

July / September 2018

OZ DIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

MYSTERY OF
THE MOLAS
SHIPWRECK

THALASSA
MANADO

SECRETS OF
THE KELP
FORESTS

WAKATOBI
CORAL
KINGDOM

THE FOUR KINGS RAJA AMPAT



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

July / September 2018





Editor's Deco Stop

Diving, diving, diving and more diving. That is how my year has started from the word go and it hasn't stopped. Even now as the days become shorter and the nights longer, the diving will not stop. Of course, it is cold in Western Australia but somewhere in the world it is what? Nice and warm?

Therefore, for those of us sitting at home, pack your bags, pack your dive gear and go and dive somewhere where it is nice and warm. Oh yes, take your family as well if they are up for it.

Just remember to be back for our local dive and boat show in Sydney, the AIDE show that is in August and it's a nice place to meet your fellow divers, and to see if there is something new on the market.

Another show that I am really excited about is OZTEK next year in March. The show is only held every second year

where technical divers come from all over the world and host workshops about technical diving and the latest technical gear to hit the market.

I will keep you updated on the events and definitely write an article about the shows. But for the meanwhile, before I visit the shows I have a lot more diving to do locally – hope to see you in the water sometime soon.

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.

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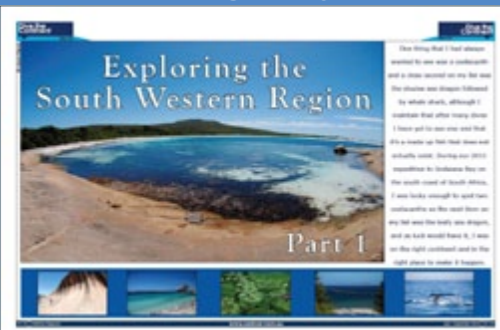
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FEATURE

Log Book


As you know, money is quite tight these days, or so everyone says... I still can't understand how that is, as I know for a fact that Zimbabwe has just recently printed more dollars, and if you look at the current exchange rate, it's amazing that we don't see more people diving.

Anyway, as I was saying about money being tight, I try – like all of us – to try and save a buck when I can. So there I was at this dive centre asking the owner, and local skipper, some questions about the local reefs and also wanting to buy a new regulator as mine was getting on a bit. Now this guy really knew a lot about equipment and regulators in particular, he even had GPS coordinates for some special reefs he knew, and said I could have them when I bought the reg.

After he told me all I needed to know about the new regulator I told him that I'd come back the next day to get it. As things panned out I couldn't get back until the next week to get those coordinates. He was glad to see me back and while he went to get me those GPS coordinates I went to fetch the new reg. When he came back I told him where I had bought the reg and also thanked him for the advice and the good price he gave me – I even told him how I used his price to fight the other guy down and that I saved \$5 on my purchase –

now that's how you save money! Strangely Mum, he didn't seem to share my elation at this shrewd negotiation, but I think he was just worrying, like all of us, about the current downturn in the economy.

On my next outing I got my divers all exited about the new reefs, and after entering the new coordinates on my GPS we went diving the next day. In all honesty I think this guy was a better technical expert than a skipper because, I can tell you, that regulator was breathing like a dream but every coordinate we dropped on was just sand. When I went back to check the coordinates with him the next day, he told me that he'd lost his GPS that same morning and that he'd heard that the satellites have been misaligned. He must be glad that he shared those coordinates with me now otherwise he would have lost all!

Anyway Mum, as you can see us guys in the diving industry really stick together in tough times. I will write again soon. 

Entangled

By Nimu Njonjo

In Diani, a large Humpback whale was found entangled in a fishing net by a sport fishing boat. They immediately radioed it in and Daniel Floren from Diving The Crab went with a team of divers to try and cut her free – Diani Marine also sent a boat of divers out to the area.

These nets are illegal in many countries and for good reason. They are extremely destructive and particularly devastating when placed on coral reefs, which is what many local fishermen do. They are the single most deadly threat to the marine life at Diani and a typical example of good intentions gone horribly wrong – the nets were donated without proper research being done on their effects and with no follow-up or management.

The whale was between 12-15m long and very large in girth – she was pregnant. She was badly entangled in the fishing net and her pectoral fins were pinned to her side. She couldn't really move apart from thrashing her tail and it was a miracle that she didn't drown. It took the divers two hours to cut her free, an experience they described as the most incredible of their lives.


Because the net was all over her body the divers had to get as close as possible to this magnificent animal to save her. Daniel Floren said that he looked straight into her eyes and when he touched her face he was totally in awe. He says her face was obviously very sensitive because whilst removing the net from

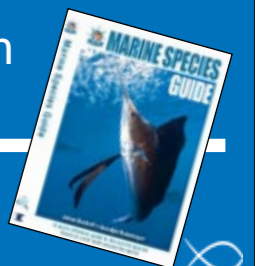
that area she seemed to tremble, although she kept more or less still while they completed the task. He says she knew that they were helping her and she stayed still until she was free.

She made lots of sounds as the divers worked – anyone who has heard whale noises will know how beautifully spiritual and evocative they are. Floren remarked that the sounds she made spoke right to his very core. "It really is like music," he said, "you don't have to understand it for it to totally transport you. Whale music is other-dimensional. It speaks to parts of you that you never knew existed."



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

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



OZ News



RAID Backed by Inverness Graham Investments

Inverness Graham Investments, a private investment firm based in Philadelphia, announced today that its recreational safety education portfolio company, Kalkomey Enterprises, LLC, has invested in Dive RAID Training agency.

"We've been carefully researching the options to enter the scuba market for some time. We chose RAID because it has the values we look for in a company; world class programs driven by an enthusiastic and passionate team that is making Scuba fun for everyone involved," said Inverness Graham Managing Principal, Michael Morrissey. "Their vast array of training programs and impressive technology platform make them a perfect match to partner with Kalkomey. This marriage positions RAID to challenge the current industry paradigm, which is exactly what we were looking for."

Kalkomey is the leader in online recreational safety education for state required certifications and is an official provider of recreational safety education materials for all 50 states, as well as Canada, Mexico, Australia, and New Zealand. Using a web-based delivery model, Kalkomey has helped millions of students get educated to safely boat, hunt, and operate off-road vehicles and snowmobiles.

Jason Alexander, Kalkomey CEO said, "Our research indicates that people interested in outdoor recreation participate in many different activities over their lifetime. We believe there is enormous demand among the millions of Boat-Ed and Fresh Air enthusiasts we've already trained, as well as the hundreds of thousands of enthusiasts that we newly teach each year, that will want to try scuba diving!

We're excited about the opportunity to apply our expertise in parallel industries to drive these potential customers through the doors of dive centers that join the RAID movement. Together with RAID we know we can truly Partner with dive shops to help their businesses grow and thrive."

RAID is a rapidly emerging dive training brand globally with a mission to innovate the dive industry through digitizing education, systems and processes. Operating in more than 60 countries worldwide, RAID's state of the art online training platform features the most comprehensive online, pro-active quality assurance system in the industry. The virtually paper-free RAID training system has recently been recognized for ISO compliance, and its programs were also found to meet the RSTC's minimum standards paving the way for RAID's membership with the RSTC.

"The RAID system focuses on training divers on critical skills such as proper trim and neutral buoyancy in the diver position, we believe it's essential to also train dive professionals on those same skills to ensure they are best serving the needs of their students to be divers, not just certified," said Jim Holliday who will continue on leading business operations as President of RAID.

About Inverness Graham Investments

Headquartered in Newtown Square, PA, Inverness Graham is an operationally focused private investment firm with over \$500 million of assets under management. Inverness Graham acquires high growth, innovative manufacturing and services companies. Our approach is as unique as our heritage. Founded by senior executives of the Graham Group, a family owned multi-national industrial concern, we bring unparalleled resources developed over a 50-year operating history to support our portfolio companies. Inverness Graham partners with businesses to provide the financial and operational support necessary to accelerate growth. Learn more at www.invernessgraham.com.

About Kalkomey Enterprises, Inc.

Kalkomey has trained and delivered more than two million safety certifications for active outdoor enthusiasts, utilizing online and face-to-face coursework in boating, hunting, snowmobile, and more. Kalkomey operates in all fifty US states, as well as Canada, and is the leading provider across all of North America. Kalkomey was founded in 1995 and is headquartered in Dallas, TX. Learn more at www.kalkomey.com.

About RAID

RAID is a culmination of worldwide scuba diving, training experience and skill development combined and presented with today's latest technology; considered one of the most comprehensive e-learning programs in the world.

RAID's mission is to be the benchmark brand for quality dive training globally through improved technology, training techniques, a proactive quality control system and ensuring the highest standard of dive instructors. Learn more at www.diveraid.com.



ADVANCED DIVE CONFERENCE & EXHIBITION

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AUSTRALIA INTERNATIONAL DIVE EXPO

The Australia International Dive Expo (AIDE) will take place once again at the International Convention Centre Sydney as part of the Sydney International Boat Show from 2-6 August 2018.

As part of the largest recreational boating event in the Southern Hemisphere, water-loving visitors will have access to everything they need for their water hobbies, be it underwater or above it.

There will be an exciting line-up of speakers for this year's event, which will cover a wide array of hot topics including technical diving, shark education, dive destinations, marine conservation, dive gear maintenance, photography, videography, and much more.


A major feature this year is also the addition of two extra pools at the Show to allow for more product demonstrations and dive try-dives. Underwater drones will no doubt be of keen interest, as well as underwater scooters.

There will also be a photography contest to win the title of 'The AIDE Australasia Underwater Photographer of the Year Competition 2018'. Opened to novices and professionals, there will be some seriously attractive prizes to be won, too!

General visitors to the show will also have the chance to win themselves one of many holiday prizes. All they will need to do is enter the competition (a game of skill) when visiting the dive section.

As per last year, there will be lots of entertaining activities taking place over the five days and parents can take advantage of the kids' corner while shopping around for great deals or networking with the water experts.

With more than 60,000 visitors expected at this year's Show, visitors are encouraged to register their interest and purchase tickets online to avoid queues. Tickets are available at www.sydneboatshow.com.au.

For further information about AIDE including the list of exhibitors, presentations, activities and workshops, go to www.australiadiveexpo.com. To find out more about the boat show, visit www.sydneboatshow.com.au. 



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THE HOT BCD THAT'S READY TO GO


The chilly weather is well and truly upon us now, but here's one product that is a certified hot seller this winter! Mares XR have just released their Red Devil Single Backmounted System – the all new and exclusive buoyancy compensation system with unique red detailing.

Mares' goal in developing their new XR Extended Range of diving products was to make the evolution from recreational to technical diving a seamless and easy transition, one that could be taken a small step at a time. The new Red Devil is the perfect manifestation of this goal – a piece of equipment designed for advanced performance, but perfectly suited to a whole range of diving applications.

This versatile new product was designed to meet the needs of a range of different divers – from the traveller looking for a lightweight solution, to the diver who wants to extend their range of diving to just beyond their recreational limits, and even to the most advanced of technical divers. The Red Devil is the result - a product designed for the most demanding of technical situations that can easily be used by anyone.

One of the most outstanding features of the Red Devil is that it fits practically everyone. The harness was made to be a one size fits all, and thanks to many simple adjustments it can be adapted to different bodies while maintaining a high level of comfort during the dive. The rear buoyancy wing offers ample freedom of movement, ideal for both technical and recreational divers.

The aluminium construction renders it extremely lightweight and easy to transport, making Red Devil perfect for travel. The set also comes fully assembled and ready to dive, so it's ideal for beginning and non-technical divers.

Get in to your nearest Mares XR dealer today to secure your Red Devil! 




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)

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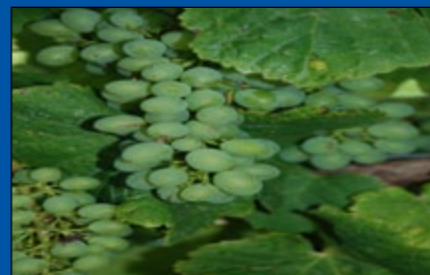
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Exploring the South Western Region



Part 1

One thing that I had always wanted to see was a coelacanth and a close second on my list was the elusive sea dragon followed by whale shark, although I maintain that after many dives I have yet to see one and that it's a made up fish that does not actually exist. During our 2011 expedition to Sodwana Bay on the south coast of South Africa, I was lucky enough to spot two coelacanths so the next item on my list was the leafy sea dragon, and as luck would have it, I was on the right continent and in the right place to make it happen.



By Gerrit Maritz



One thing that I had always wanted to see was a coelacanth and a close second on my list was the elusive sea dragon followed by whale shark, although I maintain that after many dives I have yet to see one and that it's a made up fish that does not actually exist. During our 2011 expedition to Sodwana Bay on the south coast of South Africa, I was lucky enough to spot two coelacanths so the next item on my list was the leafy sea dragon, and as luck would have it, I was on the right continent and in the right place to make it happen.

After asking around at the dive shops in the Perth area it was clear that our journey had to start in Esperance, as this we were told was a must-see place with unrivalled beauty and very good diving.

I immediately started scouring the internet for information regarding places to stay and sites to see, while my buddy had done some ground work with regards to people to contact on route with information on the towns, and more specifically, the diving in the areas we intended to visit.

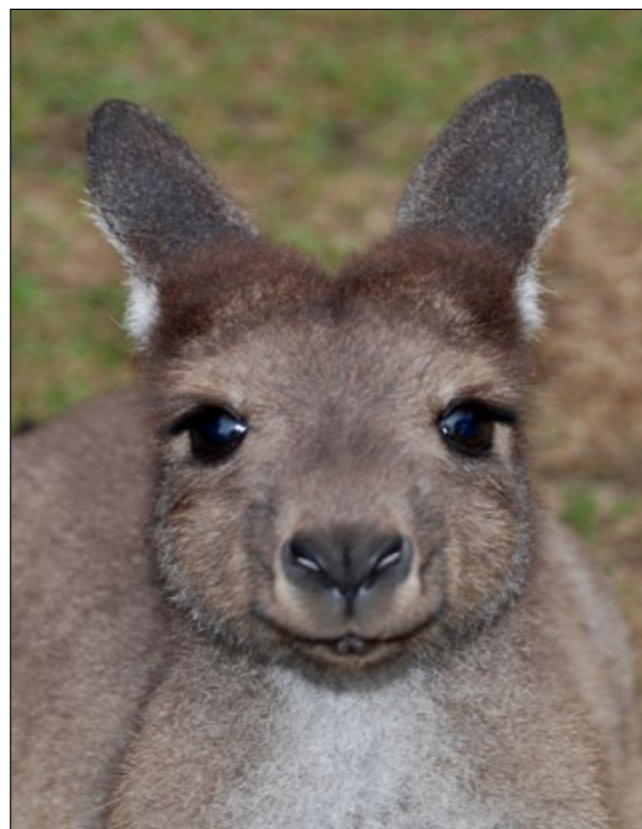
After all our administration was completed we set about getting our equipment ready for the trip and the dives. As we intended on camping, that was first on our list and then all our diving equipment and cylinders. We were not sure when or where we would be able to fill our cylinders, so we made sure that we took enough for at least a couple of dives.

With all our equipment sorted and camping gear packed we eventually set off for Esperance. I was quite excited as this would be the first time I would get to see the interior of Australia. We set out and no

trip would be a proper road trip if you don't visit well known sites en route, so our trip also included a stop at Wave Rock. Once we started to head inland I was amazed by the extent of the wheat fields. We continued for miles and miles, and being from SA I am not unaccustomed to farming activities and maize and wheat farms, but these wheat farms never stopped. After what felt like a couple of hundred miles of wheat fields, we arrived at Wave Rock.

Wave Rock is one of those places that you see pictures of, but never actually dream of visiting, but as this was a fact-finding mission of sorts, we could not let this opportunity slip past us.

What struck me the most during my time in Australia up until then was the condition of the public amenities and infrastructure, as well as the effort put into making visitors feel welcome. All personnel were always friendly and helpful and willing to assist where they could, and Wave Rock was no exception as we were soon sorted out with a map and some information on the area. Wave Rock was a great experience and we spent a couple of hours roaming around and taking in the sites



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EQUIPMENT**

By Gerrit Maritz

such as Hippo Rock and the reservoir.

As we still had some distance to travel we headed off in the direction of Esperance, but Esperance would have to wait for the next day because we needed our beauty sleep and we decided to stop over at a small town called Ravensthorpe.

After a good night's rest we awoke the next morning with renewed vigour; we had a quick bite to eat and then we hit the road to Esperance. We had an appointment with one of the stalwarts in the diving community to get to and he was going to give us great insight into diving in Esperance.

Upon our arrival in Esperance we immediately realised why so many people had said we needed to visit this most exquisite place. It was unlike anything I have ever seen. I know that South Africa has some pretty beaches and seas, ranging from the wild to the not so wild, but this was something else. The colour of the water and the white as snow beaches took my breath away, and even my friend, who in his own right is a world traveller, did not have words to describe it.

We managed to arrive in time for our meeting in Esperance and after a short discussion about our mission, he imparted some knowledge onto us. We were quite shocked at the news... How could it be that there was almost no diving taking place in this most beautiful of places?

The answer came as no surprise; great white sharks or as they refer to them, white pointers. Of late some concern had arose as to the safety of divers due to some white pointer attacks on divers (mostly spear fishermen) and this had done incredible damage to the reputation of the whole South Coast of WA as a diving destination.

They informed us of some areas to visit around Esperance and we were eager to go look for ourselves. This, however, did not deter us in the least – we had a mission and we were diving, end of story

First we had to book ourselves into one of the local caravan parks overlooking the bay. We found ourselves a nice, out of the way camping spot and set about settling in for a couple of days. This was also the first time we

decided that, when in Rome you must try a kangaroo steak on the 'barbie', so we did and I must say that I quite enjoyed it. With meat prices as they were it made more sense to go for some nice cuts of rump for the remainder of our stay in Esperance though.

