables and decompression programmes are relatively safe, even the old ones, as long as one plans the dive and dives the plan. I have used the US Navy tables, the BSAC tables and the Swiss Tables (Bulhmann tables).

I have also used numerous decompression programmes available on the market and others not available to the public, although there is not very much difference.

The difference between getting decompression sickness or not is in the way that one uses the tables or the programmes.

Is the dive plan realistic? Is the information realistic? Is the input correct? Are the gases correct for the dive? How much safety do you have? Basically, garbage in garbage out!

CMAS has adopted the Swiss Tables (Bulhmann's ZH-L-16 model). There are two sets of tables; one for sea level and the other for altitude diving (Johannesburg lies at an altitude of 1550m above sea level).

CMAS has also adopted the Z planner decompression programme (Bulhmann's ZH-L-16 model). It is free and available on the internet, a 30 percent safety factor is the minimum recommended.

## Barry Coleman

For dives 80m and below I will consult two software programmes and US Navy



CCR tables and plot all three, after which I overlay these and take the average run times for both CCR and open circuit bail out ascents.

I ensure that the times are within the parameters of the dive, taking into account

environmental factors and allowable limits.

I make a runtime schedule and laminate these to wear on my arm. I also carry two independent CCR/OC dive computers with the pre-programmed OC gas mixtures.

When I dive I check the computer run times and the schedules, and dependent on the dynamics of the dive, follow the runtime which is the most appropriate for myself and the dive buddy or group.

For dives 79m or less I simply use two independent CCR/OC dive computers with a maximum allowable dive time limit based on the limitation of the open circuit bail out gas supply.

## Pieter Smith



For sport diving I use Bulhmann tables that originated from the work done by John Scott Haldane and later further developed, and specifically for altitude diving, known as Swiss Sport Diving Tables. We dive mostly inland sites

and detailed altitude tables like Swiss Diving Tables work well.

For more technical dives, I mostly use V.Planner as it is easy and effective. I have it on my laptop and recently

also loaded it on my iPhone and tablet, which gives me on the spot access to dive planning, best mix, top up, and the like – all functions very useful at dive sites.

Abyss Advanced software for dive planning is well developed and comprehensive.

I would recommend it for more serious and extensive technical diving and expeditions.

## Pieter Venter



Before the days of the VR3 I used software such as Z Planner to plan and print dive profiles.

I still have many laminated dive profiles which are usable and are sometimes used for bailout tables should all the

computers fail. However, those profiles were very rigid and you have to stick to the dive plan no matter what.

I found this very frustrating if the descent took a little longer and you lost bottom time, or if you have plenty of gas and would like to stay at the bottom a little longer, it is not an option. Also, sometimes it is not as deep as planned but you still have to stick to the profile, which is very annoying.

If any of the gases have to be omitted, it can be dangerous. Today I would recommend that a diver should have two of the same mixed gas computers, or a buddy pair should have three between them, which gives a diver a lot of freedom to adjust the dive profile on the fly.

It is not foolproof since a diver can easily miss to confirm a gas mix on the computer, which can be dangerous for obvious reasons.

# EXPERIENCE A DIFFERENT KIND OF OUTBACK\*

\*with a different kind of dingo.

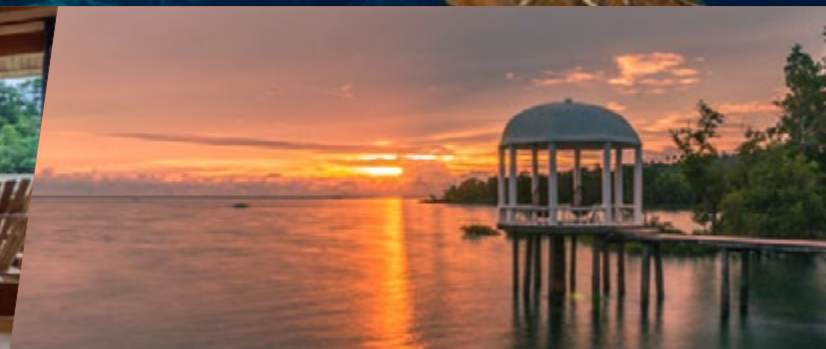
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# Deep Rescue

Rescuing someone on scuba is a specialised activity and this is recognised by most certifying agencies. Due to this fact these agencies have developed and offers courses like rescue diver, first aid and advanced rescue diver.

