



# *Sea Braggin'*

**MONTHLY NEWSLETTER**

***- January 2011 - Edited by Ray Moulang -***

***INCLUDED IN THIS ISSUE ARE DIVE REPORTS FROM :..***

**Carol Martin, Ken Ridley and Peter Flockart.**

**Photograph Report from Mike Scotland.**

**A BIG THANK YOU GOES TO THEM.**



**Taken on a recent Boat Dive by Martin Mueller**

# ***What's On - JANUARY - 2011 -***

<b>WHEN</b>	<b>WHAT AND WHERE</b>	<b>CONTACT</b>	<b>WHEN</b>	<b>WHAT AND WHERE</b>	<b>CONTACT</b>
<b><i>Monday 3<sup>rd</sup> To 9th</i></b>	<b><i>Great Barrier Reef Big cat Reality</i></b>	<b><i>Mike Scotland 9521 7720</i></b>	<b><i>Saturday 22nd</i></b>	<b><i>Boat Dive Barrens Hut</i></b>	<b><i>Dave Casburn 9527 6279</i></b>
<b><i>Saturday 8th</i></b>	<b><i>Deep Dive SS Tuggerah/ SS Undola from Yowie Bay</i></b>	<b><i>Michael McFadyen 9545 5596</i></b>	<b><i>Wednesday 26th</i></b>	<b><i>Australia Day Dive and BBQ To be advised</i></b>	<b><i>Jason Coombs 9345 4599</i></b>
<b><i>Wednesday 19th</i></b>	<b><i>Club Meeting Rowers Club 8pm</i></b>	<b><i>Jason Coombs President 9345 4599</i></b>	<b><i>Saturday 29th</i></b>	<b><i>Boat Dive Marley Point</i></b>	<b><i>Ron Walsh 0409 225 683</i></b>

# ***What's On -FEBRUARY - 2010-***

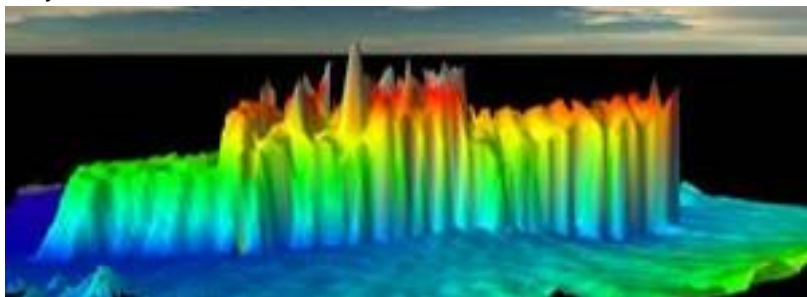
<b>WHEN</b>	<b>WHAT AND WHERE</b>	<b>CONTACT</b>	<b>WHEN</b>	<b>WHAT AND WHERE</b>	<b>CONTACT</b>
<b>Friday 4<sup>th</sup> to Monday 7<sup>th</sup></b>	<b>Weekend Trip South West Rocks</b>	<b>Jo Edney 4268 5448</b>	Wednesday 15 <sup>th</sup>	Club Meeting Rowers Club 8pm	Jason Coombs 9345 4599
<b>Saturday 5<sup>th</sup></b>	<b>Boat Dive and BBQ</b>	<b>Natasha Naude 9799 9785</b>	Friday 18 <sup>th</sup> to Sunday 20 <sup>th</sup>	Girls Weekend Port Stevens	Kelly McFadyen 9545 5596
<b>Sunday 6<sup>th</sup></b>	<b>Boat Deep Dive SS Kelloe -From Hole in the Wall</b>	<b>Michael McFadyen 9545 5596</b>	Saturday 19 <sup>th</sup>	Shore Dive The Leap	Ian Roffey 9528 9601
<b>Saturday 12<sup>th</sup></b>	<b>Boat Deep Dive From Long Reef</b>	<b>Peter Flockart 9371 0265</b>	Saturday 19 <sup>th</sup>	Special night Dive Inscription Point 7pm	Gary Dunnett 9542 6481
<b>Sat 12<sup>th</sup> to Sat 26<sup>th</sup></b>	<b>Philippines Trip</b>	<b>Mark Ridsdale 9558 5196</b>	Sunday 20 <sup>th</sup>	Shore Dive Shiprock	Paul Pacey 9527 2501