The next morning we awoke to a lovely day and we decided to go to the must-see place according to the locals. He gave us some directions and after visiting the local Visitor's Centre we were now armed with a map of the area and a possible area in which to find the elusive sea dragon.

The bay in question was Lucky Bay, situated in a Cape Le Grand Nature Reserve. The bay got its name when Matthew Flinders took shelter there from a summer storm with his vessel HMS Investigator in 1802 when he sailed the dangerous route through the Recherche Archipelago.

We found our way to the reserve, followed the route markers to Lucky Bay and boy did we get the surprise of our lives. Put simply – it was beautiful; the colour of the sea, the view of the bay and the whitest beach I have ever laid my eyes on. We stopped our van on the crest of a hill and just sat in awe. Trying to take pictures of such a place to portray its beauty is impossible, yet that did not stop us



By Gerrit Maritz

from trying though. We came away with some beautiful pictures but the best ones were committed to memory.

We quickly found a spot to park and after a stroll down to the rocks we formed a plan of action. We were going to enter the water near the rocky section to the west from where we were going to make our way around the outcrop and would search amongst the sea grass for the leafy sea dragon and the weedy sea dragon.

After kitting up and sorting out our cameras to take some pictures of the wonders of the underwater world, we made our way down to the water. We were soon ready to dive and so it happened that we did our very first dive on the South Coast. As far as dives go, it is hardly a challenging one but not knowing what to expect made us cautious.

After a couple of minutes we realised that the diving was good if a bit 'surgy' and this made it difficult to spot any dragons because the sea grass and seaweed was being moved around a lot. Nevertheless, we enjoyed our dive and got some nice footage and pictures. After our dive we packed up our kit and made our way back to Esperance; we still had some sightseeing to do.

Fortunately for us we had great weather during our stay in Esperance, which made visiting the lookout points a pleasure. There are some great ones around, especially the Esperance Rotary Lookout with unrestricted 360 degree views of the area which was quite impressive.

On a good day you can see for many a mile and you are also able to see the many bays of Esperance and rocky outcrops in the bays in the distance. It is very pretty indeed.

Our next order of business was to dive the Tanker Jetty. During the time of our visit the Shire was busy with a project to renew the shorefront and to try to save the jetty as some of the piles needed urgent attention in order to keep it safe for use by the community of Esperance.

The Tanker Jetty, as it is now known, was originally known as the Esperance Deepwater Wharf built by the WA Government Railway



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By Gerrit Maritz

between January 1934 and February 1935 and was officially opened by State Mines Minister, Selby Walter Munsie, on April 13, 1935.

The jetty was 11,2m in depth and it extended 842m into the Esperance Bay and was used to unload bulk fuel and load grain for export. The last tanker to unload bulk fuel from the Jetty was the BP Enterprise in 1977. The Tanker Jetty fell into disrepair to the extent that, in 1985 a portion of the jetty beyond pier 124 was so unsafe that seven piers were removed, separating the head of the jetty, and in 1988 the Apex Club of Esperance took over an initiative of Jaycees from the year before when the Save the Tanker Jetty Association was formed.

With assistance from the Goldfields and Esperance local governments, community groups, service clubs and the dedicated citizens of Esperance and State Government, funds were raised to preserve the jetty. It is now a venue for recreational activities such as fishing and diving as the artificial reef attracts a variety of fish species. It is also the home of a resident sea lion named Sammy!

Initially we thought that we would not be able to dive the jetty as it seemed to be fenced off, however, locals informed us that we could in fact still dive the jetty and that we just needed to follow the path between the fenced off areas. One problem, however, was of concern to me.

During the work on the jetty the dive platform at the end of the jetty had been removed and you now had to jump from the jetty to get into the water. Sure enough, the next morning we were there bright and early. We kitted up and once again sorted out our cameras and then the long walk started.

As previously stated the jetty is almost 800m long and it took more than one rest stop to reach the end where we intended to enter the water. Doing a giant stride usually is not a problem from a boat or small jetty, but this, however, entailed us jumping from the jetty into the water that was a good 3 or 4 metres away.

Now I have to admit that I am not one for jumping off stuff; during my Commercial Diver training we jumped of harbour docks

but this jump seemed higher than what I was used to. Maybe it was the helmet that I wore before; but there was no other way of getting into the water and after a good couple of countdowns I eventually did it. And you guessed it, it wasn't all that bad and I felt quite embarrassed for making such a big deal out of it.

My buddy passed me his camera and he too made the jump and we were ready to dive this jetty and the artificial reef constructed underneath it. The visibility was good and fish life was abundant.

We soon found the markers that indicate the dive trail and we were impressed by the efforts made by the local divers to make this a worthwhile place to dive. After swimming around for some time and passing the same markers more than once it was time to head back to shore and we began to swim underneath the jetty towards the shore. We saw many types of fish on this dive, such as old wives, but Sammy eluded us.

Thankfully getting out of the water was a much easier affair; we simply had to locate one of the ladders on the jetty and it was pretty easy from there. We were really impressed by the diving so far and although we did not find any sea dragons this was a good learning experience and we were certain that even better diving was on the menu for later on in our trip.

All too soon our time in Esperance came to an end, and as some rainy weather gathered we packed up our camp and readied ourselves for the next leg of our trip. Bremer Bay lay in



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By Gerrit Maritz

the distance and we were planning on taking the long road there in order to take in more of this incredible country, and this included visiting the famous Pink Lake. I had seen some pictures and this was one of the must-see places on our itinerary. After taking a closer look at the wind turbines just outside of Esperance we turned away from the ocean and headed inland to find the famous lake. After driving for a couple of kilometres we found what we were looking for; the Pink Lake.

At first we thought we were duped and that the signs could surely not be right – the Pink Lake had lost its colour. We were, in fact, a couple years late to see the lake in all its pinkness.

You see, only once the lake water reaches a salinity greater than that of sea water and the temperature is high enough, the algae begins to accumulate the red pigment, pink halobacteria, also grown in the salt crust at the bottom of the lake and this gives the lake its remarkable colour. We missed the algae and bacteria bloom but at least we made the effort to see it for ourselves.

After this slight letdown we turned west and headed for Bremer Bay. We did not know what to expect but things could surely only get better from here and we were excited to see what the road and the country had in store for us. 



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Anglerfish

Every dive master dreams of finding an anglerfish (family: Antennariidae, often called frogfish), because once you have spotted him, it is usually quite easy to find him again. Nothing impresses a dive group more than a DM telling you what you will see, and then finding it for you.

These fish are incredibly hard to spot, because their camouflage is unparalleled. They squat on a piece of reef looking exactly like a sponge, and even when the DM points directly at the fish you sometimes wonder what he's showing you.

The eggs are laid by the mother in a string connected by mucous which expands into a floating raft. When the young hatch they hide beneath the raft as tiny fry, and then take refuge inside caves and crevices. Starting out as tiny, spongy, thumb-nail sized blobs, they feed off food particles and plankton that flushes through their hangouts.

But as they grow, the frogfish show a diabolical cunning. Their eyes are tiny and their mouths almost invisible. Their colouring blends with the reef in colour and texture, so they become invisible to both predator, who think they are part of the reef, and prey, who think they make a good place to hide.

Their lower dorsal fins are shaped like feet and can attach themselves quite firmly to a surface – not much will shift them. Once planted, they morph into an inconspicuous shape and wait for prey.

They are also called anglerfish because the first spine in the dorsal fin becomes a cartilaginous fishing rod with a small dangling pedicle suspended from it, directly over the mouth. The fish has a huge mouth which point upwards. Anchoring itself firmly onto the reef it looks exactly like a sponge.

The quivering pedicle looks like a small, tasty morsel to the average small fish. The angler fish cleverly releases a pheromone from the 'bait' dangling over its mouth, and waits patiently for his prey...

Fooled by the piece of sponge with a tasty morsel dangling from it, its prey

swims over for a closer look. The great jaws open and the angler fish sucks its victim and the water around it down into its enormous, expandable gut. This action is so rapid as to be almost invisible to the naked eye.

The anglerfish can easily swallow a creature larger than itself, shaping itself around the prey and the water ingested with it. Then it expels the water through his gills and settles down to digest the prey.

There are nine species of frogfish found on our coastline. We have photographed four of these.

Adults sometimes hide out in caves and this one was either too ambitious in the size of his prey, or tried to eat the Rock Cod, or he was being harassed by the Rock Cod. He came barrelling out of the cave and went fining across the reef looking absolutely furious.

The anglerfish occasionally stalks its prey as well. It lumbers across the reef and uses jet propulsion to assist



in moving forward. Water is sucked in through the mouth and expelled through the gills. Then as soon as it is close to the prey it plants itself firmly, and strikes. Again, with incredible speed it sucks the prey and the water around it into the stomach, shuts the gills to close the trap, and doubles in size as you watch. ◀



Secrets of the Kelp Forests

Kelp forests occur worldwide throughout temperate and polar coastal oceans and are areas with a high density of kelp, one of the most productive and dynamic ecosystems on earth.

From experience, one might think that kelp forests only occur in cold and temperate places, but in 2007, kelp forests were also discovered in tropical waters near Ecuador. Kelp forests provide a totally unique 3D habitat for marine organisms and help scientists understand many ecological processes. Kelp is physically formed by brown macroalgae and falls under the order Laminariales.

Kelp itself is highly diverse, both structurally and functionally, and is frequently considered as an ecosystem engineer providing a physical substrate and habitat for kelp forest communities. In algae, the body of kelp is known as a thallus instead of a plant. The structure of a kelp thallus consists of three basic units:

- * The holdfast, which is a root-like mass, anchors the thallus (body) to the sea floor but doesn't absorb nutrients for use; it only anchors.
- * The stipe (the plant stalk) extends vertically from the holdfast and provides a support or framework for the other morphological structures.
- * The fonds are leaf or blade-like

attachments extending outward from the stipe, sometimes along its full length and are the site from where nutrient uptake and photosynthesis takes place.

* Kelp utilises gas filled floats or pneumatocysts usually located at the base of the fonds near the stipe. The pneumatocysts provide the necessary buoyancy for the kelp to maintain an upright position in the water column.

For kelp to survive it needs a hard substrate such as rocks for the holdfast to anchor the thallus to, high nutrients such as nitrogen and phosphorus as well as enough light. Kelp forests tend to be associated with areas which can provide cool, nutrient-rich water from the ocean's depths to the mixed surface layer. In other words, big swells and big waves with flow and turbulence facilitate the nutrient uptake through the kelp fonds. Giant kelp can grow up to 60cm vertically per day if the conditions are ideal. Some types of kelp are annual like *Nereocystis*, and others, like *Eisenia* are perennial, which means that they live for more than 20 years.

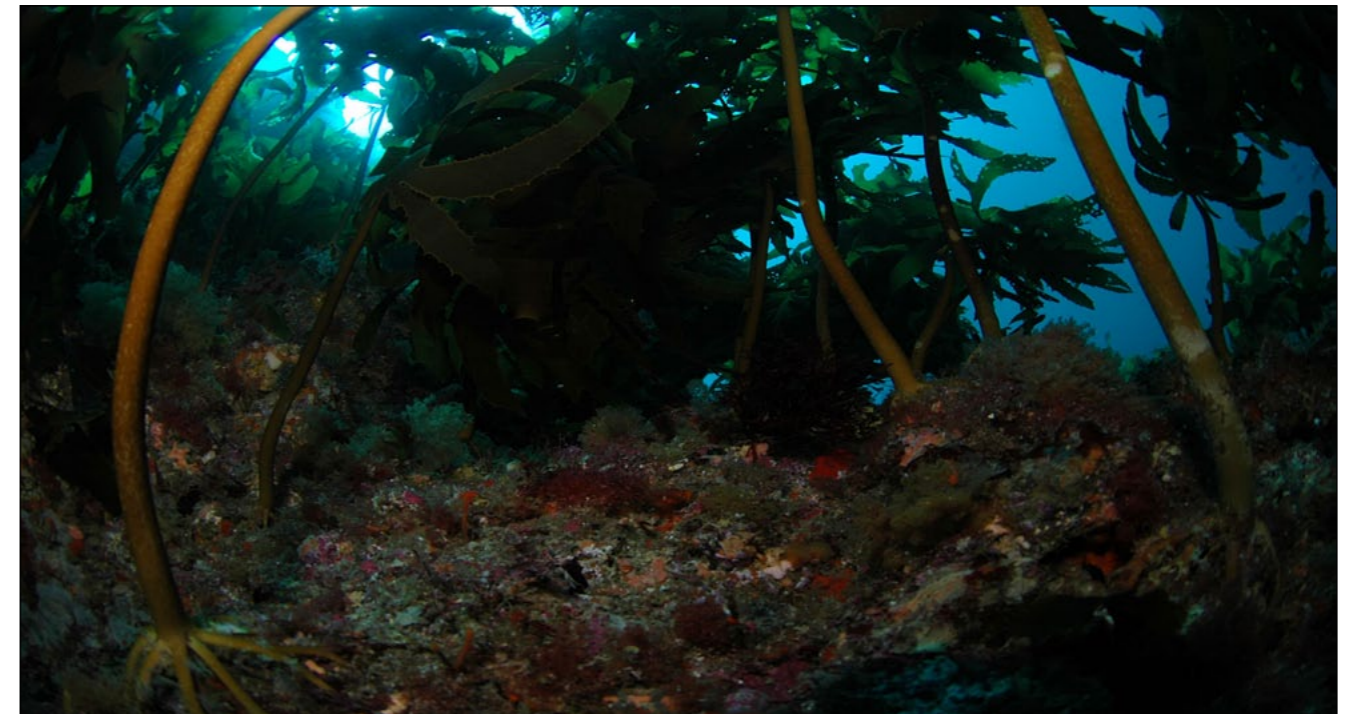
We may think that kelp forests are just plants in the ocean, but they can have an influence on coastal oceanographic patterns and provide many ecosystem services, but human influence leads mostly to kelp forest degradation. One thing of great concern is the effects of overfishing on near shore ecosystems which release herbivores from their normal population regulation and result in over-grazing of kelp. The overgrazing of kelp and other algae can lead to barren landscapes where few species can survive.

One government initiative – Marine Protected Areas (– is focusing on addressing issues of overfishing by limiting fishing by a permit system, thus buffering the ecosystem from added environmental stressors. Kelp forests have different organisms associated with different levels of dependence on the habitat, such as certain nudibranchs and shrimps which are closely associated with surface canopies where as Rockfish and many other fish are found amongst the stipe. Brittlestars and snails are closely associated with the kelp holdfast. Various herbivores like urchins and abalone live under the canopy where food is readily available. Many pelagic

fish and marine mammals are loosely associated with kelp forests, interacting near the edges as they tend to feed on the resident organisms. Seals also use kelp forests to hide away from big predators such as sharks.

Humans also used kelp forests thousands of years ago and the theory is that ancient communities used kelp forests that would have stretched from North east Asia to the American Pacific coast to travel along. The kelp forests would have provided many opportunities for sustenance and also acted as a buffer against the rough ocean waters. It is also believed that the ancient boaters used the kelp to navigate almost like a 'kelp highway'. Nowadays kelp is used to directly feed aquaculture species such as abalone. Kelp is also used to extract the compound alginic acid which is used in toothpaste and antacids. Kelp forests also have great value for recreational activities such as kayaking and scuba diving.

Next time you look at the kelp swaying in the ocean waves, think about the value it adds to eco systems and to us as humans – it is not just another sea plant.



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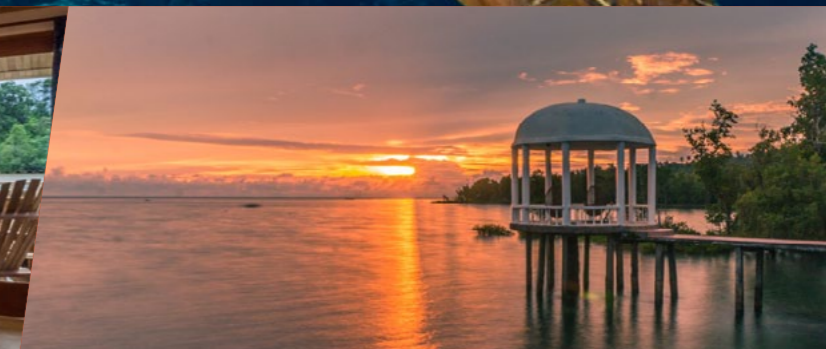
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Humans are killing just over 100 million sharks per year
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PART 1

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.

The war on sharks is primarily due to demand for their fins, which when boiled down form a stringy, gelatinous mass that is included in a bowl of soup. The fin adds no flavour, just texture to basic chicken or pork stock, and can sell for \$100-\$150 USD per bowl in Asian restaurants.

Ordering and eating the soup is a status symbol – the equivalent of having a Ferrari in the driveway. I find it sad that we may effectively eliminate the top predators in the ocean simply to appease our sense of vanity. The most alarming issue is the fact that an ocean without sharks will be an ailing, dying ocean.

Sharks are integral elements to a healthy balance in all ocean ecosystems and serve important regulatory roles in a diversity of habitats. The ultimate casualty of a war on sharks will be the oceans themselves.


This thought, grim, as it may be, is on my mind every morning when I wake up. I put on my suit and go to work. However, in my case, it's not a three piece suit with a shirt and tie to match, but a suit of the bathing variety. I am a shark biologist and bear witness to the frontlines of the war on sharks.

I have studied sharks for almost a decade now and I have seen many things, ranging from repulsive displays of sharks being

bloodily butchered on a beach to the grace and beauty of a Whale shark suddenly appearing and taking my breath away. Good or bad, each experience steels my resolve to do all that is in my power to end the war on sharks, stop the senseless killing and aid the oceans to continue to support their cornucopia of life.

Whale sharks are one of nature's true masterpieces. To me, experiencing their sheer size, mesmerising spots and gentle demeanour is captivating beyond comparison. They feed on microscopic plankton and have almost nothing in common with the stereotypical 'maneater' of human imagination.