These courses are of course supplemented by the basic knowledge programmes a diver could enrol in, such as cardiopulmonary resuscitation (CPR), O2 provider, basic life support and automated external defibrillator (AED) training.

This training and courses are a great foundation and some even provide practical sessions to practise these skills with different real world scenarios.

There is, however, one major shortfall in these courses as none of them, although this base knowledge will help, are geared towards rescuing a diver deeper than the 40m limit of sport/recreation diving.

Not many of your average rescue divers are qualified and experienced enough to dive

deeper than 40m or have the knowledge regarding various diving gases such as nitrox, helitrox, heliox, and of course, trimix. This lack of knowledge makes a deep rescue for a normal rescue diver dangerous and even potentially fatal, not only for the person originally intended to be rescued, but most certainly for the rescuer as well.

What makes a deep rescue more complex compared to a rescue above 40m is the fact that gas management and decompression obligations need to be considered during the rescue at all times in order to give the rescuer and diver being rescued the optimum chance of surviving the rescue attempt.

The rescuer will in such a rescue have the

added pressure of ensuring that the diver being rescued is breathing the right gas at that depth, and when needed, the rescuer will have to assist in swapping gasses on the way up.

So what can a rescue diver who wants to expand their capabilities to be able to rescue divers at extreme depth do? It all starts with training to dive to such depths safely, and in this regard a deep speciality or starting with technical diving would be highly recommended.


The rescue diver should then also aim to get an understanding of the following areas of study:

- Decompression techniques.
- Various diving breathing gases.
- Counterdiffusion, which is the diffusion of gases in different directions that can aggregate the formation of bubbles.
- Pulmonary Oxygen Toxicity (Pulmonary

and CNS). Oxygen toxicity is a medical condition caused by exposure to oxygen at high pressure.

Oxygen toxicity is a concern for scuba divers who dive beyond recreational depth limits, use mixed gasses such as enriched air nitrox, or use gasses with high partial pressures of oxygen for decompression stops.

All these areas of knowledge will have to be combined with basic scuba rescue skills to enable a rescuer to perform scuba rescue safely at depth and keep him or herself safe while ensuring the best possible outcome for the person being rescued.

As in any rescue situation, and even more so in a deep rescue situation, it is important to know one's own limits and consider them before plunging head first into a rescue. 



# Fins: all you need to know

Over the next few issues we'll take a look at the basics in gear selection – a sort of a FAQ of scuba gear, if you like. In this issue, we'll start with fins.

Walk into any diving shop and look at the different fins available. Some have straps; others have full-foot enclosures. Now look at the rest of the fin. Other than differences in colour, some are long and narrow; others are short and wide. Some are solid; others are split in front. Some fins also vary in length, and all fins differ in rigidity, number of ribs, channels and so on.

For both new and experienced divers, buying fins can be quite a task. But despite all the hoo-hah from manufacturers offering new products and marketing strategies, our real needs are pretty simple.

Basically, you want a fin that is easy to transport, easy to handle on the boat (or wherever you plan on diving), and one that you are not even aware of during your dive. It should propel you in the direction you want to go adequately, without causing cramps, squeezed toes, painful knees, sore shins or exhaustion. But there are other practicalities to consider... let's start at the back.

#### Back to basics

The decision between open heel and full foot depends, to a large extent, on where you

will be diving. Colder Cape waters require booties, which require open-heel fins. For barefoot divers in warmer climes, the full-foot option is probably more comfortable, although many professionals will tell you that full-foot (closed heel) fins belong in swimming pools and not at depth in the open ocean.

The reason for this is that you need the extra warmth of your booties even in warmer water, and they will protect you against cuts and infections from shells, rocks and so on. If you go with the open-heel option, take time to look at the straps and buckles available.

You want buckles that are strong, sturdy and simple in design, with a quick-release function, but which won't come unstuck during the dive.

