

it). There is evidence that corals can switch their *zooxanthellae* to more heat resistant variants. In other words – corals can adapt, and the bleaching process may be part of this adaptation. The real problem for corals round the world is not temperature; it is toxic pollution. Most of the world's reefs have deteriorated because cities, agriculture and industry have been built close to shore and pollute the local ocean through run-off.

We now have an army of divers out there surveying the reef and collecting data. First reports for reefs important to Cairns tourism (early April) give the following approximate averages from 378 underwater surveys:- healthy coral 33%; bleaching restricted to tips of corals 4%; corals paled 37%; white bleached corals 22%; dead corals 3%. I had better repeat that – on the Cairns dive sites up to Cod Hole only about 3% of corals have died.

Environmental organisations are spreading a lot of unnecessary misery – it seems that GetUp (Coal causes Coral Bleaching) are

socialists, and do not care what they say as long as it promotes the downfall of capitalism. Greenpeace is much the same, and WWF only a little better – at least they understand the evil of real toxic pollution and are trying to do something about it. The ABC never grew out of undergraduate outrages, and both ABC and the Universities suffer from a plague of conformity. They promote “Big Ideas” but actually mean only those ideas that agree with their stale efforts. Hence Bjorn Lomborg, author of *“The Skeptical Environmentalist”* 2001, could not be tolerated in Australian academia. In his 2007 book *“Cool It”* he actually accepts that CO2 has produced global warming, but he derides the billions wasted on useless efforts to eliminate CO2 saying they could be much better be spent on other ways of helping humanity. This is not what group-think in Australia wants to hear. It seems that a peer reviewed environmental paper cannot get published without a “Climate Change” warning in the conclusion. Try reading a



Thriving Reeftop 2017

few; it is quite amazing, and ample reason to sack “climate scientists”.

Responsible scientists should not continuously blame “Climate Change”. They might also consider the responsibility they have not to cry wolf, and to remember that businesses and jobs are at stake here. No I am not suggesting a “Jaws” cover-up at Amity – just tell the whole

truth. There are certainly high temperatures associated with El Nino and corals have paled, some fully bleached, and some have died, most north of Lizard Island. But there is no excuse for hyperbole and misrepresentation. This is not the end of the world and certainly not the end of the GBR. History tells us that corals not killed by bleaching will recover within a few

months, and those killed will rejuvenate within a few, say 5-10, years.

Since my trip on the reef, I have asked a couple of friends to keep an eye on things. One of the reports was not good – further bleaching and some mortality was observed on the northern Ribbon Reefs and in the Coral Sea during April – however other experienced divers

reported wonderful paled, but very much alive, corals over a wide area, and also corals recovering. Australian ace underwater videographer Stuart Ireland has just shown (29th April) that most corals at Miln and Moore reefs have been totally unaffected by bleaching. Cairns operators hosted a special survey north of Lizard Island and discovered that reefs around Raine Island, famous for Green Turtle nesting, were in superb good health.

Now late in the 2017 season we are seeing some bleaching again – though in different areas – even though we have not had an El Nino event. Temperatures from El Nino 2016 did not fall as much as anticipated and the already warm waters were made warmer by an exceptionally calm and dry spell. Then we had cyclone Debbie, and the bleaching stopped. The reef is now in recovery.

El Nino is the principal cause of the current bleaching events – as it was for most others! We do not have to panic or “Act Now” especially when that generally means doing the wrong thing, like building a wind farm. For those scientists on the public purse, let me say that it is not acceptable to also be devout advocates of a “religious” and largely falsified hypothesis, particularly if it means that young scientists are expected to conform to your advocacy.

Science depends on brilliant minds questioning orthodoxy, not being browbeaten by it. If you cannot handle that – join Greenpeace! I am appalled at the lack of professionalism and the appeal to emotion that is apparent. It just demonstrates a lack of a good hypothesis, and adherence to the agenda of “Guilt, Envy and the Pursuit of Mediocrity” that I think prevails in Australian environmental “science”.