Yet even an animal as docile and unassuming as the Whale shark is a victim of the war on sharks. Whale sharks are still hunted in several parts of the world, and their massive fins command small fortunes in Asian fish markets. The largest fish in the ocean is reduced by man for his amusement to a garish display of materialism – served hot by the bowl.

I believe the Whale shark is truly an animal to rally around – if we cannot save the largest fish in the sea, then what chance do lesser known fish, invertebrates and microscopic sea creatures stand? 



Unrecognised Ear Barotrauma

A diver continues diving despite ear pain.

Since my very first dive I've always had trouble equalising my left ear and I can equalise it only by swallowing.

On my recent trip to Cozumel I was participating in the first dive of a planned seven-dive series over four days. During the descent, I had difficulty equalising, and between 6m-9m I felt pain in my left ear for a few seconds to a minute.

I halted my descent and told the divemaster about my problem. I ascended a bit and equalised my ear pressure by swallowing. When my ear felt normal, I continued my descent.

At about 4.5m I experienced the same problem again. I stopped, ascended and tried to equalise. Suddenly I heard a loud "explosion" in my left ear followed by strong pain, dizziness and nausea lasting for about one minute. Symptoms disappeared almost as suddenly as they appeared, and I completed my dive without problems.

After completing one more dive and

returning to shore I started feeling very dizzy; this lasted until the next day. For three days I also had blurred vision when reading. I experienced mild pain in that left ear occasionally during the following days. It felt like I was very drunk.

Immediately after the first dive I told my divemaster about the equalising problem and the symptoms I experienced, but no one suggested that I abstain from diving for a while. I continued diving as scheduled without any other problems. However, the mild pain in my left ear remained until the end of the trip.

I decided to consult a doctor to be sure I could fly back home. He found middle-ear barotrauma and a bacterial infection of my left ear. There was no discharge from the ear. I received one shot of corticosteroid, antibiotics for five days, Advil for pain, nasal decongestant in tablets and nasal spray.

When I was back home I saw a doctor skilled in dive medicine 16 days after that explosion event. She said some blood was

still visible behind the eardrum, but the otitis had healed.

Six weeks later I saw the doctor again, and she declared that my ear was completely healed — no more barotrauma. She checked my ears, did a couple of tests and told me that I could dive again.

Since then I have dived 14 times in cold water at depths between 7.5m – 20m. I still have some difficulties equalising that ear, which has always been the case, but no recurring of symptoms.

Insights provided by DAN Asia-Pacific Founder, John Lippmann

Failure to adequately equalise the ears results in ear barotrauma (pressure injury), which is a common diving injury. This is often apparent by a feeling of pressure, soon followed by pain, during descent (or sometimes ascent).

If the pressure is not equalised, swelling and bleeding of the lining within the ear will occur, which helps to equalise the pressure and relieve the pain, although this can often lead to infection. In some cases, the eardrum can rupture and, in very severe cases, delicate membranes within the inner ear can tear, enabling fluid to leak from the inner ear and creating the potential to damage this delicate organ, possibly affecting hearing and balance.

Bubbles from decompression can also form in or around the inner ear and so disrupt its function - inner ear decompression illness. In addition, a variety of other non-diving-related conditions affecting the ear can cause symptoms in divers during or after a dive.

Signs and symptoms associated with inner ear dysfunction may include hearing loss, vertigo (spinning), dizziness, ringing or other ear sounds (tinnitus), nausea and vomiting. While symptoms of barotrauma vary, rarely does a diver experience a loud explosion as this diver described.

An inner ear barotrauma or decompression illness needs to be managed swiftly and appropriately to minimise the potential for permanent injury.

As such, any diver with these signs or symptoms after diving should refrain from any further diving and promptly call a DAN-supported diving emergency hotline (www.danap.org/emergency.php).

The doctor or medic will take a thorough history including the dive profile, the mode of equalisation, any equalisation issues, and the time of onset and progression of symptoms so a suitable course of action can be determined.

Need more information? Send DAN AP an email (info@danap.org) or call +61-3-9886 9166



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Global News

5 Ways Becoming a PADI Dive Instructor Benefits You in the Real World

Written by Megan Denny

There's a lot more to being a PADI Instructor than being a great diver (but of course that helps). A good instructor is also: an engaging public speaker, someone who can anticipate a student's needs, and someone who can break down complicated topics into easy-to-understand chunks.

These skills, learned in the PADI Instructor Development Course (IDC), are also incredibly helpful in the real world. Instructor candidates tell us frequently how PADI instructor training improved their ability to communicate ideas, bolstered their confidence in public speaking, and taught them how to give constructive criticism to others.

For example: at the PADI Office, it's not uncommon for staff members to (half-jokingly) use an IDC technique to enforce office etiquette:

"I really liked the way you – keep the break room clean. However, I noticed someone forgot to – make more coffee when the pot is empty. Remember, it's important to keep your co-workers caffeinated."

While some people are natural instructors, many people begin their PADI Instructor course wondering, "How on earth am I going to teach someone how to breathe underwater?"

That's where a PADI Course Director gets to work his or her magic. Using the PADI system of education, instructor candidates learn how to organize and present information, conduct skill development sessions, and manage open water dive training.

By the end of the IDC, instructor candidates walk away with a noggin full of knowledge and the ability to confidently explain and present information.

In addition to improving your public speaking and in-water skills, the IDC is a great way to network with interesting people. Divers who go through a Divemaster or IDC course learn a lot about each other, grow together, and form a special bond.



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Dive the Globe

Global News

If you're dissatisfied with your current job, becoming a PADI Instructor will level-up key job skills and open new doors. PADI Dive Instructors are the most sought after scuba professionals in the world. Once you're a PADI Pro, a quick look at the job board on the PADI Pros Site pulls up jobs in dozens of countries.

Even if being a full-time scuba instructor isn't your cup of tea, working part-time as an instructor or dive guide is a great way to supplement other freelance work close to home or in a tropical paradise. You may also be able to earn college credit.

Last, but certainly not least, being a PADI Pro and transforming the lives of others is extremely rewarding.

Learn more about becoming a dive instructor by visiting www.padi.com. Or, contact your local PADI Dive Center or Resort to enrol in an upcoming Divemaster or IDC course. 



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The Four Kings

Raja Ampat is definitely one of my top five places to dive and retains the number one ranking for underwater biodiversity in the world. The locals tell a tale about a woman that found seven eggs. Four of the seven eggs hatched and became kings and occupied four of Raja Ampat's biggest islands namely Salawati, Batanta, Waigeo and Misool whilst the other three became a ghost, a woman and a stone.



Raja Ampat is in the eastern region of Indonesia and situated on the newly named West Papua province of Indonesia which was formerly known as Irian Jaya. This stunning archipelago, comprising of four main islands known as Salawati, Batanta, Waigeo and Misool, has over 1 500 smaller islands, cays and shoals to explore. Raja Ampat is the largest marine national park in the entire Indonesia and is largely uninhabited.

The archipelago is located on the equator; some of the islands are in the Southern Hemisphere, with a few small islands northwest of Waigeo such as Sajang Island in the Northern Hemisphere. Some of the islands are close to the northernmost parts of the Australian continent and encompass more than 40 000km² of land and sea.

Diving

The Raja Ampat archipelago contains the richest marine biodiversity on earth where marine surveys suggest that the marine life is the highest recorded on earth. The reason for this is strongly influenced by its position between the Indian and Pacific Oceans and due to the fact that it is part of the Coral Triangle.

The Coral Triangle is composed of Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands, and East Timor and is the heart of the world's coral reef biodiversity. And with the amount of coral reefs, come reef fish, and with reef fish, come pelagic fish. During a Rapid Ecological Assessment by Nature Conservation's Indonesia programme, the renowned ichthyologist, Gerald Allen, broke the record for the most fish ever recorded on a single dive – 283. His mate, coral expert Charles Vernon, recorded more than 450 species of hard corals.

It can be clearly seen from this that it is a marine protected area with more than 1 500 species of fish. Five species of rare and endangered sea turtles including the Hawksbill sea turtle, 600 species of hard corals, 75% of the total for the entire world, 13 marine mammal species including the Dugong are also found here.

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



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

Scuba diving with them is a tremendous treat, with experienced dive guides and crew making sure you'll have all you need on the trip. You will kit up once when you get on the boat and then they sort out your gear and equipment until the last dive; they even use the ENOS satellite tracking system for safety for all divers, so if you lose the dive guides or group, the boat can find you wherever you are.

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

They have a couple of different itineraries around Raja Ampat and I enjoyed a six night safari with them. The itinerary for the week is packed full with three dives a day, finishing the day a night dive, and to

complete a fantastic day, you have top class meals and snacks between or after every dive.

On your first day of the safari a representative will either pick you up from the Sorong Airport or from your hotel and will escort you to the ship. Welcome drinks are served followed by a full safety briefing, cabin allocation and ship orientation. Afterwards you will get your gear ready to do a check out dive just outside Sorong. It is a very nice dive with a lot to see, just to get you excited for what is yet to come.

The journey starts with sailing across the Dampier Straits to the islands. This stretch of water is a well-known highway for cetaceans. Its well worth relaxing out on deck and keeping your eyes open for Bryde's whales, Sperm whales and Pygmy sperm whales, Short-finned pilot whales, Orcas, False killer whales, Pygmy killer whales, lots of different Dolphins and even Blue whales!

Just after sunrise the next morning I walked out of my cabin and the view was breathtaking; small islands, formed and curved years ago by the tectonic forces of Mother



By Johan Boshoff

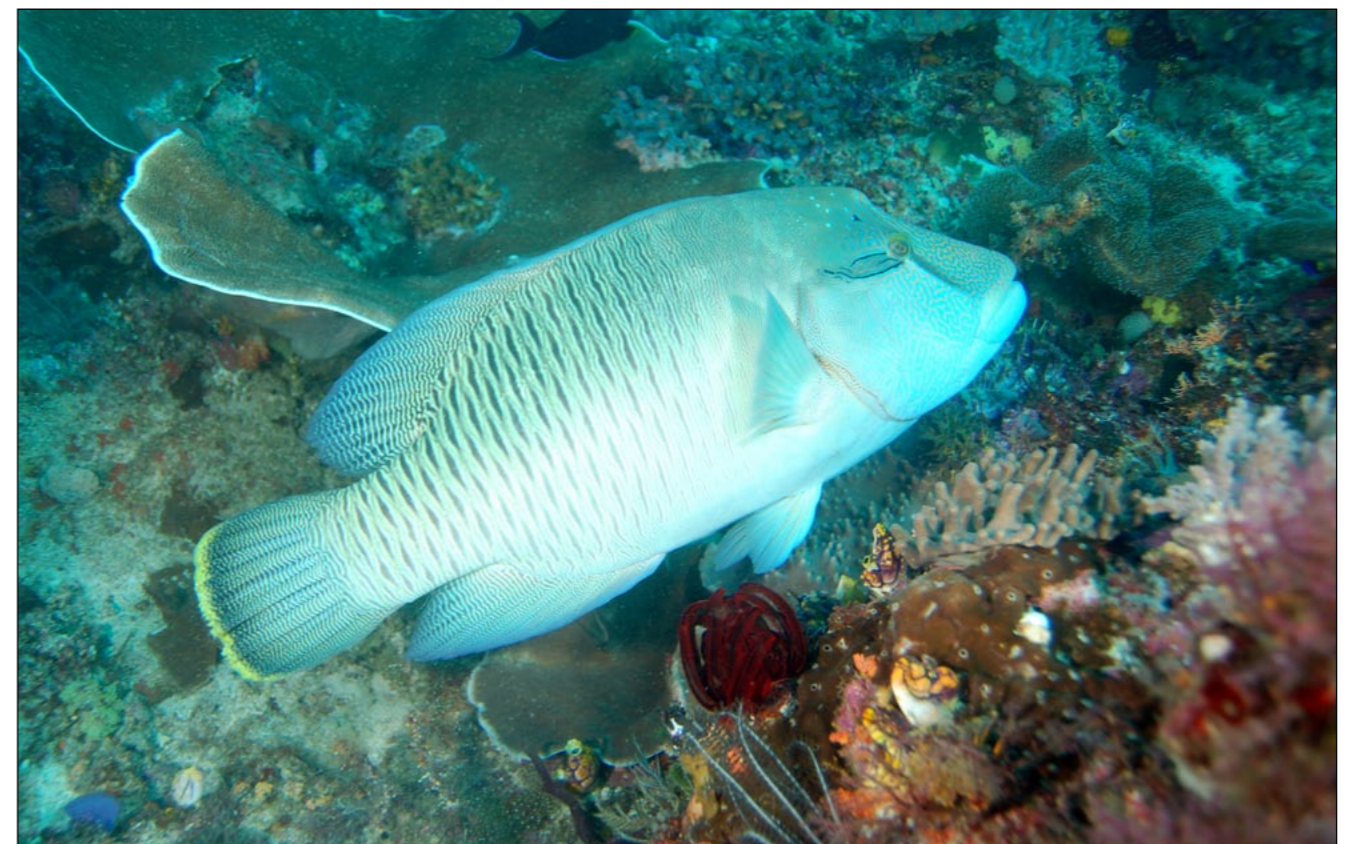
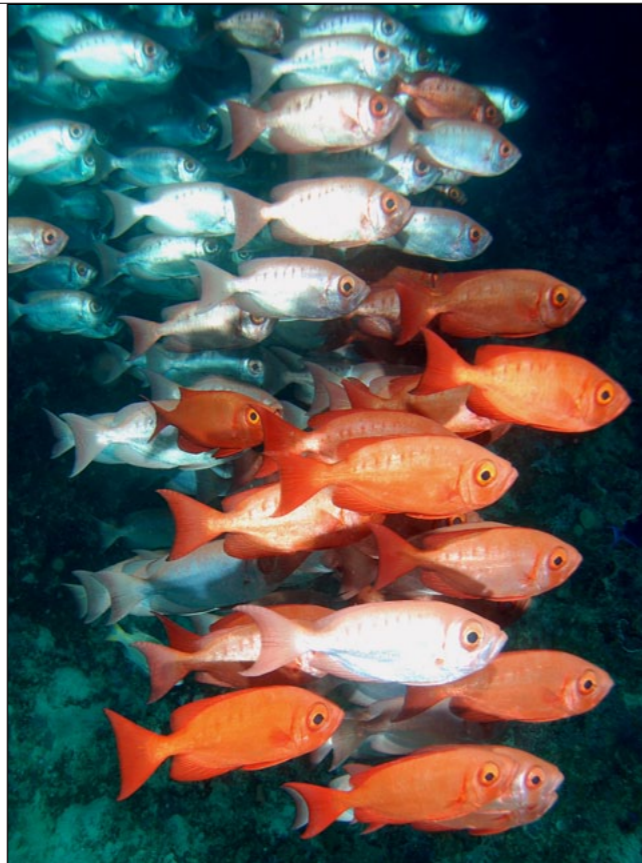
Nature, were everywhere.

On the first day's diving menu was Penemu Island with Melissa's Garden, Barracuda Reef, Galaxy, and to top it off a night dive on Anita's Garden. Around the islands there is plenty to see and explore underwater.

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

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

After the night dive we headed to Yanggefo Island. The next day we had something special; dive sites with vibrant orange soft corals, schools of Barracudas, Bumphead parrot fish and Sea snakes. The area offers schools of Bat fish, Surgeon fish and Snappers with the occasional Wobbegong sleeping under



By Johan Boshoff

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

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

Dampier Strait was on the menu for day five where we could explore Swingkrai Mikes Point, Sardine Reef, Mioskon and Friwinbondan. The reefs were packed with hard and soft corals and surrounded by fish of various sizes, from schools of brightly coloured Anthias, silvery Fusiliers, Horse-eyed and Bluefin jacks, to Spanish mackerel, Batfish and some solitary Dog-tooth tuna. Whitetip and Blacktip reef sharks patrolled the lower areas and a resting Wobbegong can often be found.

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

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

Diving down to 30 meters, we saw Barbigant's pygmy seahorses and a decent school of Big-eye jacks, large schools of Barracuda, Surgeon fish, Bumphead parrotfish and many friendly turtles. Regular sightings of sharks such as Wobbegongs, White tip reef sharks and Grey reef sharks can be expected during your dive.

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



By Johan Boshoff

the first dive here, I just wanted to keep coming back.

Raja Ampat diving is breathtakingly spectacular and truly unforgettable.

Diving conditions

The conditions are usually very good with flat seas and water temperatures are about 28 °C all year around. Visibility is mostly outstanding, but you can expect anything from 10 to 30 meters depending on the dive site.

The current varies from none to very strong depending on the location. Many dives are drift diving with depths range from 10 to 40 meters.

Climate

This is an all-year dive destination but the best time to visit Raja Ampat is during the dry October-April period, which is by contrast the rainiest period in western and central Indonesia. Because of Raja Ampat's tropical climate, rain can fall unpredictably, although much less frequently during the dry season.

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

Culture

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

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

Getting there

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

Time Zone

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

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By Walt Stearns

Wakatobi's Coral Kingdom

What is Wakatobi? Some know it as a luxury dive resort, others refer to it as a region. In fact, it is both, but that wasn't always the case.

Photo: Didi Lotze



A Swiss national named Lorenz Mäder spent years searching the Indo-Pacific for just the right place to build his dream resort. When he came across a small island in the Tukang Besi archipelago of Indonesia's Banda Sea, he knew he'd found the place.

The surrounding reefs were among the most dramatic and fecund he'd ever seen, and just inshore, there was a white-sand beach fronting a coconut palm grove. It was here in 1995 that Lorenz built his dive lodge in the style of a local Indonesian longhouse.

He named his dive outpost Wakatobi, a word created by taking the first two letters of the four largest islands in the archipelago: Wangi-Wangi, Kaledupa, Tomia, and Binongko.