Next, take a look inside the foot pocket. Small vents in the toe area will help you remove your fins after a dive – you'll be amazed at how your fins can bond to your booties in 50 minutes...

#### Does size really matter?

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Enquiries contact:

[info@diveOZTek.com.au](mailto:info@diveOZTek.com.au)

Kitting Up

Now lets look at the front end. Longer fins like the ones spearos and other freedivers use, offer more speed underwater, but not everyone needs speed.

A greater consideration for many of us is the sheer hassle of kitting up on a crowded dive boat with oversized fins. And remember that you are the engine that has to drive these 'racing tyres'. Long fins mean more resistance per stroke, which means more muscle power behind every kick. Unless you're extremely fit, you will probably experience cramps when donning these fins for a long scuba dive.

On the opposite end of the scale are the shorties – the fins that resemble Ping-Pong bats. These are for people who enjoy going into underwater holes, where even standard-length fins could become a hassle, or when kicking up silt could result in a life-threatening situation.

Whether they are long, standard or short, fins effectively translate effort into propulsion. For the average sport diver, solid standard-length fins are probably your best bet. The downside is that you need to know your different finning techniques and should be a relatively fit swimmer to fin with these for an entire dive.

**Split the difference**

And that brings me to the so-called 'split' fins. A split along the blade's centre creates two big, flat 'toes', reminiscent of the feet of many water birds. The theory behind this design is that less effort is required to get going with them than with standard scuba fins. The good news is that the theory seems to work in practise, so for weaker swimmers or divers who cramp easily, the split fin is the way to go. For the rest, I don't think it makes a big enough difference to warrant the difference in price.


Critics have also said that the split fin seems less effective with alternative finning techniques such as frog kicking, back-peddalling or hovering. And the advantage of the split is lost when you need to add extra power to your kick for above-normal results, such as fighting a current.

If you insist on something fancy, the fins to go for could be somewhere between the solid

standards and the split fins. They look a bit like split fins, but on closer inspection you'll see that they have only a V-shaped channel instead of a split in front.

You'll also notice that the front or paddle end is very stiff, but that it is attached to the foot with a soft, almost floppy joint, which creates a hinge when finning. These fins are less effective than the standards on a long, strong kick, but not as bad as the split fins. They also require less effort than the standards for normal forward movement, and can handle a whole variety of finning techniques.

Their biggest disadvantage is in the durability department, as the hinge is likely to wear over time.

And remember, don't be stingy. The fins you buy will make a huge difference to your diving enjoyment. But on the other hand, beware of over-designed and overpriced fins that promise to solve all your problems, but won't get you to the boat from 30 metres below in an emergency... 



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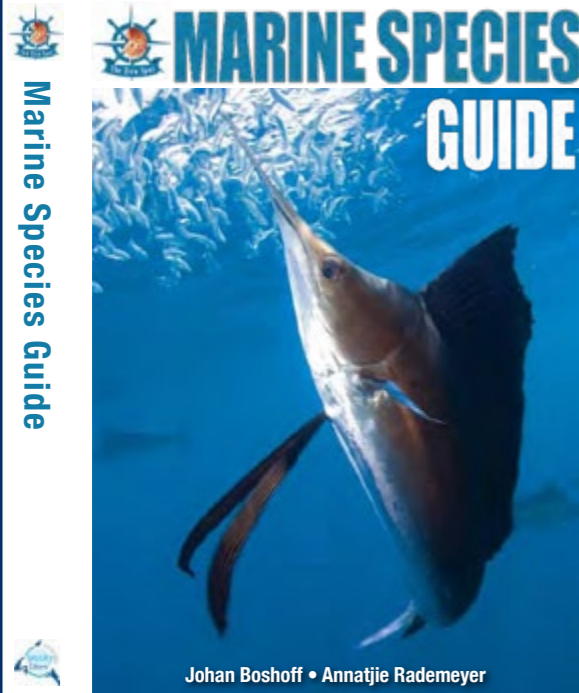
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# Marine Species Guide –



Yes, it happened...I had to buy a larger bookshelf. The latest book from The Dive Spot has landed on our shores – The Marine Species Guide.