Coral reefs are not monuments. They are extraordinarily dynamic and resilient, and the life cycle of the living “skin” of coral, is much shorter than the 1000 years often quoted. Some fast growing corals have life cycles of only 20-25 years, and these are particularly vulnerable to events such as bleaching, Crown of Thorns sea star damage and storms. Given clean water, they are also particularly adapted to rapid recovery. Long live the GBR!

Bob Halstead
www.halsteaddiving.com



Bob Halstead's Coral Sea Fish Guide

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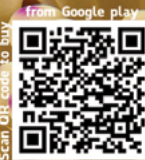



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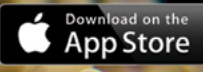
Bob Halstead has dived and photographed the Coral Sea for over 40 years and in 2008 was inducted into the International Scuba Diving Hall of Fame.



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Diving in PNG

by Scott Portelli

PNG is an amazing part of the world and the diving is so diverse it offers something for everyone. Whether you are into critters, large animals or plane wrecks, PNG will satisfy your thirst.

After a month in PNG getting to dive across a number of regions it has given me some insight into what PNG has to offer. And if you haven't dived here yet, you soon will see why you need to dive here. There are 3 oceans that surround the region including the Bismarck Sea, South Pacific and Solomon Sea all with their unique underwater worlds. Kimbe Bay, Rabaul and Kavieng are where I spent the majority of my time.

On land, there is a myriad of exotic mammals, birds and insects that will fascinate the biologist in all of us. The plethora of bird species make PNG a hotspot for many twitchers. The multicoloured birds of paradise, pygmy parrots, cassowaries, cockatoos, kingfishers to name but a few, draw many bird watchers to PNG. Millions of years ago PNG and Australia were linked by land, and to this day they still share a unique group of mammals, the marsupials. There is

now an array of marsupials that are endemic to PNG including Cus Cus, Tree Kangaroos, and the long beaked echidna.

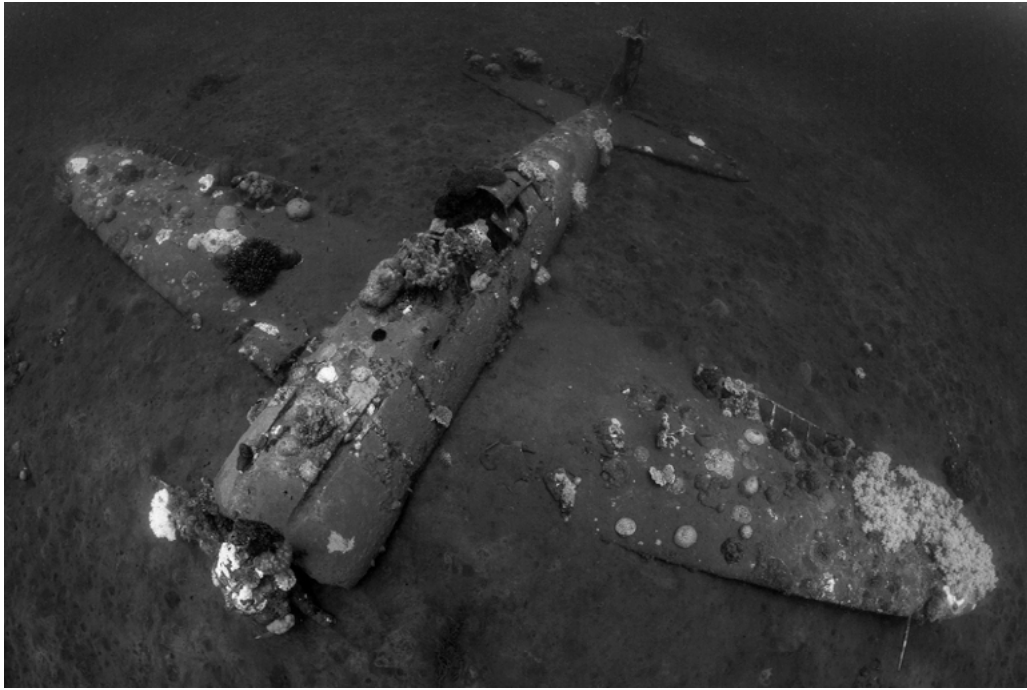
Kimbe Bay

My journey starts in New Britain. PNG is divided into 4 main regions and New Britain encompasses the Island Region. Kimbe Bay is known to most divers as the main dive destination in this part of PNG. The dive sites are located in the Bismarck Sea. And just a short boat ride from Walindi Resort where we are staying, and you are in world class diving. Even the house reef is constantly surprising with sightings of new and interesting critters on every dive. Perfectly situated for night dives as well.