And even as construction began, he was working on a plan that would ensure the future health of the reefs he'd come to love. At the time, areas of the Indian

Ocean were falling victim to destructive fishing practices such as netting and dynamiting. Rather than just quietly sitting by and hoping the local fishermen didn't damage the reefs, Lorenz negotiated an agreement designating a six kilometer section of the reefs as a no-fishing zone, in exchange for lease payments made directly to 17 local villages.

This was the beginning of the Collaborative Reef Conservation Program, which has since been expanded to cover 20 kilometers of reef, won numerous awards, and become a model for proactive private sector conservation.

As word of the Wakatobi Dive Resort spread through the diving and underwater photography communities, a growing number of adventurous travelers began to make their way to this remote location. Originally, the trip took more than 36 hours from Bali,



Photo: Walt Stearns



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Photo: Walt Stearns



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By Walt Stearns

and involved a combination of local flights, land transfers and boat rides. Over time, faster connections were created, and in 2001, a private airstrip, the Wakatobi Marango Runway, was constructed, and direct charter flights were established to bring guests comfortably and smoothly from Bali to Wakatobi in just two and half hours.

Garuda Indonesia Airline now serves the resort with twice-weekly flights aboard a 70-seat aircraft that provides generous baggage allowances for gear and photo equipment.

The resort has undergone a litany of other enhancements and expansions over the years. From the original longhouse, the property has grown to include a collection of 24 private Bungalows set in a beachfront coconut grove, along with 4 luxury Villas that sit right on the shoreline, with decks that provide magnificent sunset views. Guests now enjoy five-star service

and gourmet-level dining, along with amenities such as personal dive guides, private boat charters, spa services, private beachfront dinners and a range of water sports and land-based activities.

A fleet of custom (21m/70ft) dive boats make daily departures to more than 40 premier sites within the resort's private marine preserve.

Here, underwater landscapes range from shallow reef tops to dramatic walls and pinnacles covered in luxuriant growths of sponges, and hard and soft corals.

These sites are home to thousands of species of fish and invertebrates. In fact, this region is known as the most bio-diverse marine environment on the planet.

Divers and snorkelers can also experience this rich diversity right off the resort's beach. Wakatobi's House



Photo: Walt Stearns



Photo: Walt Stearns



Photo: Walt Stearns

Dive the Globe

Wakatobi

By Walt Stearns

Reef has been named the world's best shore dive, and it can be accessed day and night. This reef line transitions from grass beds to a coral wall just 80 meters from shore, and stretches for more than a kilometer east and west.

Many guests have spent entire days exploring the House Reef, making treasured finds such as ghost pipefish, leaf scorpionfish, broadclub cuttlefish, six species of clownfish and a plethora of other unique marine creatures mere yards from the resort jetty.

Lorenz's vision for Wakatobi not only set a precedent for private sector conservation initiatives, it set broader plans in motion, and actually changed the map. In 2002, the Indonesian government expanded the area created by the resort's conservation program to create the Wakatobi National Park.

The park encompasses an expansive 1,390,000 hectares of the Tukang Besi island group. Then, less than

a year later, these islands became an autonomous region, and in the process decided to go for a new name: Wakatobi.

In 2005, UNESCO listed the Wakatobi National Park as a tentative World Heritage Site, which was eventually added to the World Network of Biosphere Reserves in 2012.

Many see Lorenz as a visionary and forward thinker who initiated one of the world's largest privately-funded and managed marine protected areas. But he often attributes his motives to a more pragmatic goal.

As he tells it, "You can't pack up and move your resort when the diving is no longer good. So it's better to do what you can to protect it to enjoy it now and in the future."


For more visit www.wakatobi.com.
Contact: email.office@wakatobi.com 



Photo: Walt Stearns

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Manado resort sits well outside of the hustle and bustle of Manado City, near the tiny village of Molas. As resorts go, Manado is the largest of the two, offering Bungalows, Cottages and Hilltop rooms hidden between the lush, green gardens.

Its counterpoint is certainly the Barracuda Restaurant a large octagonal building with a bar that offer mainly traditional Indonesian dishes, allowing you the chance to taste something unique and full of delicious, tropical flavours. A lounge area with pool table, a small shop with diving accessories and souvenirs, and plenty of books in the library.


Two large swimming pools beneath palm trees offer a chance to cool down in the tropical sun, and a romantic pavillion is the perfect place to hang out with a cool drink, especially during sunset.

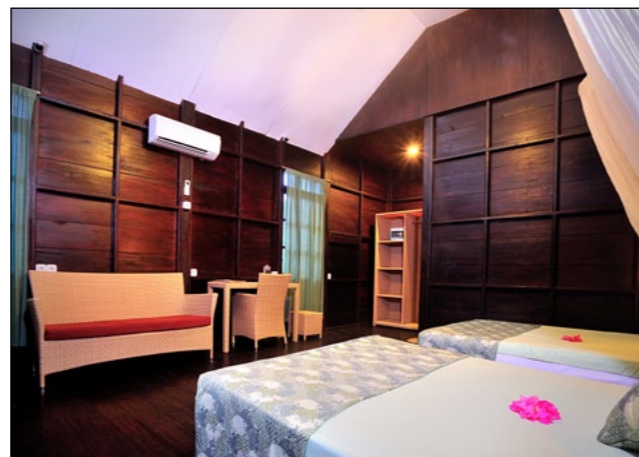
Walking towards the jetty, you can find our pizzabar with a traditional wood oven and dive center with camera room.

From the end of this 150 meters-long pier, you can see Manado to your left, sprawled along the coastline.

To the right, your diving adventures will begin at Bunaken National Marine Park!

For more information contact Thalassa Dive Resorts at info@thalassamanado.com or visit www.thalassamanado.com for more information.

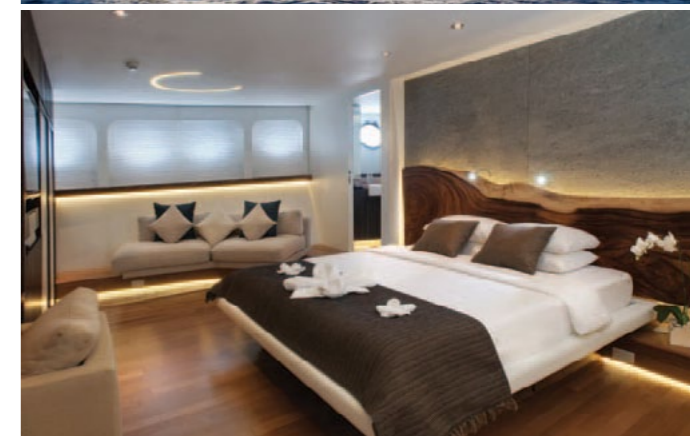
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At Wakatobi, you don't compromise on comfort to get away from it all. Our private air charter brings you directly to this luxuriously remote island, where all the indulgences of a five-star resort and luxury liveaboard await. Our dive team and private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



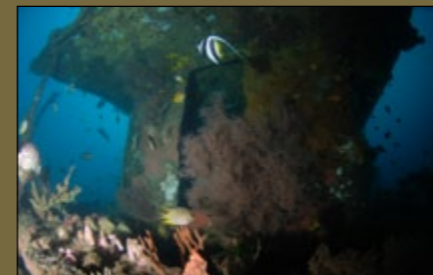
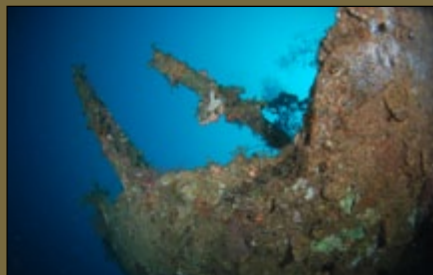
"The reef systems here are some of the most pristine I have seen anywhere in my dive travels around the globe, and Wakatobi resort and liveaboard are second to none. The diversity of species here is brilliant if you love photography." ~ Simon Bowen



www.wakatobi.com

The Mystery of the Molas Shipwreck

There is a few big questions which everyone is asking. Is it Japanese, Chinese or Dutch? And how exactly did it end up on the bottom of the ocean floor.



The Molas Shipwreck is a dive site right in the backyard of Thalassa Dive Resort Manado in North Sulawesi, Indonesia.

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 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 around and in the wreck is pretty spectacular too, with a lot of snappers, batfish and the occasional

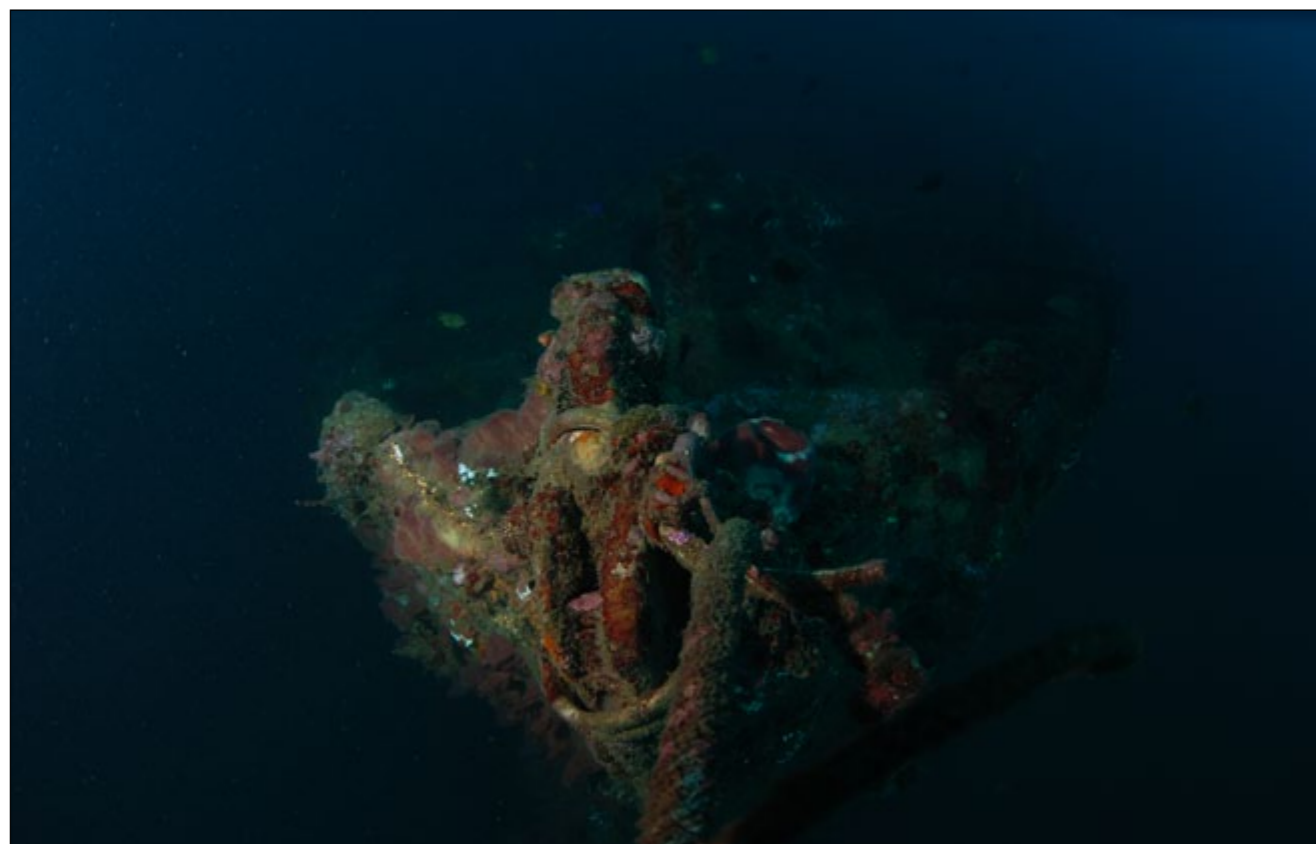
reef shark cruising around.

After you reach the location buoy at the surface, you will descend using its guideline, and the first thing you'll notice is that the ship lies on a sandy bottom in an upright position. From the looks of it, it was anchored at the time of sinking, since the port-side anchor chain is uncoiled, extending down under the hull, 15 meters away from the ship.

The anchor itself, however, is missing and is probably functioning in someone's garden as a spectacular decoration! The starboard anchor is still hoisted up at the bow at starboard.

Following the port side, you can see a large dent in the hull, opening up into a tear through the metal, bearing all the signs of a broadside ramming.

After the hull was breached, the ship tilted to port side, and all the davits on that side (the cranes that lower the lifeboats)



By Arjen Bokhoven & Simone Gerritsen

were not deployed. On the starboard side, however, the davits are extended, indicating that the crew must have got off board safely.

It is evident that the strong forces of torsion caused the steam pipes to break off and land next to the ship on the starboard side. And since the breach was close to the stern, the ship sank stern first, which is indicated by the huge steam turbines which have been pushed out of the hull and sticking out.

It is fun to see the whole story of how the ship went down while exploring this great wreck.

Details about the wreck are scarce, and what little information can be found online is not very reliable. One website lists it as a ship called the Kongo Maru, but this particular Japanese freighter sank in 1942 off the coast of East Papua New Guinea, not Manado.

Other sources claim that it's a Chinese commercial iron ship. The big questions that everyone is asking though, are is it Japanese, Chinese or Dutch and how exactly did it end up on the bottom of the ocean floor?

After Simone, the owner of Thalassa Dive Resort, did some more in-depth research by asking around locally and browsing the internet, she can reasonably state that it is, with some certainty, a Dutch freighter and that it sunk in 1945 towards the end of World War II. At that time the last remnants of Dutch resistance were desperately trying to maintain their foothold on the colonies while Japanese forces still controlled the territories.

Although sunk during wartime, some evidence suggests that Japanese aggressors did not down this freighter. Its real story will unfold once you decide to dive this beautifully overgrown wreck.

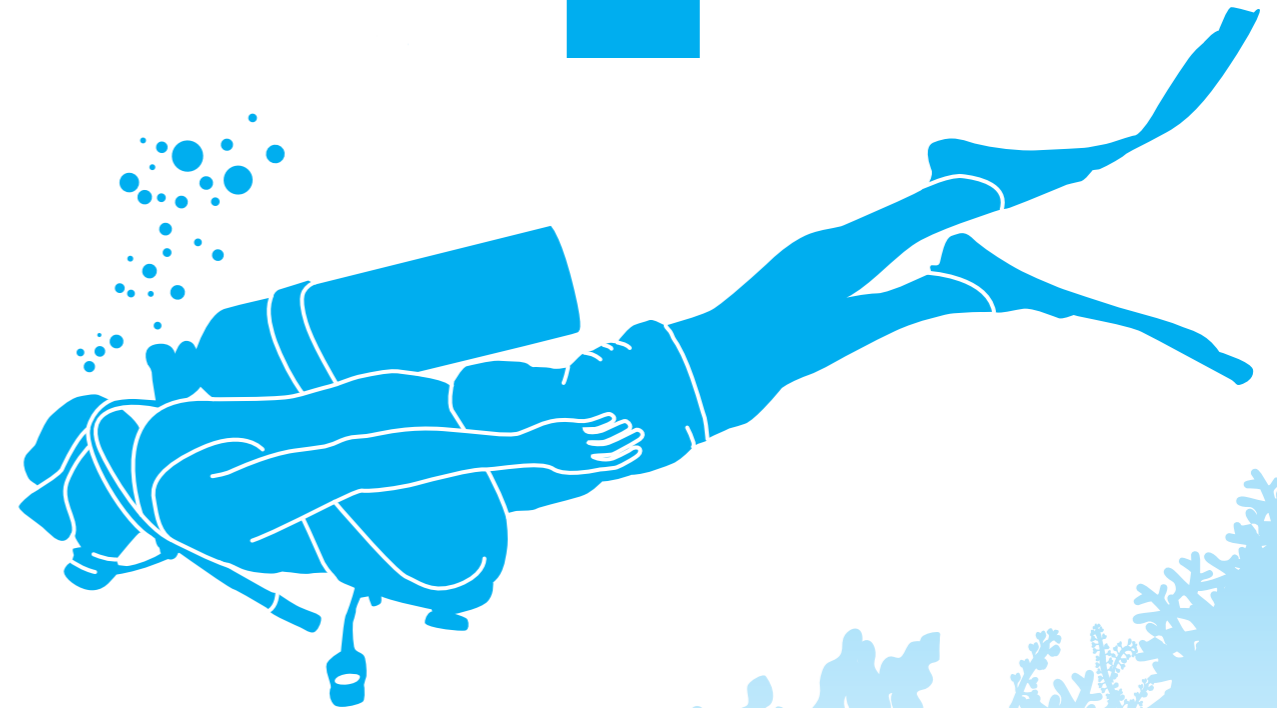


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By Arjen Bokhoven & Simone Gerritsen

What we think happened

According to insurance records, this ship ran aground on a reef. However, as divers we can see that the nearest reef is at least 200 meters away from the wreck and that it is lying on a flat sandy bottom. If not running on a reef in bad weather, then how exactly did this ship go down?

One theory is based on the fact that people do desperate things during desperate times. Just imagine that you're the owner of a big ship, and you're tired of war.

The Japanese army is walking all over you, and you just want to go home and leave all of this behind to live in peace with your wife and kids. You could try selling the ship, but would struggle to find anyone to buy it because of the ongoing war.


So what do you do? Well, the safest option would be to have the ship rammed by a willing (and slightly crazy) friend or foe, get everyone off board, and simply claim the insurance money so that you've got something sweet for your future.