A book for both scuba divers and snorkelers to identify and learn all about the different fish species they will come across under water. The book covers most of the marine species found within coral reefs around the world. Line drawings of fish families simplifies identification underwater, while general behavior of the family along with other interesting facts are listed.

Information include common family names, aliases, biological family names, size, identification, general information, feeding preferences and where the families occur around the globe. Photographs of the most common of the species found when scuba diving or snorkeling are included and the fish families are organised for easy reference.

The book works very well in accompaniment with the Marine Species Slate, which can be taken underwater to help with fish identification.

To buy your copy for \$ 25, visit [www.thedivespot.com.au](http://www.thedivespot.com.au) or email [info@thedivespot.com.au](mailto:info@thedivespot.com.au)

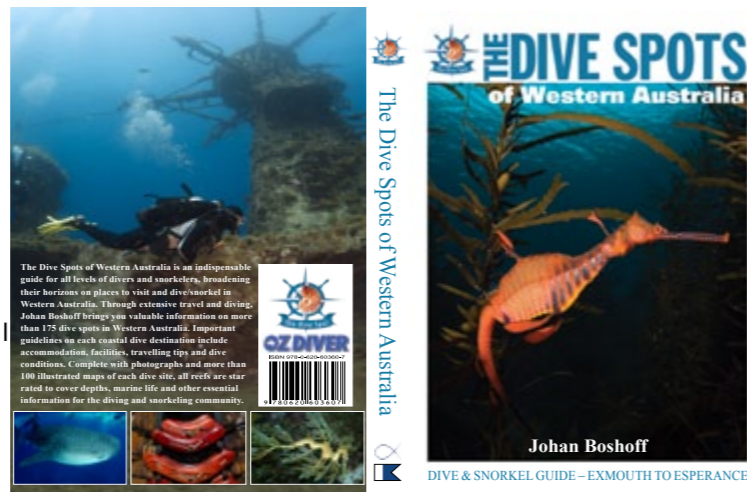
Johan Boshoff • Annatjie Rademeyer

A quick reference guide to the marine species found on coral reefs around the world

# The Dive Spots of Western Australia

The Dive Spots of Western Australia is an indispensable guide for all levels of divers and snorkelers, broadening their horizons on places to visit and dive/snorkel in Western Australia. The book has more than 175 dive spots in Western Australia. 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 reefs are star rated to cover depths, marine life and other essential information for the diving and snorkelling community.

For more information visit [www.thedivespot.com.au](http://www.thedivespot.com.au)



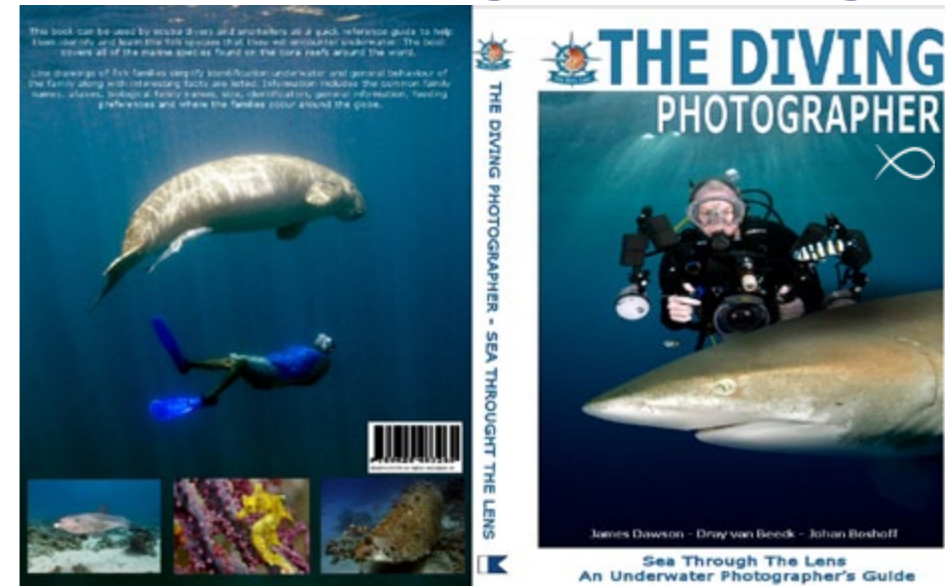
The Dive Spots of Western Australia is an indispensable guide for all levels of divers and snorkelers, broadening their horizons on places to visit and dive/snorkel in Western Australia. Through extensive travel and diving, Johan Boshoff brings you valuable information on more than 175 dive spots in Western Australia. 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 reefs are star rated to cover depths, marine life and other essential information for the diving and snorkelling community.