MV Febrina anchored off Southern New Britain showing the crystal clear waters surrounding the islands.
Phantom 4, 1/80 f2.8 ISO400

Coral fans stretch many meters in diameter encompassing a small bomme
Canon EOS 5D MkIII, Seacam Housing 15mm lens, 1/200, f11, ISO200





The wreck of the Zero with gun barrel that the local dive masters keep in pristine condition by polishing it every time they dive the site. Canon EOS 5D Mk111, Seacam Housing 15mm lens, 1/200, f13, ISO320



*Aerial view of a WWII wreck hidden in the thick foliage of the PNG jungle
Canon EOS 5D Mk111, Seacam Housing 15mm lens, 1/160, f2.8, ISO100*

The arch covered in coral fans, gorgonians and other colourful soft corals at 40 meters. Canon EOS 5D Mk111, Seacam Housing 15mm lens, 1/160, f9, ISO500

One of the 'must do' dives in Walindi is the wreck of the 'Zero', a World War II Mitsubishi A6M5 fighter plane completely intact and in less than 20 meters of water. The fighter lies on a silty bottom with no real structure or corals around it, making it a more dramatic view as you approach the wreck and see it in isolation. The

plane is in a remarkable condition considering it has been there for over 70 years. One of the things you notice on the plane is the shiny gun barrel on the wing. Apparently every time a dive guide takes a group down to see the zero, they polish the gun barrel and remove any algae or growth, so this shiny chrome feature stands out





Two blennies meet at an impasse as they scour the whip corals they call home. Canon EOS 5D Mk111, Seacam Housing 100mm lens, 1/250, f22, ISO200

on the plane and looks like new. It's worth taking your time and moving around the wreck to see all the features.

The great thing about diving in Walindi is the team are eager to take you to the best spots on the reef and will really provide a thorough explanation of what the reef is like and what you might expect to see. They even have a great dive site folder in each of the guest rooms so you can read about all the dive sites before the next day of diving.

Some of the diving hotspots in Kimbe bay are Vanessa's reef, South Emma reef, Inglis shoal and Susan's reef to name a few. The coral is pristine and the critters are abundant. On most dives, you see large varieties of reef fish, corals, nudibranchs, eels and various critters as well as sea fans, gorgonians, sea whips, and many species of corals. The great thing about travelling out to each dive in the mornings was that we often saw bottlenose dolphins and it didn't take much to entice them to bow ride as we sped towards our dive destination.