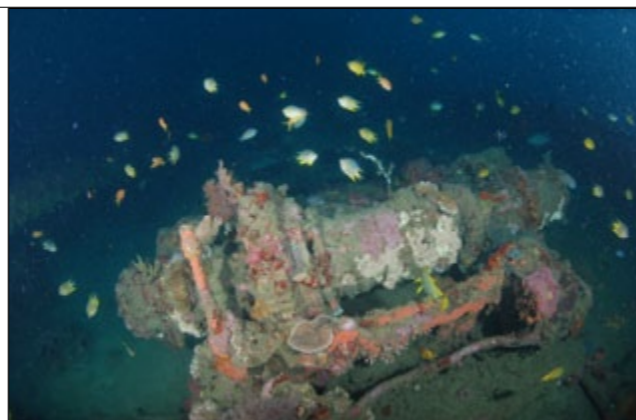
But because the insurance company won't cover any losses due to acts of war, you file the report as a shipping accident. And since this is 1945, nobody will come all the way from the UK to verify if your story is really true.

So there you have it: the Molas Shipwreck, we think, is nothing more than an ordinary insurance scam. Who got to claim the money is still a mystery though. Whatever the case, diving the wreck is a fantastic experience that you shouldn't miss!

You can do this fast and easily through Thalassa Dive Resort after a less than five minute boat ride.

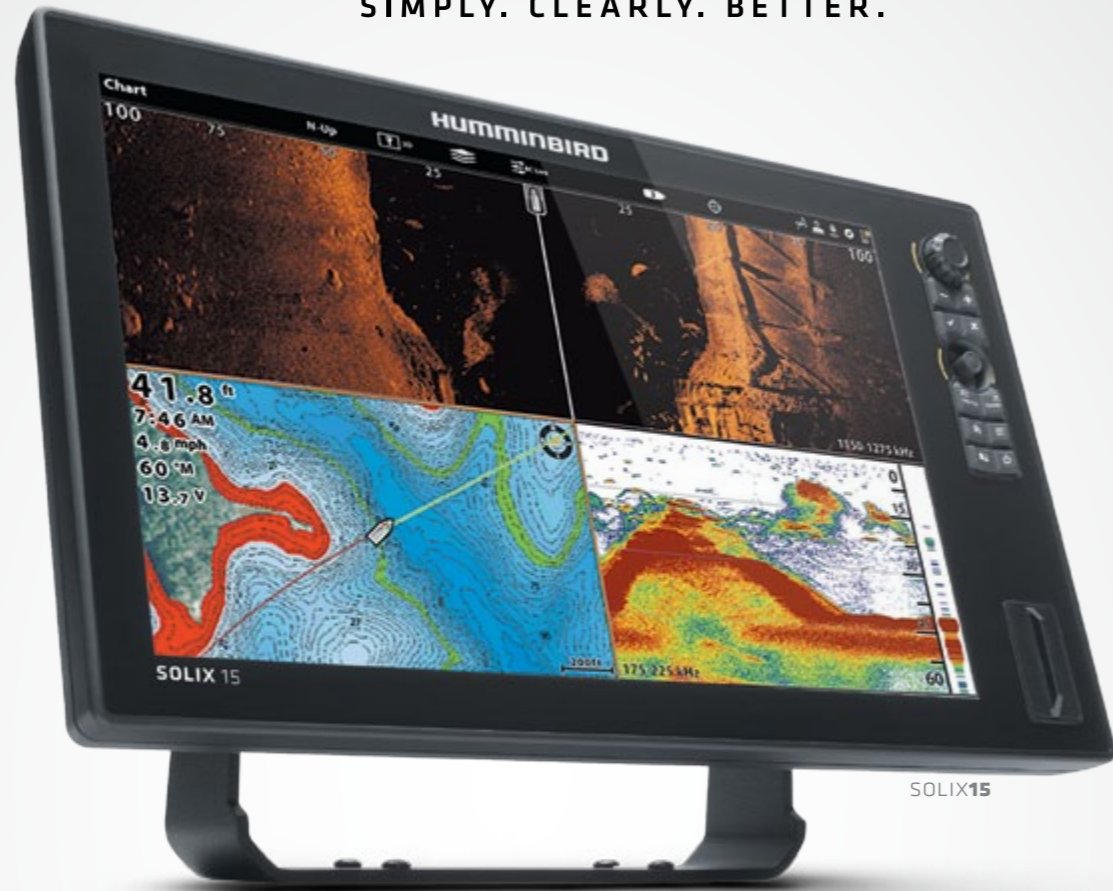
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Photographic Competition




Barry Shinstad 



Ian Labuschagne 



Emil Prizal 



Leon Goosen 



Leon van Niekerk 



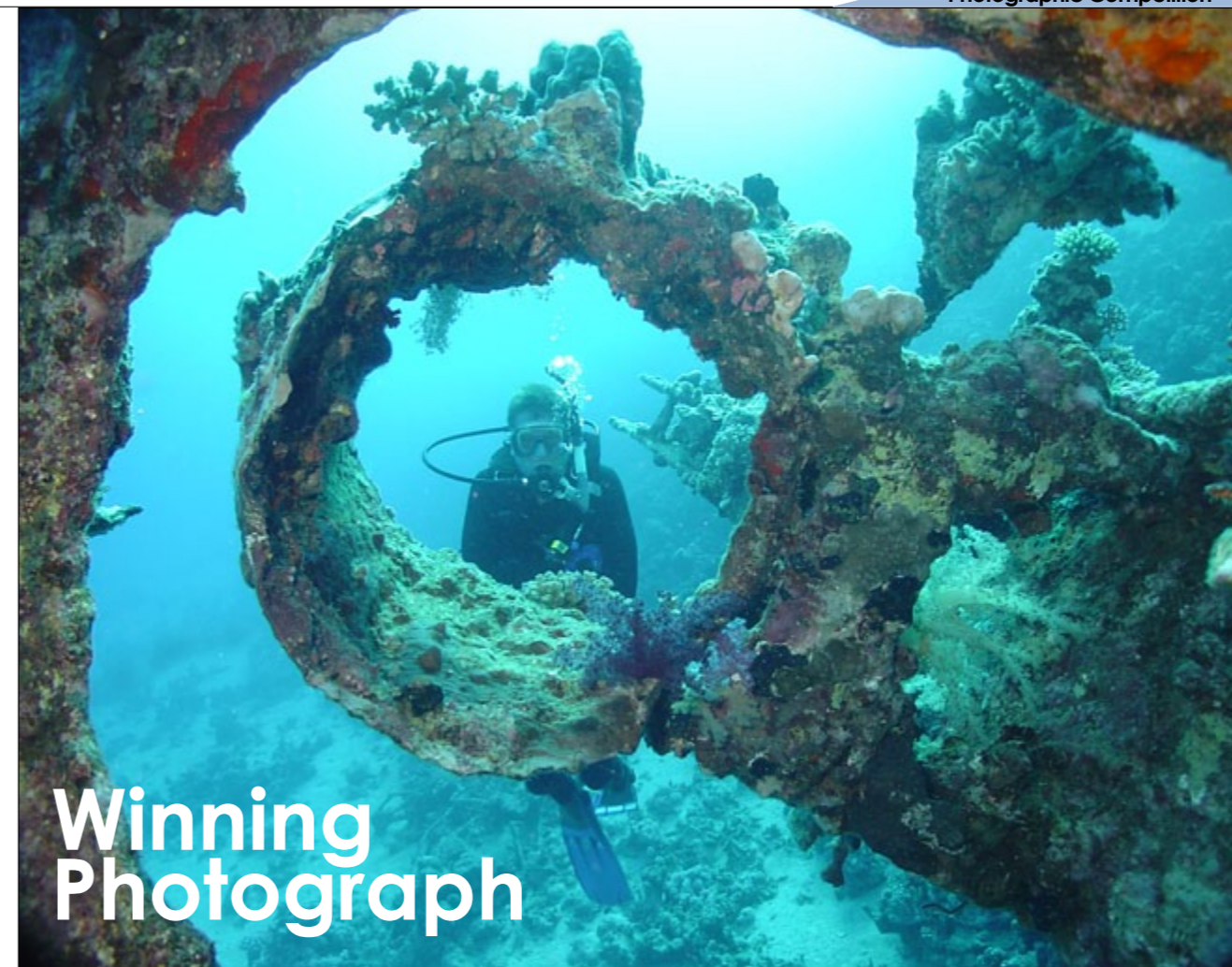
Linda Martin 



Greg Grant



Ignus Ferreira



Winning Photograph


Gary Els

How to enter your photograph

Whether you're an amateur or professional photographer, this is a photo competition for all levels of photographers. We're looking for pictures that capture the true experience of scuba diving and the wonders of the underwater world.

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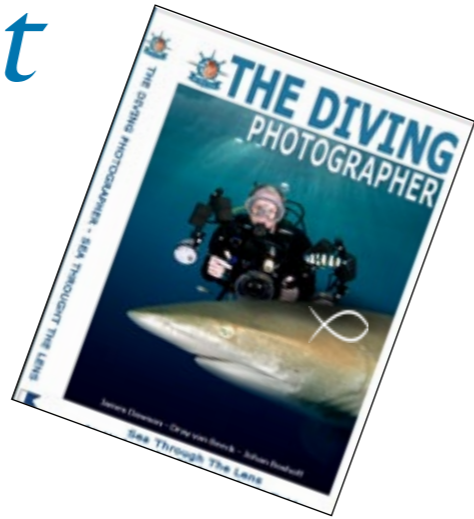
- Photographs may be taken above or below the water, as long as diving remains the theme.
- The Name of the photograph must be the photographer's name.
- Photographs must not be bigger than 5 MB per photo.
- Submit your snaps in high-resolution (at least 150 dpi) in jpeg format.

E-Mail your photos to info@ozdiver.com.au
"photographic competition" 



Expose it right Underwater

Wide-Angle Photography



To capture the essence, the adventure and the mystery of the underwater world, there is only one way – wide-angle. Wide-angle photography is the technique of the editorial and publishing photographer. The very magic of the wide-angle lens depends on close proximity and sharpness.

You get to be extremely close to subjects and yet still have the ability to record amazing wide views. Your general lens for wide-angle photography would be in the

focal length region of 14mm to 24mm but you also get your extreme wide-angle fish-eye lenses. Wide-angle lenses are ideal for capturing large subjects in their entirety, at close range. Fortunately the lenses have a great depth of field so they are quite forgiving when it comes to focus.

The first rule in wide-angle photography is getting close to the subject. This is absolutely crucial if you want to get sharper, clearer and richly coloured



photographs.

You also want to shoot on smaller apertures to increase sharpness and depth of field, while decreasing the strobe-to-subject distance. Always try and shoot up towards the surface as this allows you to make use of the ambient light in the background.

The second rule is to always compose through your viewfinder. If you compose with the naked eye, your subjects will look distant and the final result will look very different to what you expected.

The third rule is that unless you can get extremely close to the subject, a very wide-angle lens is not recommended. You will have to have a good knowledge about the subjects you wish to photograph, as this will usually influence your choice of lens.

There are several different wide-angle situations that you might encounter on a dive which range from available light silhouettes, scenic seascapes, people and

marine wildlife and wreck photography.

For optimum impact for fixed features such as soft corals and fans, do not take the shot unless you can almost touch the subject – a good wide-angle lens can focus down to about 25-30cm.

A very common error made by novice underwater photographers is to have too much space between their subject and the picture frame edges.

With wide-angle photography backscatter becomes one of your worst enemies. This is where decreasing the amount of water between you and the subject can make a huge difference.

The other option is to make adjustments to your strobes by changing their position, i.e. moving the strobe slightly forward of the lens or lighting the subject with the edge of the beam. Another point to remember is to take multiple photographs, each time recomposing the photograph to look for the best composition. ◻





In most photographs there is something that will bug you that you would love to remove to enhance the overall impact of the image. You may look at the photograph and think, "If only that was not in the photograph then it would be great," whether it be a diver's fin or a bait rope on a shark cage. Fortunately there are very useful tools available to help you easily and effectively remove most unwanted objects from your image. The overall result of your edit will be mainly down to your patience and perseverance when removing an object from your image. Depending on the object you want to remove and the composition of the photograph this may take five minutes or five hours.

We will now show you how to use the Clone tool to effectively remove an unwanted object from your photograph.

The Clone tool

The Clone tool is exactly that, it clones an area of your choice in the photograph into another selected area in your photograph. The Clone tool uses the brush tool to copy from an image or pattern from another part of the image. This technique takes a while and patience to learn, but in the hands of a skilled user it is very powerful.

Once you have the hang of the tool it is very useful and easy to remove objects from photographs. In my photograph I have a diver

with bright light at the bottom of the picture which is a very distracting object. To remove this I selected the Clone tool.

The first thing I need to do is make a duplicate layer of the image to work on. As before it is very important to do this, as if you make a mistake and ruin the photograph then all you need to do is delete the layer and try again on a new duplicate layer. You will not then harm the original image, and by turning the layer are working on off and on you can see the difference between the original and the image you are working on as a guide.

Selecting the tool:

- From the Top Menu in Gimp click on Tools, Paint Tools, Clone.
- 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 are and the slower the blending will take to clone the area you are working on. 100% opacity is the maximum and is very harsh so it is best to work with at least 50% to gradually change your image.

Brush

Select a soft brush with faded edges. This will avoid distinct streaks and lines along the edge of your cloning. 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'.

Scale

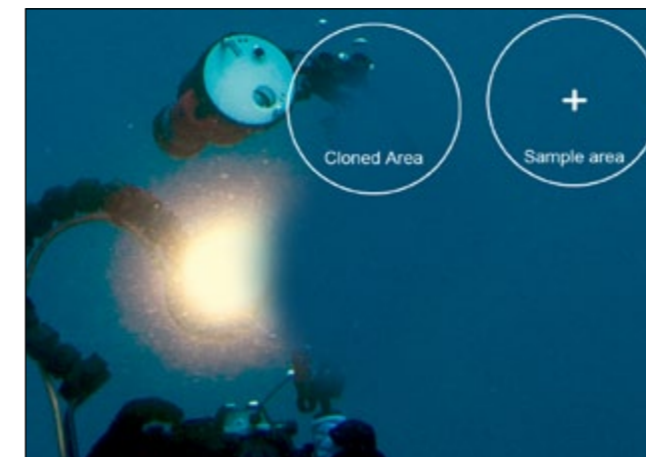
This ranges from 0-10 but it is much easier using the square brackets on the keyboard [= smaller] = Bigger;

Source

Tick 'Image' and then ignore 'Sample Merged' as this would include all layers in the clone and not just the one you are working on. Pattern is also not needed for removing objects from an image as this is basically used for creative effects such as adding a pine floor pattern to an image.

Alignment

There are a couple of tools that you can use with this option. The first is 'aligned' which I used for this example. As the water column around the diver to be removed was fairly consistent with

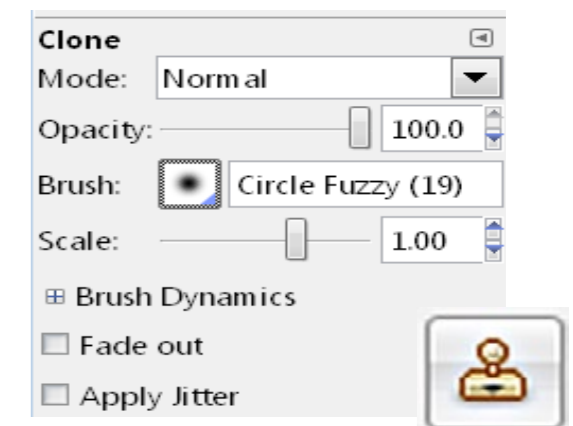


the water next to him, this was easy to work on. I selected a spot parallel to the diver and then swept the brush over the image. The sample that is being used to clone is then aligned with this and used over the diver.

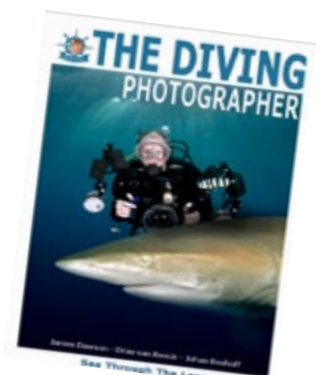
The 'Registered' option is not really useful for this purpose as this is mainly used when utilising multiple layers.

The 'Fixed' option can also be quite handy, although restrictive. If your background is very basic and one standard colour then this is a great option to use. The sample area when engaged (ctrl and left click) stays where it is and the clone is based on only one spot in the image. This will allow you to quickly run over the object replacing it with the sample area. The only downfall with this tool in Gimp is that the sample area is quite small.

Using the Clone tool is very easy and effective when deleting objects in underwater scenes. This works well with the Healing tool which does a similar job but is more advanced and a great tool to finish off your editing. The Heal works like the Clone but also takes into consideration the area that you are working on when blending in the Clone. The best practice is to use the Clone tool to roughly delete the object and then use the Heal tool to smarten up the image to cover up any evidence of the edit. ☑



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Drinking and Diving

The first time I thought of alcohol and diving was at a diving safety briefing and diving workshop before the commencement of a project. At this event the Safety Manager introduced a poem by Don Merrill.

It starts

“I could have saved a life that day But I chose to look the other way....”

Giant Stride

Drinking & Diving

By Tony Turner
Later that year I was at the Undersea Hyperbaric Medical Society's Annual Scientific Meeting in Toronto, and Marguerite St Leger Dowse from the DDRC Healthcare (Diving Disease Research Centre) in Plymouth, England, gave a presentation on drinking alcohol and diving.