The Dive Spots of Western Australia

Johan Boshoff

DIVE & SNORKEL GUIDE – EXMOUTH TO ESPERANCE

# The Diving Photographer –



As scuba divers, we are not always the best photographers, but we do learn very quickly. And if we have a handy guide book, the time spent with our cameras underwater will increase rapidly.

This easy-to-use guide book for the diving photographer can be used by all levels of photographers. It helps you with choosing the right type of camera for your ability – although with all the information presented you will learn

so quickly that you will have to buy a better camera after working through the book! Preparing and setting up your equipment becomes a breeze with easy pointers on how to check and replace o-rings, quick tips on keeping your housing dry and other small things we usually forget to check.

The technical advice on how to perform manual camera settings, lighting techniques and editing the not-so-perfect shot was a great help. One of the main things I took from this book was learning to back up my photographs and then trying anything and everything with them in the photo editing programmes until it looks like the professionally taken shot that you have been aiming for the whole time. Some other topics covered are strobe positioning, ambient light, photographing wrecks, long exposures and equipment maintenance.

I must say that this book has proved to be a great help in improving my photographing and editing techniques. Photographer is available in all good scuba diving and book shops or online at [www.thedivespot.com.au](http://www.thedivespot.com.au). Cost: \$15



# 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).



# THE ROTTNEST ISLAND FISH BOOK

Many visitors to Rottnest Island are fascinated by the amazing marine environment. The beaches, the swimming, the reefs and fish life are an integral part of the Rottnest Experience. Even the Aboriginal name 'Wadjemup' refers to Rottnest as being the 'Place across the water'.

Covering a spectacular 3800 hectares of sandy bays, seagrass meadows and limestone and coral reefs, the Rottnest Island Marine Reserve includes five marine sanctuary zones helping to protect the stunning marine life, including over 250 fish species.

That's where this new book - The Rottnest Island Fish Book - is set to become a 'must have' addition for Island visitors wanting to enjoy the marine environment and explore the magnificent fish life through Snorkelling, Diving or Fishing.

The authors - Dr Glen Whisson and Alexandra Hoschke - are to be congratulated for producing a concise yet complete record of every fish you are likely to see around the Island. Glen and Alex are long-time marine researchers and are obviously passionate about protecting and conserving the wonderful marine landscape at Rottnest.