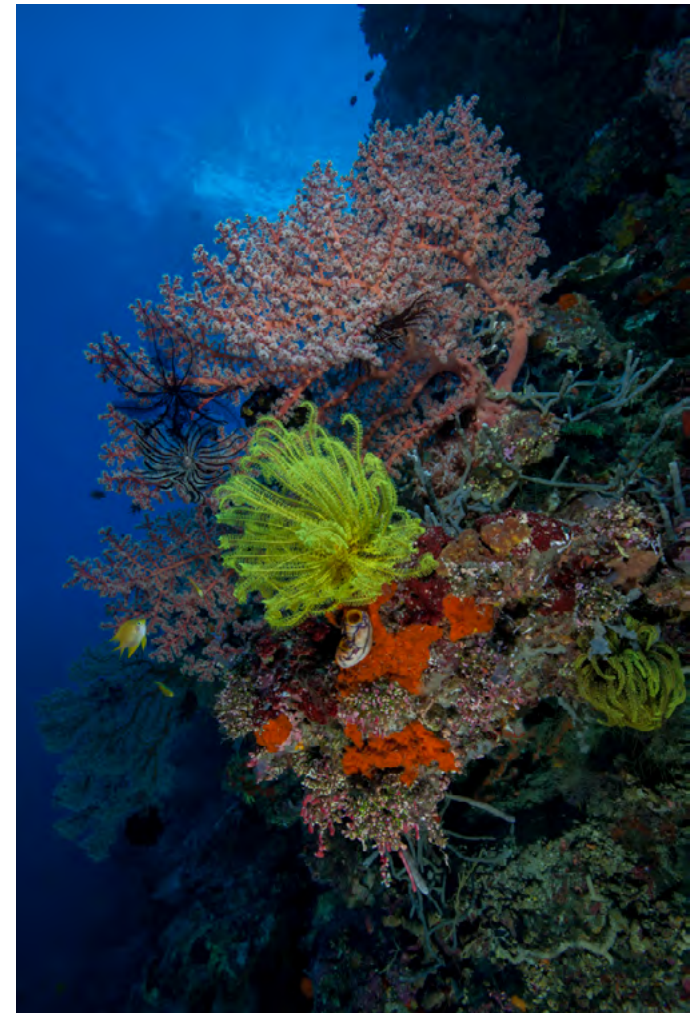
Clown fish in a bright anemone on the edge of a dropoff in the Witu Islands. Canon EOS 5D Mk111, Seacam Housing 100mm lens, 1/160, f25, ISO500

*Coral features line the drop-offs out at Fathers reef
Canon EOS 5D Mk111, Seacam Housing 15mm lens, 1/100, f8, ISO250*

Beautiful weather, calm clear blue oceans and marine mammals following us, was just too good to believe.

Vanessa's reef was a beautiful dive site with a myriad of gorgonians, hard corals, sponges and sea fans spanning 3-4 meters in length. Truly a photographer's paradise with many opportunities to shoot wide or macro at most dive sites.

One of my favourite spots was Susan's Reef with a plethora of sea whips, but what I loved about the sea whips were the razor fish, must be one of my favourite things to photograph. I can spend almost an entire dive following these guys around in circles in and out of the sea whips watching their vertical dance. Lots of colourful corals and feather stars, red sea whips, massive gorgonians make this a productive dive.



Joelle's Reef is spectacular reef lined with anemones, hard corals, sea whips and a multitude of reef fish. If you look out into the blue you would often see big-eye trevally and barracuda. But some of the main attractions on this dive is the variety of anemones lining the reef with an eclectic range of colours, blue, red, orange some with retracted tentacles and others flowing in the current, but all unique with their own inhabitants, Clown fish,



Harlequin shrimp . Canon EOS 5D MkIII, Seacam Housing 100mm lens, 1/200, f16, ISO200



Mandarin fish often seek refuge near rubble and deteriorating reefs. Canon EOS 5D MkIII, Seacam Housing 100mm lens, 1/200, f29, ISO200



Foraging turtle. Canon EOS 5D MkIII, Seacam Housing 15mm lens, 1/200, f8, ISO200

anemone fish, shrimp and crabs.

Each morning we embarked for new dive sites. The team at Walindi are very collaborative and will work to take you somewhere new each day, or suggest the best places for photographic opportunities. One of the sites we visited was South Emma. There is a cave at about 30m featuring an interesting swim-through. Surrounded by sea fans, whips and colourful corals, it was a perfect place to photograph the variety that PNG had to offer.

North of Kimbe bay are the Witu Islands and fathers reef, probably one of my favourite places in Kimbe Bay area. It is pure nature out there. The only way to get to these reefs is by liveaboard. The Febrina is one of the only liveaboards operating in this part of PNG. The reefs are virtually untouched and surrounded by massive schools of Barracuda, Jacks, and even large schools of Bumphead Parrot fish like I have never seen before.

The most special part of this area is the friendly hawksbill turtle. Our guide Andrew(Digger)

rummaged for some soft sponges between the coral and rocks on top of the Bommie where we were diving. Then from nowhere, this medium sized hawksbill turtle turns up obviously associating Digger with an easy meal and begins to hang mid water virtually on Diggers shoulder waiting for the soft yellow sponge. But Digger was certain not to let the turtle get to used to him and eventually the turtle went foraging for his own sponges.