Over my career there have been quite a few incidents involving alcohol that could have become life threatening. I have worked most areas in Asia, Australia, India and the Middle East

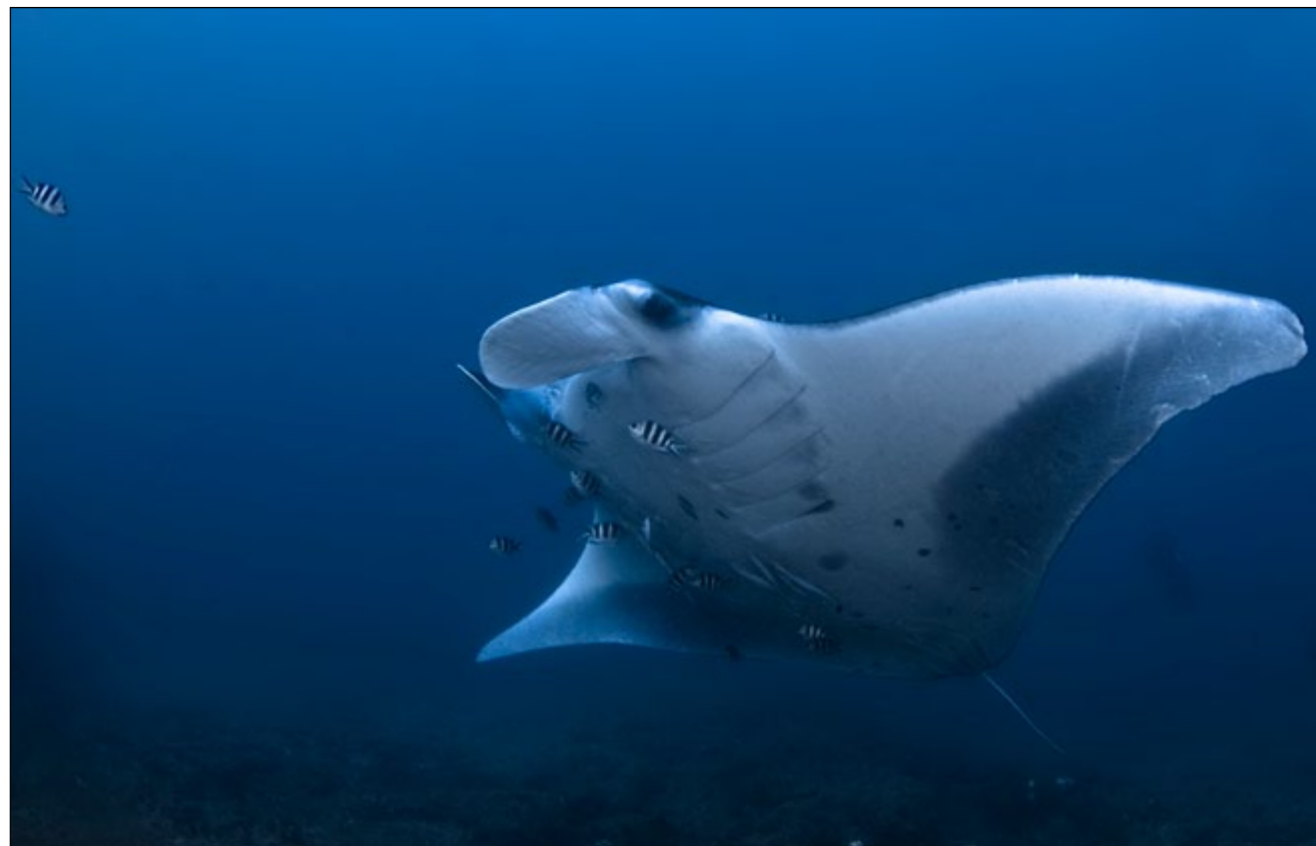
and in the late 70s – early 80s drinking alcohol was ignored in most of these areas. Some French and Italian vessels even served alcohol with meals. I have chosen one incident here that could be related to recreational diving to illustrate how easy it is for something to go wrong.

The job was a pipeline inspection in water between 90 – 100', (this

was in the era before ROVs became commercially available). We were diving out of a Zodiac and as I had used up all my crews' bottom time I was told by the client to pick up the crew from another vessel which belonged to the same company.

That crew had had a party the night before. The men were experienced and highly trained sat divers. When the dive boat got on location the diver and standby diver fitted out the diver with all his diving equipment.

Due to lack of concentration, because of the events the night before, the diver picked up the wrong weight belt. When the diver got on the bottom and started walking the pipeline he called back on the communications to the surface to send down some shifting spanners or some shackles. As this was not a construction job there was no requirement or need for shifting spanners or shackles.



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By Tony Turner

On challenging the diver on why he needed these items, he explained that the current had picked up. He was too embarrassed by his mistake of putting the wrong weight belt on and decided to ask for something that would give him additional weight and was easy for him to carry instead.

We recovered the diver to the surface safely, but we had lost the location of where we were working on the pipeline.

We had to start at the beginning again and have a diver walk the pipeline until he got to the spot where the last mark had been left of the last inspection. This in fact, lost us 2 days' work.

Over the years, in my experience, there are two ways that drinking affects your decision-making in diving, which could turn a nice recreational diving day out in a boat into a disaster. Firstly, your immediate decision-making

pre-dive and while diving. If you're hung-over or have alcohol in your blood even as low as 0.3%, this can impair your judgment. Such simple things as picking up the wrong mask or the wrong weight belt can set you up for failure.

All you need is for either the current or the swell to pick up and your judgment now becomes critical. Because you picked up the wrong piece of equipment you are now in a life-threatening situation.

Secondly, the onset of decompression sickness. This may present a couple of hours after surfacing. One of the symptoms of decompression sickness is malaise (a general feeling of not feeling too good). In my experience, this symptom is commonly overlooked, and if you have been drinking you may not know whether you have a malaise or are hung-over.



Giant Stride

Drinking & Diving

By Tony Turner

During my time off-shore I have witnessed a number of neurological exams, (these are usually done by the diving medical technician) which have not picked up on the malaise factor of the examination. Because malaises were not picked up these symptoms progressed over several hours into a serious where they ended up deteriorating into serious Decompression Illness (DCI).

So, to endorse the DDRC's work we at the Wesley Centre for Hyperbaric Medicine with the help of DDRC, undertook a survey in the Australasian area.

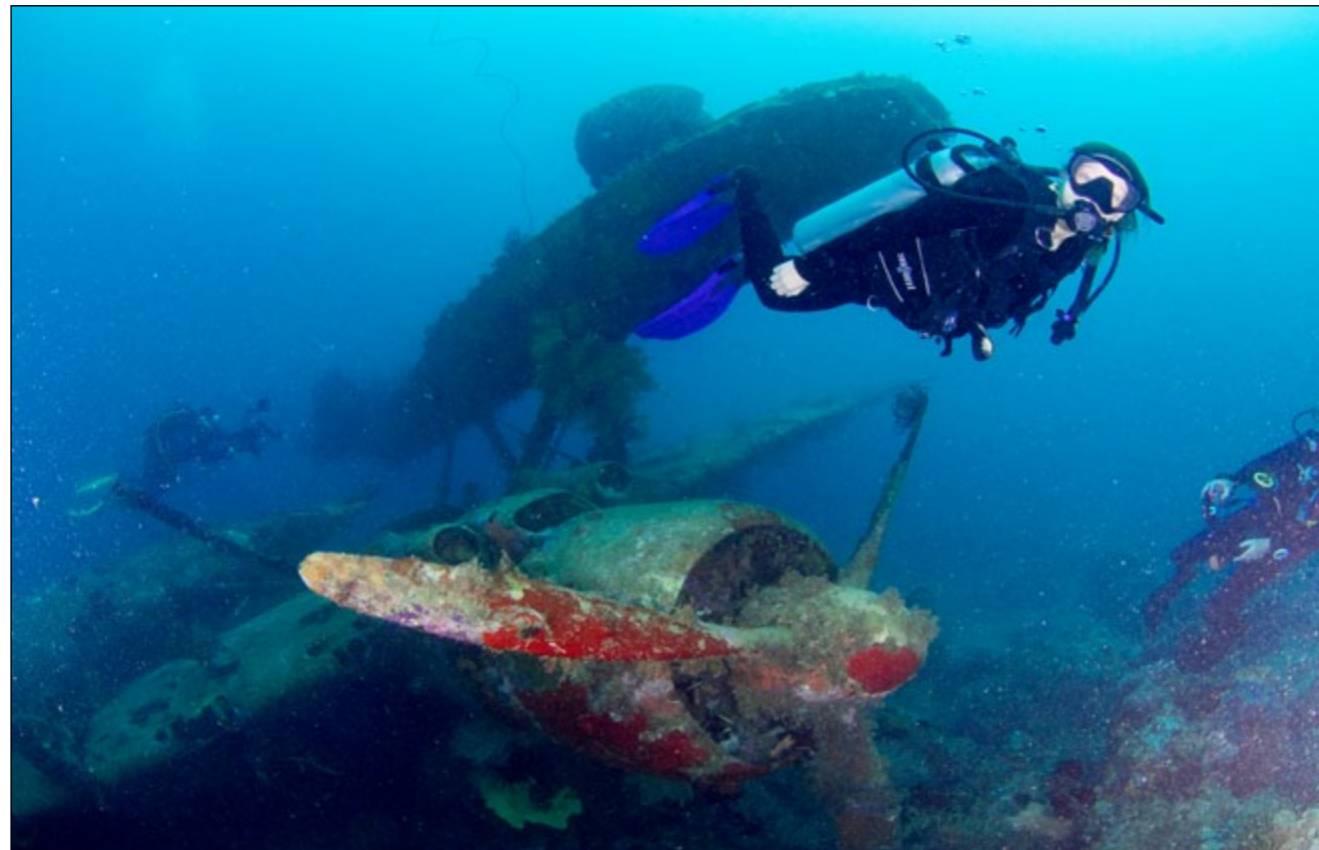
The questions in this survey closely mirrored the format of the DDRC's survey; and our survey started in October 2015.

The aim was to collect data regarding alcohol consumption and attitudes to alcohol in Australasian divers. It was

an anonymous on-line survey and was originally planned to run for 4 months. The actual time it ran was 1 year and 4 months, closing in February 2017. The total complete records numbered 418 (70% males, 30% females). The divers in the study were largely experienced, with 58% having dived for more than 10 years.

From the data gathered, it showed that 26% (108/418) of the respondents did not know, or gave the wrong answer, regarding recommendations for daily alcohol consumption.

On the question of what was the shortest period between taking an alcoholic drink and diving, 30% of the males in the study had drunk alcohol in less than 6 hours before a dive. Although diving with hangovers were not specifically asked in the survey, 145 (35%) respondents reported that they had aborted a dive



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Giant Stride

Drinking & Diving

By Tony Turner

at some point, with 53 giving the following symptoms from a fixed option list: headache 17, vomiting 12, not thinking straight 8, and general fatigue 39. Any of these symptoms may have been a hangover or due to alcohol.

The survey also looked at divers taking physician prescribed medication (118) and found that in this group 18% had gone diving when they felt they would not be able to safely drive a car.

Health problems due to alcohol were reported by seven divers, and more general health issues reported by 135 and included asthma, diabetes, spinal injuries, cancer, multiple sclerosis, and 22 respondents with cardiac issues.

And finally, of concern were the 69 divers who said they had witnessed an accident that may be attributed to alcohol, including 25 who said that they had seen divers vomiting on the surface, under water and into their regulators due to, in their opinion, being hungover.

In the free text there were reports (25) of irresponsible instructors/diving operations, and lack of appropriate training regarding alcohol. Some responses were made by instructors questioning other instructors' attitude to alcohol and also citing a culture of "being one of the boys" and staying up drinking at night. Other comments were made by less senior instructors stating that their more senior colleagues would ensure that the junior instructors took the first dive of the day due to a hangover culture amongst the senior instructors.

Live-aboard operations also came in for criticism.

Overall the data from this study showed similar trends in some areas as the UK study, and clearly demonstrated a need

for alcohol drink education. An alcohol awareness program aimed at dive shops, schools, and the dive tourist industry should be promoted by the recreational dive training industry who need to take a more responsible attitude to the subject of alcohol and diving.

I hope that by reading this article it helps you make the correct decision about drinking before diving.

Over the years the poem that I mentioned before has stuck with me all this time and now may be my chance not to look the other way. 🐠



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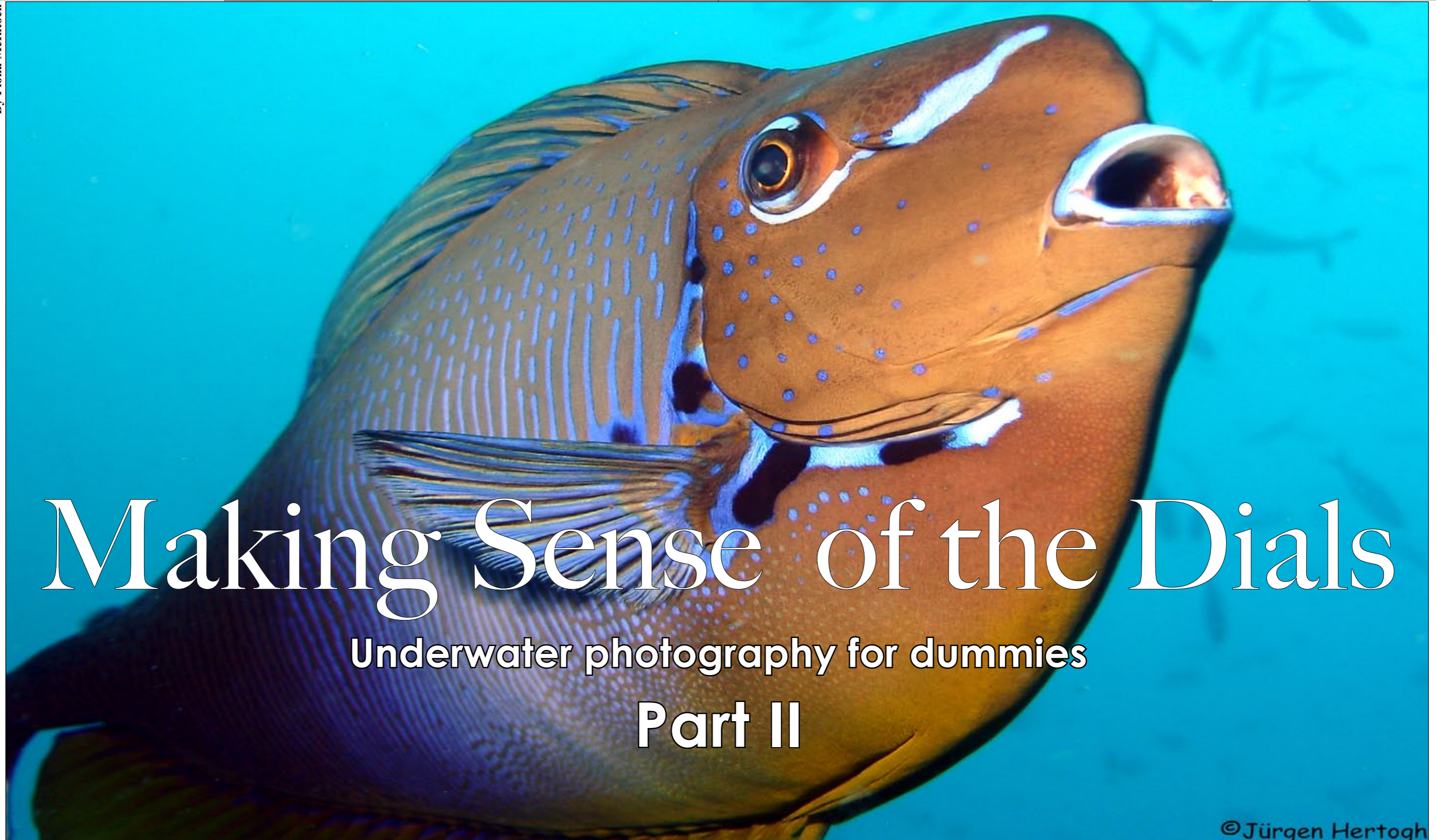
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By Fiona McIntoch



Making Sense of the Dials

Underwater photography for dummies

Part II

©Jürgen Hertogh

So you want to progress beyond the "point and shoot" stage to be a little more creative underwater, perhaps to pan or play around with your flash, but you're daunted by all the little symbols on your camera and reading the manual's a technical nightmare.

Don't be put off – photography can be as easy as pie. All you need is a camera body, a lens, a memory card, a charged battery and a bit of enthusiasm. Oh, and if it's not an amphibious camera, it's a pretty good idea to toss in a housing. Now you're set to go!

Metering

There are nine basic tonal scales in a camera's metering system, with white on one end and black on the other. Somewhere in the middle is grey. It's the grey that camera meters are basically programmed to calibrate from. If you want to establish the correct exposure for a scene, you need to meter off something that is in that grey tonal range.

Green grass is a good subject on land, but it gets a little trickier when you head down to the beach or if you're diving in an area with a sandy sea floor. Here your meter will read off the white sand, which reflects a lot of light.

When the meter interprets it into a grey scale setting, it gets dazzled and relays a message "it's hectically bright, shut down the exposure". Due to the additional reflected light, your camera will then allow less light to reach the film plane than it should and your shallow lagoon shot or beach scenic shot ends up underexposed and a bit dark.

To solve this problem you need to override your meter and relay a message back that the subject is not in fact grey, but lighter. You need to manually increase the exposure by opening up by +1 or +1.5 of a stop to compensate.

You do this by using the +/- function.

If you go in the direction of +, your camera allows more light in than on the automatic setting and if you go to the - side of the scale, the camera allows less light to pass in. You would use this if you were shooting a subject that was primarily black (like a dark reef or a wreck) as black absorbs light and therefore fools the camera into overexposing (i.e. allowing in too much light).

Two elements in calculating exposure

Aperture

The iris of the camera is the opening through which light passes. A setting of F2.8 is considered a wide aperture (big opening), while F16 is a narrower opening, allowing for a bigger depth of field.

Visualize painting with dots - to get a crisp, sharp image you'd need to use a small brush that produces fine dots. Using a setting of F16 will give you a sharper, more detailed image than one shot on F2.8, for example

Shutter speed

This is the duration of time that light passes through the lens onto the film plain for. It's usually measured in portions of a second.

Anything below 1/30th is considered a slow shutter speed, 1/60th or 1/125th reasonable enough for a handheld shot (without getting hand shake) and anything above a 1/250th is fast and will generally freeze a subject.