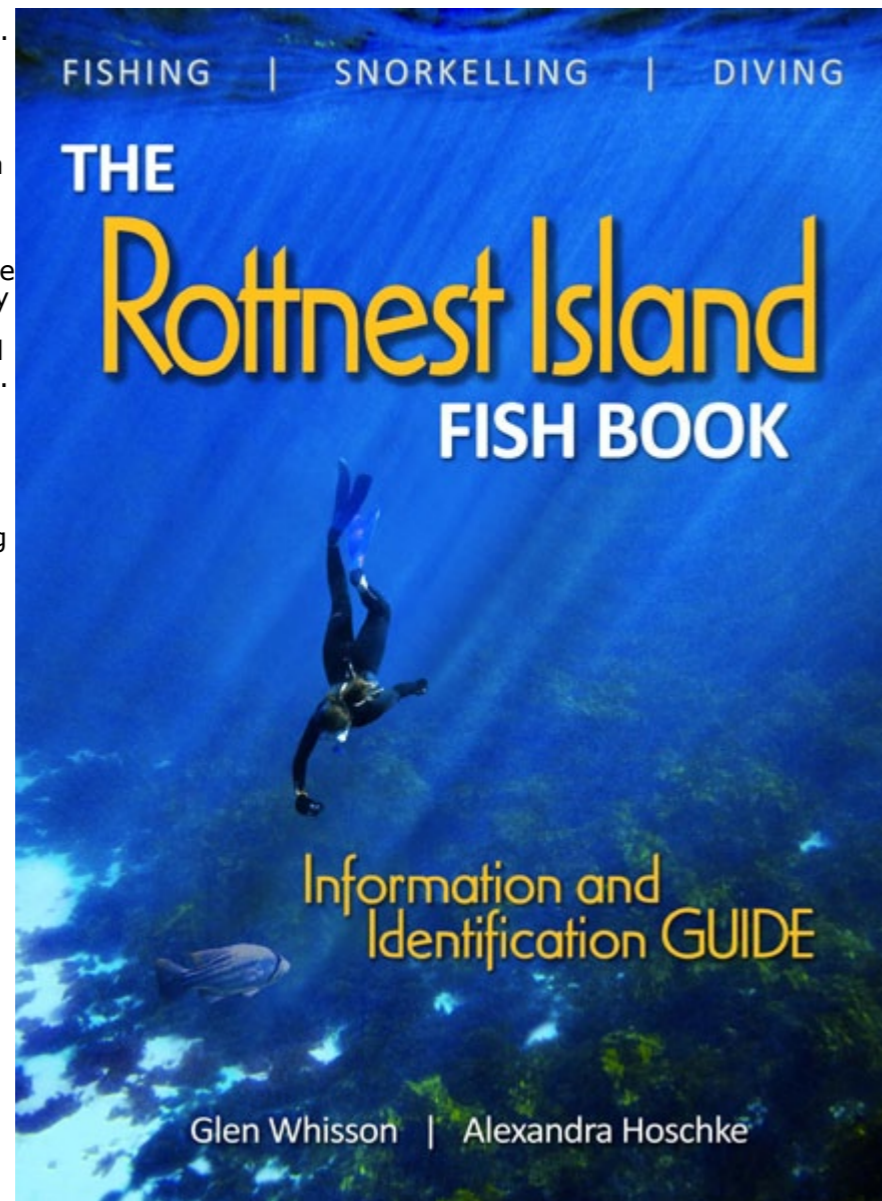
#### ABOUT THE AUTHORS:

Dr Glen Whisson and Alex Hoschke have spent many years conducting marine research at Rottnest following extensive academic careers at Curtin University in the aquatic sciences.

Their other research includes internationally published studies on Grey Nurse Sharks, ocean temperatures at Rottnest and Exmouth, and marine biodiversity monitoring programmes around WA.

#### DETAILS:

**Title:** The Rottnest Island Fish Book  
**Publisher:** Aqua Research and Monitoring Services  
 Year of publication: 2017  
 Pages: 176  
 Colour photographs: 420  
 ISBN: 978-0-6481230-0-2  
 Purchasing: [www.aquamonitoring.com.au](http://www.aquamonitoring.com.au)



# EZYFLAG for all Divers

I first thought of the idea of ezyflag back in 2013 when I became frustrated with the current flag on the market. Finding it cumbersome and difficult to use, particularly when it came to retrieving it after a dive. So I began my search for a better, easier to use flag. I looked in Australia with no success, and then overseas, but with the same result.

There was nothing out there that I felt fitted what I was looking for and so began my journey to develop one myself. Designing the flag itself was a challenge, taking over one and half years alone, but producing the flag was equally challenging, and all the jigs and components have had to be specifically designed and engineered for the purpose, by myself. After a further year of design, engineering, testing and several prototypes, the final product is made of marine grade stainless steel, has a 600 x 500 uv resistance flag which has a cross-support to strengthen it and keep it visible even in no wind conditions.

It is also able to hold a flashing light for night divers (a glo-toob is used, you can find them in most dive shops) and an anchor weight, both of which can be supplied as optional extras. The real difference is the flag's ease of use. With the current flag on the market, the line has to be wound manually around the float, which can be difficult and time consuming. The ezyflag however has a reel mechanism allowing the line and weight to be wound up very easily. The design also means that the reel and release sit below the float, allowing the flag to stay more upright in the water, even in rough conditions. The ezyflag dive system looks very simple, but it has been two and half years in the making.

Now on the market, the flag is already proving a hit with local dive clubs and instructors alike.