One of the best ways to see PNG is on a Liveaboard. The Febrina does several different itineraries but I have had the opportunity to see both Kimbe Bay and Rabaul from onboard the Febrina. The staff are amazing. Our dive guides Andrew(Digger) and Josie are some of the best in the world. So motivated and so knowledgeable of not only the critters but of photography and photographers. I can say I honestly learned something new about photography from these guys.

Rabaul & South Coast New Britain

I was excited to visit Rabaul this time around, as I had heard a lot about the diving in the region but had not had a chance to visit prior. We set out from Rabaul towards the southern part of New Britain situated in the Soloman Sea. The Febrina is a great dive boat and their dive schedule allows for 4-5 dives a day which means you Eat, Sleep, Dive repeat for the entire length of your trip. You may even need a vacation after diving in this part of the world.

The great thing about this trip is the chance to see some of the rare critters that Macro divers get excited about. Personally, I love the Harlequin shrimp, Ghost Pipe fish, Mandarin fish, Coconut Octopus, Frog fish, Boxer crabs, Leaf Scorpion fish and Nudibranchs to name but a few.

One of the areas the West Linden Channel, was particularly interesting as it provided a variety of diving opportunities. One of the strongest currents I have dived was when we decided to dive the wreck

*Corals on the drop off. Canon EOS 5D MkIII,
Seacam Housing 15mm lens, 1/200, f13, ISO320*

Locals often greet the visiting dive liveaboards with food and wares to trade or sell. sometimes curiosity just gets the better of them.

of an old WW2 Japanese sea plane called. The plane sat in about 15-20 meters of water and was upside down, so the undercarriage was exposed. There was a great deal of coral and anemones growing on the plane but the main interest was the half open bomber doors still containing an unexploded bomb. Interesting...hmmm.

But the current was raging on this occasion so just moving around the wreck was challenging. Even more challenging was hanging on the anchor line for our safety stop. We were holding on for dear life in a horizontal position as the current tormented us. It was a relief to be back on the boat after all the physical effort.

One of the last dives we did near Sharon island was a section of reef with a large sandy channel and a coral Bommie to one side. I had never seen so many coral fans all clustered together in my life and the size of these fans was phenomenal, some stretching up to 8 meters in diameter. So large that even my fisheye lens struggled to capture the entire scene of coral fans.

A lot of our diving was done close to the shorelines with outlying villages, this meant we always had a good number of locals watching us dive, whether curious about our presence or purely interested in all the equipment we were wearing, we would still get a warm welcome. Especially from the children that would approach the boat in canoes and just watch what we were doing.



These areas were also ideal for night diving. Most of the night dives were in shallow waters close to islands or the coast, and the environment was often a sandy bottom with an outcropping reef. So, most the dive was spent in the sand or muck around more silty bottoms. But it was the ideal environment for the variety of macro life thriving below.

Upon returning to Rabaul our last few dives were close to the township and one was a Jetty with a sandy bottom covered in rubble and trash, but rich



in marine critters. there were a number of razor fish congregating around the anchored buoy I counted more than 200 fish. Around the Jetty piers were frog fish, blue slipper lobsters, pipefish, shrimp and scorpion fish.