## NEW ZEALAND TRUP

Friday 11th to Monday 21st MARCH 2011

Dive the **HMNZS Canterbury** and the **Rainbow Warrior** in the warm waters of the **Bay of Islands** for three days. Stay on a farm with all accommodation and meals included.



The HMNZS Canterbury, a 113 metre Leander Class frigate, was scuttled in 38m of water and is sitting perfectly upright.

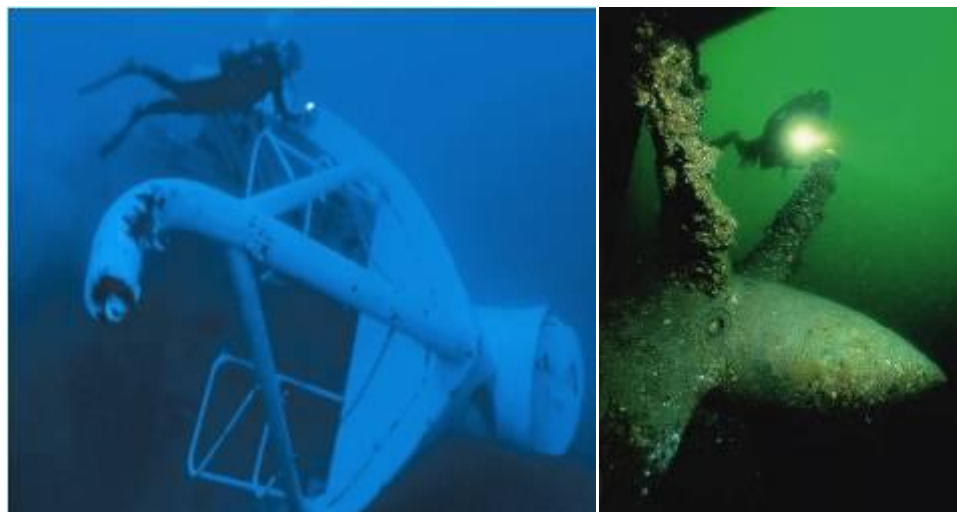


Since the Rainbow Warrior was sunk in 1987, she has become a living reef, covered in Jewel Anemones. She's 42 metres long and sits on a white sandy bottom at 26 metres.

All diving, accommodation and some meals	\$AUD	1276
Car Hire	\$AUD	167
Air Fare - purchase your own	\$AUD	431
Optional -1 night Airport hotel	\$AUD	150
<b>Total</b>	<b>\$AUD</b>	<b>2024</b>

All prices approx depending on exchange rate & numbers

Dive the **Poor Knights** Islands, the **HMNZS Tui** and **HMNZS Waikato** wrecks from **Tutukaka** for four days. Water temperature expected to be 19-22° in March. Stay at either the Tutukaka Holiday Park in self-contained cabins or at the Oceans Resort, both a short walk from the Dive Shop, Marina and Restaurants.



The ex-HMNZS Tui and ex-HMNZS Waikato were sunk in 1999 and 2000 respectively. The Waikato rests upright at 29 metres, and the Tui sits at 32 metres.



23 kilometres off the north east coast of New Zealand, the Poor Knights Islands are washed by a warm current that sweeps down from the Coral Sea.

Jacques Cousteau ranked the Poor Knights as one of the top ten dive sites, anywhere. UK "Dive" Magazine ranks them the "best sub-tropical diving in the world".