Further details can be found at our facebook page [www.facebook.com/ezyflag](http://www.facebook.com/ezyflag), or by contacting Kevin on [ezyflag@gmail.com](mailto:ezyflag@gmail.com) or call 0407589315. Look out for the new model coming out in 2017.

#### Testimonial

STEPHEN FOULIS. Guys I wanted to. Say a big thanks for my ezyflag. I purchased one a number of months ago now following a chance meeting with Kevin. I have used my flag numerous times, it's so easy to use and works so well. Being an instructor it's so handy to have a simple surface marker that's deployed quickly leaving me to direct students down the shot and on with their skills. Even night dives are aided as the no fuss deployment and retrieval adds to the enjoyment. Thanks Kevin, A must for all divers. 🐠



# MARES SIDEMOUNT RANGE:


The latest addition to the XR Family is the exciting new Sidemount range. Widely used amongst the technical diving community, sidemount diving is gaining popularity with recreational divers, offering a flexible alternative to the traditional style of carrying cylinders on your back. This allows for greater freedom of movement, as well as easier access to the cylinders.

The Mares XR system can be used in either cold water with a steel tank and a drysuit, or in warmer conditions with a wetsuit and aluminium tank. The individual components of the system are fully modular, and are able to be configured in various ways to suit the diver's needs and preferences.

The XR Sidemount system is based around the Pure Bladder, which is fully compatible with all harnesses from the XR range. With a 12L capacity, the cell is constructed using 1200 denier "bulletproof" ballistic nylon with a 600 denier polyester exterior. The fully modular trim makes it suitable for use in caves, open water and wreck diving situation, in both cold and warm water. The unit has a preformed shape dedicated to sidemount diving, and maintains its flat profile, even when fully inflated.

The various mounting accessories are made from the highest quality 316 grade Stainless Steel for the ultimate in corrosion resistance. Included are the top, bottom and tail plates and hip rings, which allow for various different setups using the Mares XR webbed harness. The sidemount back pouch is also a hugely useful addition to the range, enabling the sidemount diver to stow various accessories required for the dive.

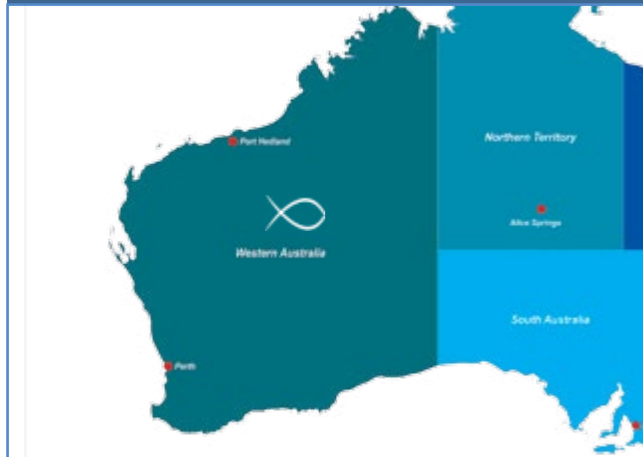
With regard to weight systems, the new Sidemount range offers a choice of using a back weight, side weight, or a combination of both depending on the diver's preference. Both weight systems are made from 1200 denier ballistic nylon with 600 denier polyester interior. The back weight is able to accommodate up to 12kg and includes attachment grommets on the top and bottom for modular fixing on XR sidemount backplates. It also features three back straps, offering various sizing options, and is secured shut using a heavy duty Velcro dual closing system. The side weight can hold up to 4kg of weight and is modular across all Mares XR harnesses. It can be placed either on the shoulder or waist straps, and secures weight via a Heavy Duty cold water Velcro single closing system.

Have you considered taking the plunge into the world of Sidemount? Learn more about Mares XR Sidemount on the Mares website [www.mares.com](http://www.mares.com) or sign up for an SSI Sidemount course at your local SSI Dive Centre. 



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

# Western Australia



## Perth Region

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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.

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 Web: [www.thedivespot.com.au](http://www.thedivespot.com.au)

### Australasian Diving Academy



Australasian Diving Academy have 2 convenient locations in Nedlands and Rockingham where the water is right on our doorstep. We have a huge range of top quality diving and snorkelling equipment to suit all requirements.