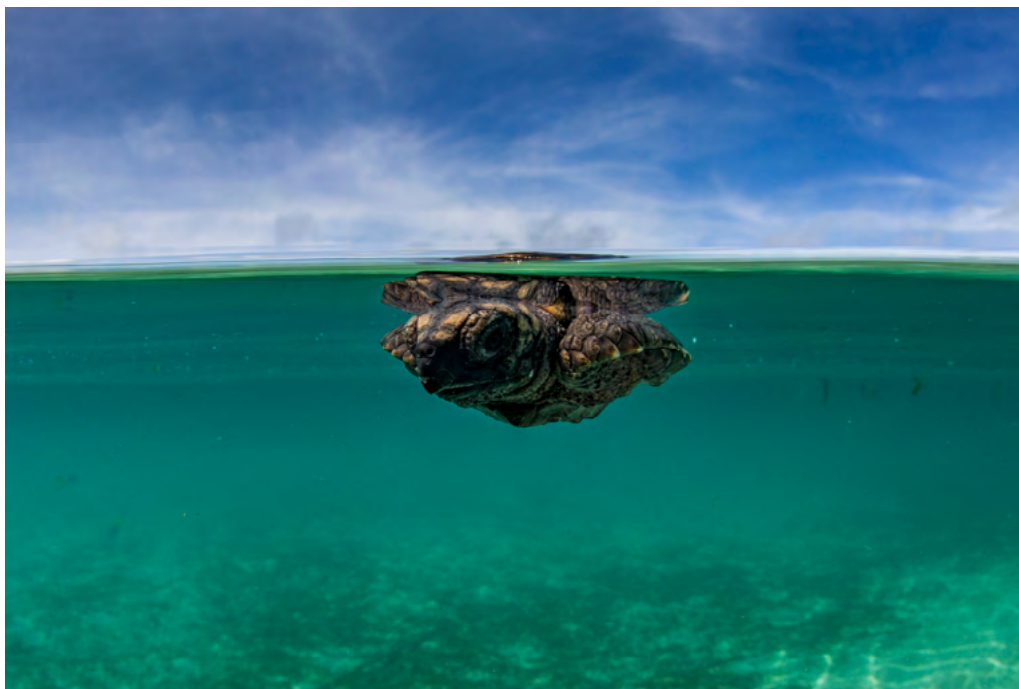
By this stage I was 3 weeks into my diving journey, but there was still one more place on the List left to visit.

Kavieng

Kavieng is a special place for several reasons including the diverse diving, wrecks, critters and the fact it borders 3 bodies of ocean, but one of the main attractions in the New Island region was Lissenung Island, truly a paradise with interesting creatures above and below the surface. It's hard to compare what the island and diving is like as it has so much to offer and the owners, Dietmar and Ange are just perfect examples of people living in harmony with nature, and community.

For a number of years, they have actively been helping the turtle populations by educating locals about the needs to preserve the Turtles in the area. Some locals now are becoming pivotal in the survival of the species. Many locals let Ange and Dietmar know where and when a turtle has laid its eggs on various islands and before the locals can eat them, they relocate the clutch to Lissenung and provide safe nesting areas for the turtles to incubate and hatch, before releasing them back into the ocean.

Occasionally they will nurse weak individuals back to health which involves, feeding and ensuring the turtles remain strong for the long journey out to sea. We met one of these little turtles during its rehabilitation, nicknamed bubbles because it liked to swim next the air bubbles in the tank from the aquarium



New hatchlings need to be able to fend for them self as soon as they leave the shell. This little hawksbill from Lissenung island was ready to start its long journey. Canon EOS 5D MkIII, Seacam Housing 15mm lens, 1/100, f8, ISO250

pump. This little turtle had an injured flipper and refused to swim with its front flippers, and would just use the smaller back flippers to get around.

The other interesting thing about Dietmar & Ange, is the makeshift clinic they have set up to tend to the locals on surrounding islands. Basically fixing, cuts and scratches and helping the locals avoid any serious infection, this clinic is open every evening. You never know how many people will turn up and when they might arrive each evening, but the couple are prepared for almost every situation.

You could easily be mistaken to think that this was a castaway island like the 'Swiss Family Robinson', as an array of animals frequent the Island at their own leisure. Sitting in the office checking some emails a parrot swoops through the door and lands on a perch, anticipating some food and water and quickly consuming all before swift goodbye and out the door he flies.

Through another window a young Cus Cus enters with similar expectations. This one however was brought to Lissenung by one of the locals who thought the animal might



Gus the Cus Cus exploring our dinner table one evening. Iphone - 1/25, f2.2, ISO200

be sick or injured, looking to Ange and Dietmar to look after it. But easily it became part of the family and cleverly named Gus (The Cus Cus) who would know also when it was dinner time and make himself present at the table. But you can see why you could get attached to such an adorable creature.

But let's talk about the diving, not only is there are a number ship and plane wrecks in the area, there is also several drop offs and pristine coral reefs. One of the first dives I did when I got to Kavieng was a site called Albatross Passage, known