Putting the two together

On most cameras, the basic shutter speed scale runs from "bulb" to "four thousands of a second" and apertures run from F2.8 to F22 (don't stress if you have slightly different scales, this is typical of the average SLR camera and many smaller digital cameras don't have this range).

Correct exposure is basically a

combination of the shutter speed and aperture that will result in a perfectly exposed image.

Factors that influence the calculations are the ISO (light sensitivity) setting on the camera and the amount of light available in the scene. It's the same as running a tap of water to fill a cup - if you open the tap fully the cup fills quickly, while if you open it only slightly the cup takes a while to fill. At the end of the day you have the same amount of water in the cup.

A camera set at 1/60th at F16 allows the same amount of light to reach the film plane as one set to 1/1000th at F4, but the image will look different.

The shutter speed is four times faster so the image will be frozen and the aperture is four times wider now, so the image is only sharp where the lens is focused (i.e. you have less depth of field). The choice you make will depend on whether you want to focus on the



By Fiona McIntoch


fish's eyes only (this is very effective in portrait pics) or whether you want the whole body and the reef behind to be sharp.

The next step is to think about additional lighting. Flash freezes the subject, so a fun combination is to mix this with a slow shutter speed. Choose a moving subject, like a passing shark, pan (move the camera round at the speed of the shark so that it remains nicely framed in the viewfinder) and fire.

The shark will look sharp while the background will blur, emphasizing a sense of movement. Regular Divestyle contributor, Peter Pinnock, uses this technique very effectively in his shark photography.

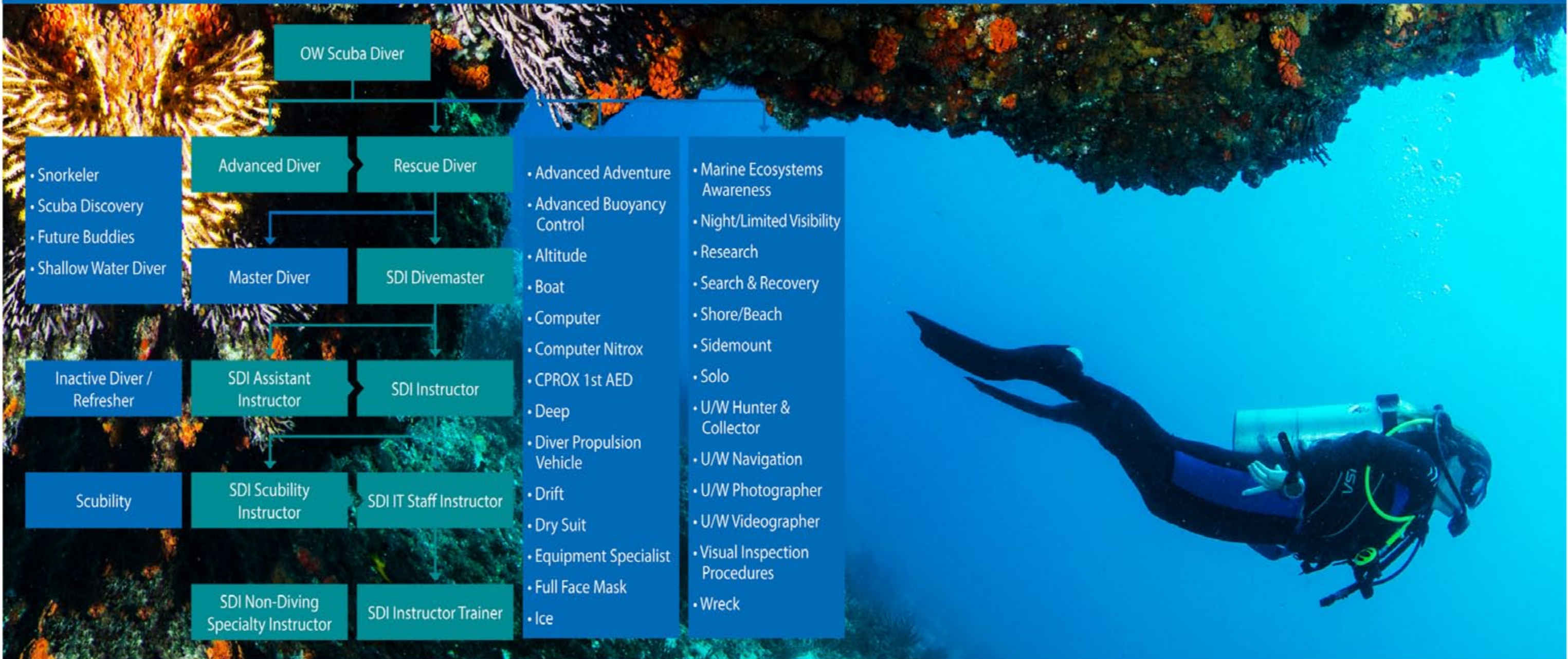
The wonderful thing about digital photography is that it costs nothing to experiment.

You're not limited to 36 frames and can

look at your photos immediately while still underwater. It's time to head into the deep blue sea and start playing with those dials. The results may surprise you! 



Scuba Divers Trained Here



Side Mount Configuration

For the general recreational market this configuration may be something new and still very much unknown, but for the cave divers this configuration has been known for years.

The first proponents of the open circuit side mount configuration were cave divers to access (squeeze through) very tight spaces which would not allow the conventional 'back mount' cylinder configuration. Since then technical divers have used side mount cylinders in many forms and this has slowly filtered through to the recreational diver.

Slow to understand that there are many ways one may carry cylinders and how to configure these, recreational divers can perhaps blame their training where information about alternatives is sorely lacking. The

benefits of side mount configuration are numerous and I will cover a few in this article, but before I do, let me explain what 'side mount' is – instead of having one or two cylinders on your back you rearrange them so that you carry them on your side, either on one side or on both under your arm/s.

This means that the load on your back is removed and taken on the side. For example, if you dive with a 15 litre cylinder on your back, you may change to two 7 litre cylinders under each arm. The move to side mount would be very much welcomed by your back!

Not many standard BCD's will be able to change to a side mount configuration very easily. They may need adapting. A side mount designed BCD would do the job far better. Like anything there are correct and incorrect ways to configure a side mount set up and this has been handed down from the cave divers as proven configurations to follow.

From a safety point of view, you have two independent cylinders with their own regulator set up, so should one fail you have another on your side within quick and easy reach. You can shut down the regulator/cylinder that has perhaps failed and switch to the other and ascend.

During a dive you have to switch from one regulator/cylinder to the other and ensure you balance the gas usage in each. I would not say this is a disadvantage because it ensures you know what gas you have and you are

monitoring it carefully, keeping you a thinking and aware diver.

Learning to dive with side mount is not difficult for qualified divers or new divers. Side mount is brilliant for people who may find this easier from a physical point of view as the individual cylinders are small and easier to handle than one heavy big cylinder and the boat skipper will love you for it!

Swimming with side mount configuration provides a more streamlined aspect and is generally easier than the conventional back mount. One does need to ensure that you keep your front tidy and not let your regulators hang down and catch on anything.

There is no need for an octo as we know in the conventional sense. The standard twin side mount regulator configuration 'set up' is: one first stage, one second stage, one SPG, one LPI



By Barry Coleman


hose. You have two regulator 'sets': one for each cylinder. The regulators or second stages that I prefer for this are those which allow for a hose on the right or left such as the Poseidon range.

If you use a second stage that requires the hose to be on the right then one LP hose should be 1,5m long and attached to the cylinder mounted on the left side. This extra length will allow the hose to be routed up over the left shoulder and around the back of the neck to the right side.

During training you will learn that there are other side mount set up configurations dependent on the size and number of cylinders, but for recreational diving I like to use two 7 litre steel cylinders with Poseidon regulators mounted under the left and right arm.

For technical diving I simply increase the size of the cylinders and change from steel to aluminium, and dependent on gas requirements, have two cylinders under each arm or all four under the left arm if I am using a large tow scooter.

The beauty of side mount is that moving the cylinders all under one arm or evenly split under both arms is a seamless transition. The only issue is that the buddy team must be fully aware and agree to the configuration set up.

Diving in many parts of the world, each have their own preference which has required me to adjust, and provided an insight and experiences which I would not have encountered before. I am very much a side mount fan and will dive this open circuit configuration out of choice. 

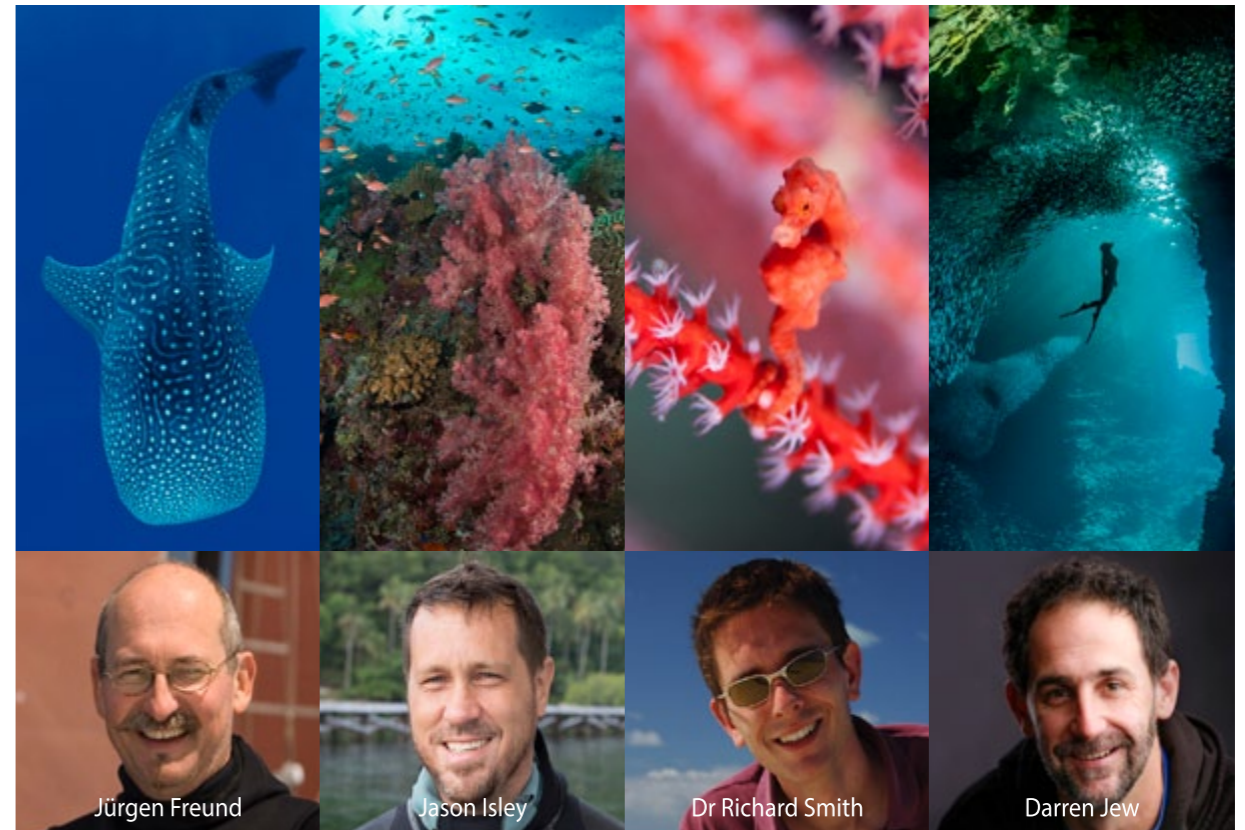


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Problems you can encounter when diving with Trimix

Q & A

Nuno Gomes



Trimix makes it possible to go deeper. When a diver goes deeper, decompression times are considerably increased. This means that in practical terms one is further away from the surface in terms of time and distance. Ascent to the surface and

breathing fresh air is going to take longer, unfortunately. Any problems during the dive will have to be dealt with and sorted out underwater.

The longer decompression times do increase the possibility of decompression sickness, and in particular, isobaric counter diffusion decompression sickness (inner ear decompression sickness being a possibility). It has to be said that if dive planning is done correctly and safely, there is a relatively low risk of decompression sickness problems.

Six divers, of which I was one, just completed 16 dives each (mostly Trimix)

over eight days, spending 3-4 hours a day underwater, without any decompression problems. Gas planning is important not only for the bottom gas, but also for travel and decompression gases.

Above all, choose your instructor correctly. Your life is in his hands. There are no short cuts, and do not be in a hurry. Safe diving, and above all, come back from every dive alive!

Barry Coleman



There are many problems and a book could be written on the subject, but the one that stands out above the rest is the lack of ability to focus and work through issues with a clear mind. If concentration breaks down and irrational thought takes over, then a small issue can turn

into a life threatening problem compounded by a hostile environment. I think that many people forget that deep Trimix diving is, and always will be, an extreme sport that requires a 100% mental ability and

attitude. The second, and possibly the most overlooked, is Risk Management – the process is to identify and select the risks with the greatest loss and the greatest probability of occurring.

Then there are the intangible risks that have a 100% probability of occurring but are ignored due to the lack of identification ability. For example, when deficient knowledge is applied to a situation where the diver is diving beyond his/her training and ability and ineffective diving procedures are applied resulting in an unfortunate outcome.

Pieter Smith



Gasses under pressure become either toxic or narcotic and diving deep increases the risk for the diver. Trimix is a combination of nitrogen, oxygen and helium, mixed together in order to address nitrogen and oxygen partial pressure levels in the gas. Getting the

mix wrong may cause oxygen poisoning or nitrogen narcosis.

Trimix diving is decompression stops obligation diving. The dive needs to be planned properly. Problems with bad planning may result in the bends, barotraumas, etc. Using helium in the Trimix gas mixture may cause further decompression problems for the diver as helium is a very thin gas and gas off load is quite faster than nitrogen. This can cause decompression sickness and a common place is the inner ear.

Diver competency (knowledge, skills and behaviour) may cause further problems on the execution of the dive, e.g., stress, poor skills, not knowing the drills, being out of your comfort zone, poor dive management like time keeping and gas switches – all contribute towards a list of smaller incidents on a dive and when aligned they become life threatening problems (the Swiss cheese effect).

Equipment failure is a further real problem and to manage that redundancy is the golden word. Depending on the dive one needs to determine the correct redundancy in gear vs. do not take anything if not needed. For open water and/or sea

dives where deployment will be done, the deployment reel and bag combination is another potential equipment failure. In an overhead environment the correct staging and application of back-up cylinders are potential failure points.

Pieter Venter



There are many things that can go wrong on a Trimix dive, which includes all the things that can go wrong on normal open water dives and I will try and stick to the most common problems related to open circuit Trimix diving only. The most common

causes for Trimix diving accidents are evident from diving accident analysis reports, which are worth reading. Any problem is, however, more serious due to the depth and exposure of a Trimix dive compared to a sport dive. Most problems can be avoided or dealt with with the correct diving equipment setup, planning and training.

The first Trimix related problem is the wrong gas mix. Too little oxygen at shallow depths can cause hypoxic blackout while too much oxygen can cause oxygen toxicity and too much nitrogen can cause narcosis. Any error in the gas mix will cause the calculation of the decompression to be wrong, which can lead to decompression illness. In fact, due to our lack of understanding decompression, decompression illness is always a possibility. Any error in the calculation of the decompression schedule can increase the likelihood of decompression illness. Gas management and loss of gas is also important due to the decompression ceiling and would lead to an uncontrolled ascent, which can be fatal. Many other problems can cause or speed up an uncontrolled ascent, which should be avoided at all costs. Although many more things can go wrong, the risk is manageable and the equipment setup should be such that redundancy is provided for all life support or critical equipment. Also, don't get hung up on a double 'what if' scenario – you will end up looking like a Christmas tree. I believe that the risks are manageable and acceptable and that the focus should be on enjoying the dive, but be ready to deal with any problem.

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Image of a Company

Is your business image important? The answer is obvious. As a company your business image is everything. But what exactly is a business image?

Your business image, or corporate identity as it is more formally known, is the 'persona' of a business which is designed to accord with and facilitate the achievement of business objectives. Your corporate identity is not the only factor that influences the perception your customers (or potential customers) have of your business.

Having a strong graphic identity is equally important, but what about your staff members? Do they subscribe to your company's 'image'? Are they consistent in delivering the company's philosophy?

For example, if you preach being fit for diving and your staff struggle to perform skills with a student, are you really portraying the correct message or will the

students return after seeing that you don't practice what you preach?

In business, as in life, first impressions count. It doesn't matter if you have spent thousands on fancy and clever marketing material and campaigns, the fact is that a sale can be won or lost within 30 seconds, purely on the 'experience' your staff members provide to the client. From the top down your company's 'personality' should always be the same.

There are a number of dos and don'ts which will provide you with some good guidance in this regard. These include the following:

- Be clear about what you offer.
- Ensure your staff members know what you offer and deliver the same messages, whatever their role.

- Do not try and portray yourself as something you are not.
- Focus on your clients and their requirements.
- Ensure a consistent identity throughout your marketing material.

In today's highly competitive business environment, your business's identity and brand have never been more important.


Your staff members are the ambassadors for your business; remember that if they are confident about (and believe in) your brand values, they are more likely to encompass and promote the business products and services. In this regard it is extremely important to educate and invest in your internal team and your brand.

It is critical that you firstly decide what image you want to put out there, what differentiate you from similar businesses,

how you will capitalise on this and how will you effectively communicate this to the potential market base out there.

As see above, building an image is a huge task that can be accomplished by various means and strategies, that is if you have established a clear vision of what it should be.

Protecting this image is also an aspect that should not be overlooked as one 'bad move' or decision made whilst not considering the impact on the image of your company can be devastating, especially if it leaves a sour taste in the mouth of a client.

In business today, the old saying that 'the client is king' remains true, and if these clients can't align their values with the image of your company, you might as well close the door and channel your energy in another direction. 