Phone: +61 (0) 95279211  
 Mail: [info@ausdiving.com.au](mailto:info@ausdiving.com.au)  
 Web: [www.ausdiving.com.au](http://www.ausdiving.com.au)

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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.

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

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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  
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 Web: [www.perthdiving.com.au](http://www.perthdiving.com.au)

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 Web: [www.bluedestiny.com.au](http://www.bluedestiny.com.au)

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 Web: [www.dolphinscuba.com.au](http://www.dolphinscuba.com.au)

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 Web: [www.scubanautics.com.au](http://www.scubanautics.com.au)

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 Web: [www.wizbang.com.au](http://www.wizbang.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

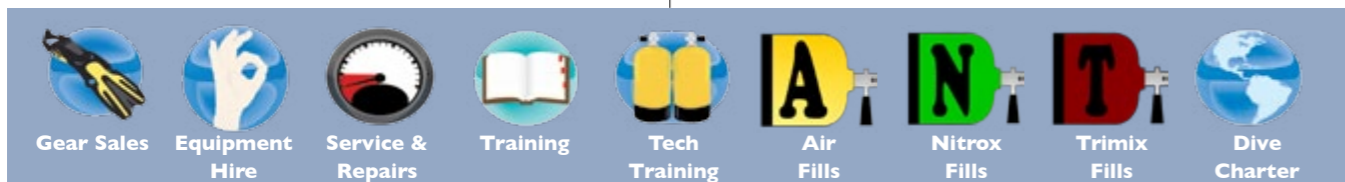
Phone: +61 (0) 40 954 5553  
 Mail: [info@westernbluedive.com.au](mailto:info@westernbluedive.com.au)  
 Web: [www.westernbluedive.com.au](http://www.westernbluedive.com.au)

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Our club has a 12m purpose-built aluminum dive boat which can take 14 divers comfortably and is equipped with all appropriate safety equipment. We dive almost every weekend and have over 150 recorded dive spots around Rottnest and surroundings.

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 Web: [www.uecwa.com.au](http://www.uecwa.com.au)





Mandurah

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**Web:** www.octopusgardendivecharters.com.au

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Esperance Diving & Fishing



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South Australia



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**Web:** www.nbscuba.com.au

Adelaide

Diving Adelaide

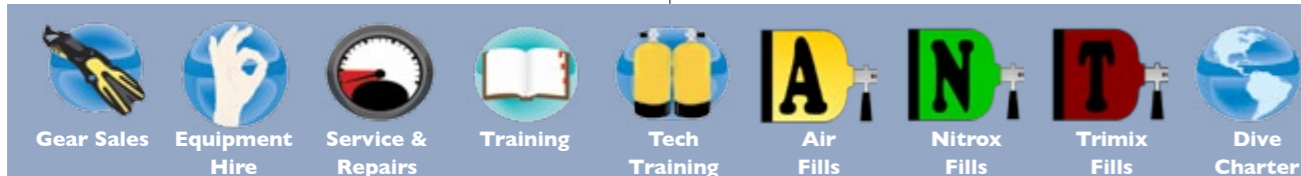


Diving Adelaide is Adelaide's newest PADI 5 Star Dive Centre. We run all PADI courses as well as Leafy Sea Dragon Tours. Diving Adelaide is located next to the tram and bus-stop in Adelaide; easy to reach with public transport.  
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**Mail:** info@divingadelaide.com.au  
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Underwater Explorer's Club of SA



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**Web:** www.uecofsa.org.au



Glengowrie

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 Web: www.downunderpix.com

Victoria



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 Web: www.ausdivinginstruction.com.au

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 Mail: info@baycityscuba.com  
 Web: www.baycityscuba.com

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Rye

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 Web: www.scubadoctor.com.au

New South Wales



Sydney

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 Web: www.frogdive.com.au

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 Web: www.southerncrossdivers.com.au

Underwater Research Group of NSW



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 Web: www.urgdiveclub.org.au

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Web: www.feetfirstdive.com.au

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South West Rocks Dive Centre



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Web: www.sunreef.com.au

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Mail: admin@ozaquatec.com

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