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A diving vacation is one of the best ways to enjoy leisure time, but they can cost an arm and a leg, so proper planning is essential.

It all started with one idea, an accessible dive computer that was safe, reliable, and had a good user interface. This was combined with the concept of the Deepblu app, which makes it easy to seamlessly upload your dive logs to your smartphone via Bluetooth technology.

Planet Deepblu is an interactive world map that, in the words of the company, is designed to help you "discover your next dive." It features dive countries, dive regions, and dive spots fueled by user-generated content. When logs, videos, photos, and other information are shared with a tagged location, they're automatically added to the map in their home among the thousands of other dive sites available for browsing. From there, users can rate dive sites, write reviews, and even get in touch with dive businesses.

Planet Deepblu's latest feature allows for direct discussion with dive businesses all over the world, which allows users and businesses to make travel arrangements together. No matter what stretch of land and sea you might be visiting, the app and website can put you in touch with an affiliated dive

operator in the region and allow you to figure out all of the details before you even leave home.

To better assist in your choice of destination, the team at Deepblu has added dive country bios to multiple sites around the world. Looking for a wreck dive during the dry season in your nation of choice? Find out on Planet Deepblu, where you can discover dive site features, climate, when to go, languages spoken, health and safety tips, costs, and other things to be aware of before you get your bags packed.

Planet Deepblu is for the planet of divers, and is the ultimate tool for those who want to know before they go. User-generated reviews and unbiased content allow for a clearer picture than ever available before, so you know that, while the platform is free, you'll be spending your money wisely when you arrive at your destination. Surprises are great in some instances, but typically, during travel isn't one of them.

While striving to create an environment in which divers can find their next favorite spot, Deepblu makes an effort to travel around the

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By Todd Allen Williams

globe, listening to and connecting with divers to find out what they need in their particular region.

One such diver is Bryan Horne, who the team met recently on a trip to Curacao. Bryan is the head of Dive Curacao, a business which promotes diving in the region, and works with conservationists with the goal of keeping the seas clean and healthy so that future generations may enjoy its natural beauty as well. Growing up with the popular underwater stories of the 1970's, it didn't take long for him to want to get into the water himself.

"I soon grew out of that insatiable imagination as life, school, work and family became more important. Then, one day, on a beach in Mexico a crazy idea literally surfaced to learn to scuba dive, and that changed everything from that day forward!"

...and change it did, for him and those around him. In addition to having dived all over the world, Bryan operates the world's only research submarine that also provides leisure tours, dubbed Substation Curacao. He frequently descends 300 meters under the sea to have a peak around.


Just as impressive as his once-in-a-lifetime tours are the conservation efforts undertaken by himself and the divers of Curacao. His tour itself allows for monitoring of the deeper reefs in the region, which are good at providing a forecast for problems such as ocean acidification, pollution, climate change,

and invasive species.

But it's not all deep-reef observation. A handful of passionate dive operators on Curacao have teamed up to form the Curacao Dive Task Force, which is committed to safe and sustainable tourism. The team of the Dive Task Force engages in education and outreach programs in order to help visitors have the best experience possible while at the same time taking care of their host country.

The members of the group, who of course compete like any business, also work together for the greater good by hosting beach cleanups, dive and music festivals, and other programs that raise awareness in order to give back to land and sea.

All of this comes back to what matters to the traveler... comfort. When good people are coming together to make sure that the seas we dive in are healthy, everyone benefits from their next dive. Deepblu is excited to continue learning, traveling, and contributing to the world around them. The company will continue to take every suggestion seriously, interact with divers and dive pros, and strive to make sure that every dive holiday is the best dive holiday. With quality business partners like Bryan all over the world, Planet Deepblu is a platform which will continue to grow in a direction that helps meet the needs of more divers every day.

For more about Deepblu visit Deepblu.com To try it out download the Deepblu app in the iTunes Store or Google Play Store. 



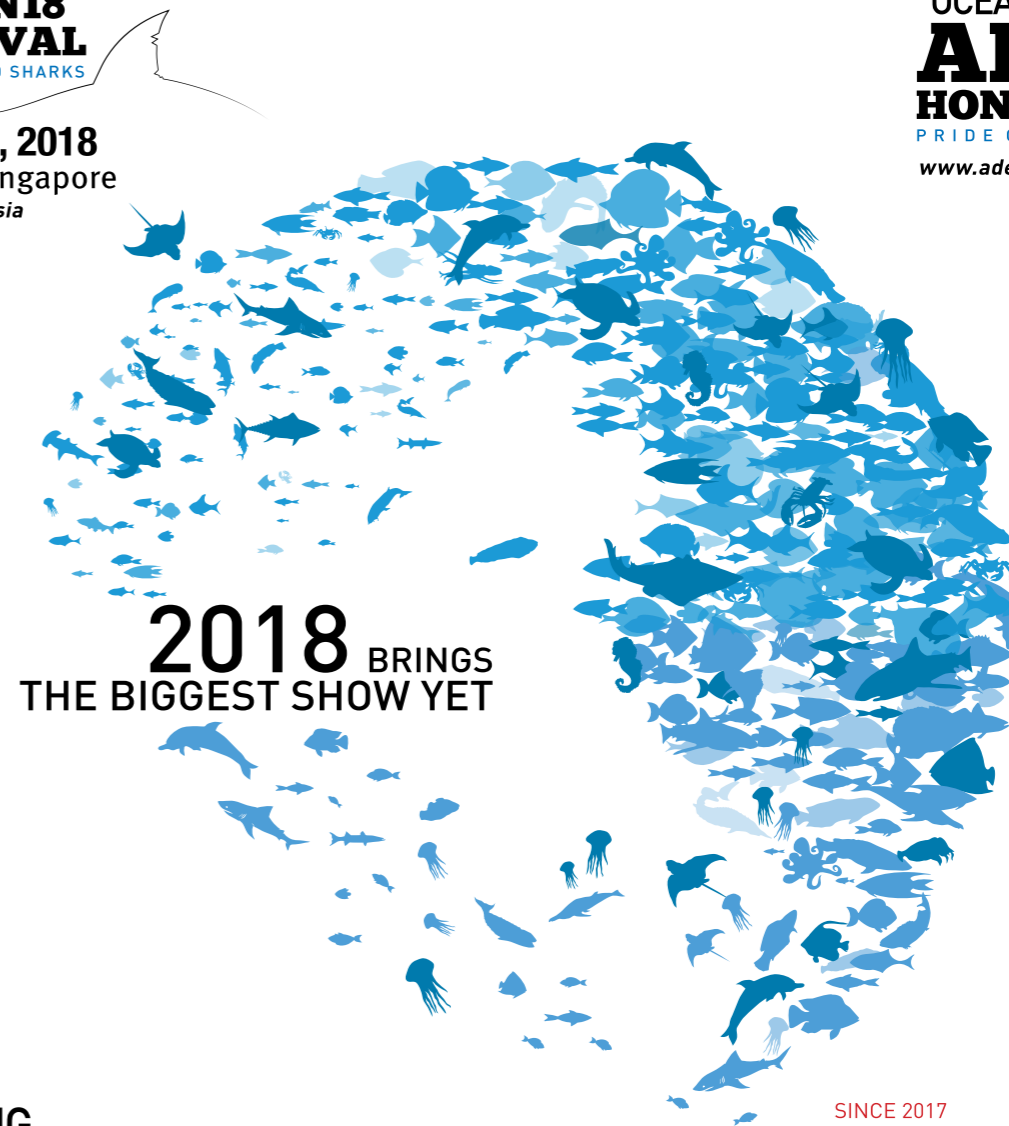
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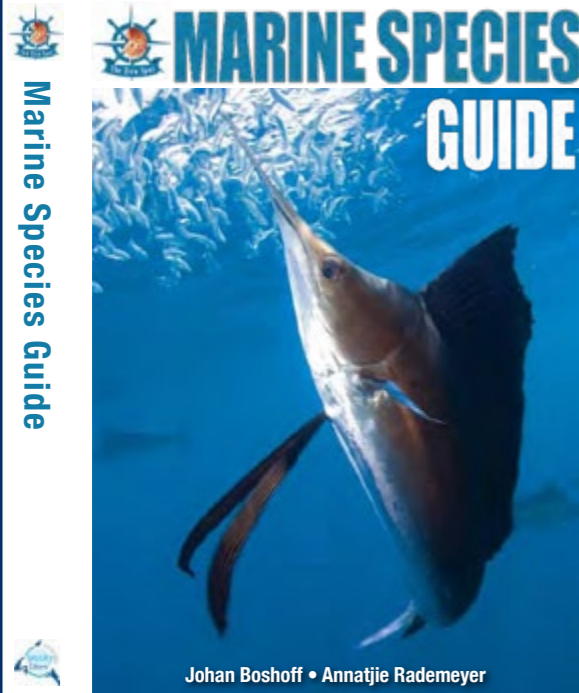
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OZ DIVER



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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 or email info@thedivespot.com.au

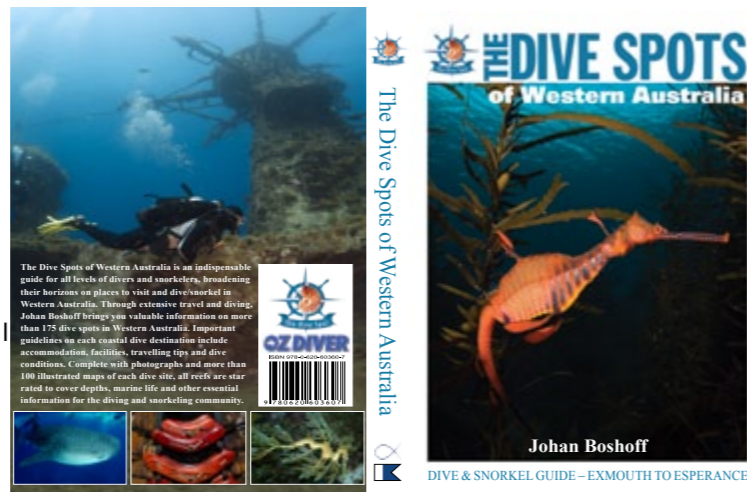
Johan Boshoff • Annatjie Rademeyer

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.

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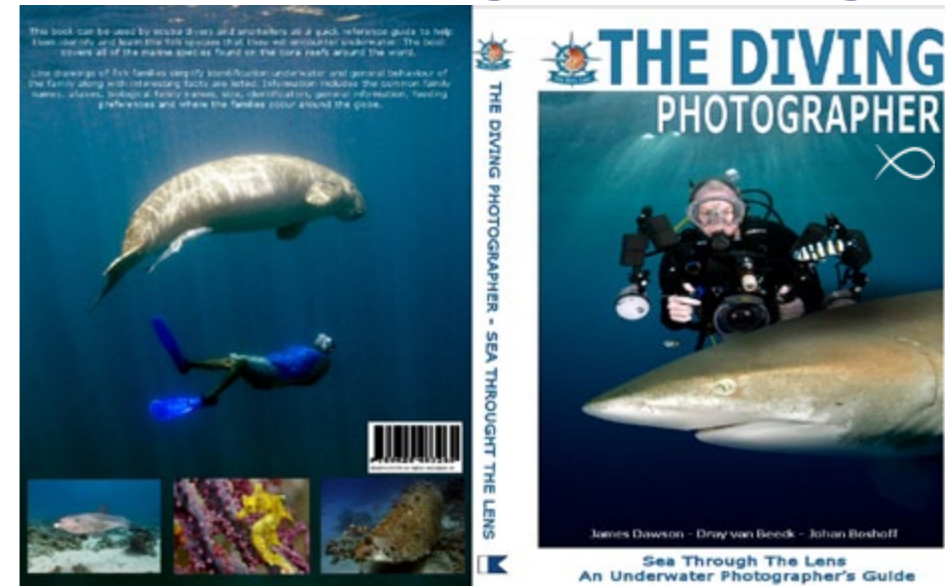
The Dive Spots of Western Australia is an indispensable guide for all levels of divers and snorkelers, broadening their horizons on places to visit and dive/snorkel in Western Australia. Through extensive travel and diving, Johan Boshoff brings you valuable information on more than 175 dive spots in 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. Cost: \$15



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SEAL SKIN/2ND SKIN SET THE ULTIMATE IN WETSUIT VERSATILITY!

When you talk about diving in winter, your non diving friends, and even many of your diving friends, usually cringe away in horror at the idea of cold water. But, as many of you will know, the truth of the matter is that diving in the colder months of the year is often just as, if not more amazing than diving in the warmer months. Providing you have the right insulation, you'll be rewarded for braving the chilly conditions with great visibility, a myriad of vibrant colours and a plethora of creatures often not found during the warmer months.

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Seal Skin, the latest addition to the Mares neoprene range, is a revolution in cold water diving. The suit has been designed to maximise thermal insulation whilst offering superior comfort, practicality and versatility. First and foremost, the all-new Seal Skin will keep you toasty warm, made from top of the range, 6mm ultra-stretch Neoprene. The suit utilises Mares new S-SEAL technology, a special liquid rubber coating that limits water exchange through the seam lines. Further enhanced by our special S-LOCK zipper, which has waterproof properties, Seal Skin offers unparalleled protection from the cold.

An extra-long rear zip makes getting in and out of the Seal Skin easy and painless. An additional zip at both ankle openings, as well as the use of Mares exclusive Glide Skin technology to both wrist and ankle junctions, facilitate effortless donning and doffing. Added features such as reinforced seams, Supratex coating to the knee areas ensure the suits resilience. Seal Skin also includes a hood, which can be fastened to the integrated leg buckle and D-Ring assembly when not in use.

The 2nd Skin Shorty is a real second skin made with Metalite, which boasts both heat reflecting and heat retaining properties. The extremities have been finished in Glideskin for ease of use, and a custom ergonomic neck enclosure ensures comfort as well as freedom of movement. This shorty is extremely water-resistant and features an attached 0.5mm hood. Used alone, it's ideal for snorkeling and tropical water dives, however the suit can also be used in combination with the Seal Skin Steamer for the definitive cold water experience!

Alongside the practical features, this outstanding neoprene set is sleek, modern and striking in design. The new blue and grey combo offers an elegant and contemporary edge to your diving kit. Head into your nearest Mares dealer today and experience for yourself a whole new level of comfort, warmth and protection! 



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 come 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, or by contacting Kevin on 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. 



Whales of Sydney and other visitors to our shore.

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Whales of Sydney, beautifully documents the annual migration of whales past the coast of Sydney through spectacular photography.

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ABOUT THE AUTHOR

Jonas Liebschner has always had a passion for photography. He had 6 months experience as a tour guide with Whale Watch Kaikoura before he got offered a position with Whale Watching Sydney as a photographer.

More than a decade later he's still working with them, loving the surprises the ocean brings. He dreams of taking an iconic shot of the perfect whale with the Opera House in the background, but until then these beautiful photos keep him happy.

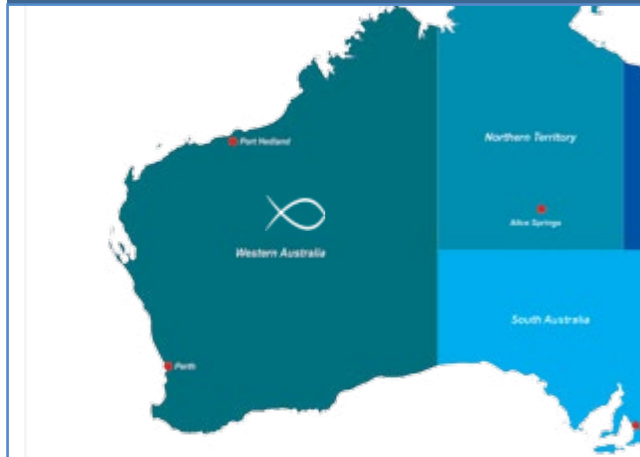
Whales of Sydney: and other visitors to our shore are available from all good bookstores or online www.newhollandpublishers.com





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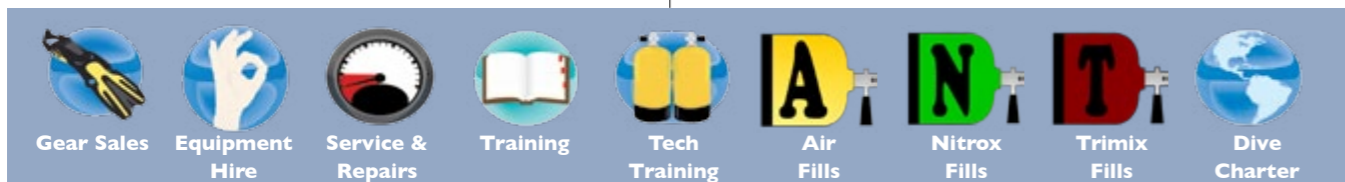
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Adelaide

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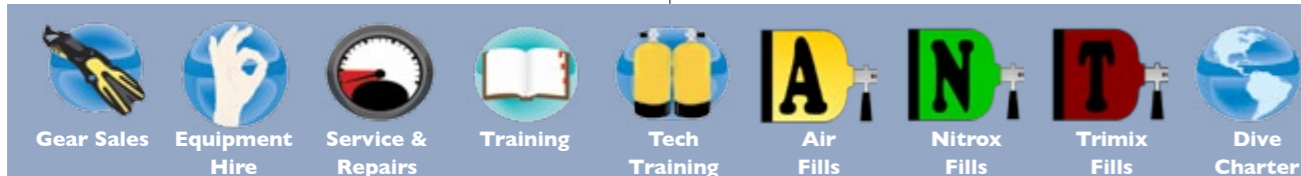


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An underwater photograph showing a large shark swimming towards the left in the lower half of the frame. Above it, a large school of smaller fish swims towards the right. The background is a deep blue ocean with some coral and rocky structures visible on the left side.

OZ DIVER

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Christopher Bartlett