**Maximum 12 divers**

Contact **Shelley Breuseker** for more details

\$200 deposit to club to secure your place

shellsb@bigpond.net.au

There is still space on this trip to 'Dive the Five' (4 wrecks and the Poor Knights Islands)

I am about to finalise the accommodation and car rental, so if you want to join us for the best sub-tropical diving in the world, please let me know before Friday 14th January.

Cheers, Shelley.

\*\*\*\*\*

Tafe holidays are here!! From 16-12-10 till the 23-1-11

Contact me if you wish to do a boat dive day.

John B.



## **Dive Bali - Komodo - Bali 2012**

Dive trip being organised for 18-25 August 2012 sailing from Bali - Komodo, diving all the way!

Excellent diving - usually about 22 dives in total and small group diving. Accommodation - all cabins have en-suite, food is plentiful and comprises of both western and Thai food and there is a Thai masseuse on board. Check out the website for more details.

[www.mermaid-liveaboards.com](http://www.mermaid-liveaboards.com)

Prices will vary depending on exchange rate etc (its payable in Euros!!), but we have been offered a great deal. Club discount rate: 30% discount for 9 or more persons, 16 or more - same rate and 1 FOC, 20 or more - same rate and 2 FOC (all boat charter) Even with just the club discount, it means based on current exchange rate and 2011 prices, will be approx \$2000 per person.

Flights - about \$800 - \$1000 return - people will be booking these themselves. Some people may want to stay before and after for more diving at other spots such as Candidasa, Tulamben or Nusa Pendida - or you may just want to chill round the pool with a cocktail. Again, this is something you can organise yourselves - maybe even meet non diving partners there!

I have provisionally booked for 10 people and will need to know who is interested - a few people have already expressed interest in going.

Will be asking for deposits to secure positions and will let you know how much.

I can bring along the DVD I have of the trip to a meeting if anyone interested. Photographers especially - this is macro heaven.....

Carol

## **Truk trip for 2011.**

Some trip points to note:

- The price does not include our Club discount (approx 10%) or our Free of Charge land base component for every 8<sup>th</sup> diver. The total discount cannot be determined until we finalized numbers.
- The prices are based on 95c US. The quoted price will not change unless there is a fluctuation of more than 2c either way. If the dollar goes through the roof, you can pay the balance in full to take advantage.
- The price does not include Sydney/Cairns/Sydney flights or accommodation in Cairns.

You need to organize this yourself (best to wait and watch for specials).

- We request that you take out a travel insurance policy that covers your diving activities.
- There is a 2 week option. • Truk is a third world country and as such you should adjust your expectations.
- The trip is not suitable for non divers. • The trip is suitable for experienced divers.

There is a maximum of 16 spots for this trip (8 are already pre-reserved), so please book on sooner rather than later to avoid disappointment.

To book you must contact me to: 1. Check availability; and 2. To get a booking form which you will need to complete and send to Sharon at Dive Adventures with your deposit.

Please give me a call if you have any questions (particularly if you have not been to Truk before).

Many thanks, Kelly.



## **- Dive Weekend to South West Rocks -**

**Friday 4<sup>th</sup> - Sunday 6 February 2011 – with the option of staying until Monday**

2 nights and 4 dives

\$306.00 – accommodation at the house

\$265.00 – accommodation at the bunkhouse

3 nights and 6 dives

\$450.00 – accommodation at the house

\$390.00 – accommodation at the bunkhouse

These prices include the 10% club discount

and will be a bit less depending on how many divers we get.

A deposit of \$50 needs to be paid to Mark to secure your spot.

Contact Jo Edney for information on 0451 459 909 or [n2narcosis@bigpond.com](mailto:n2narcosis@bigpond.com)





## **OZTeK'11- Update 14** (21 December 2010)

### ***Staying in the Loop***

[www.diveoztek.com.au](http://www.diveoztek.com.au)

**12 - 13 March 2011**

**Australian Technology Park,**

**Sydney, NSW, Australia**

Find us on Facebook 

**The OZTeK Experience**

A must-visit event for all divers - regardless of experience level - keen to advance their knowledge and learn more about the technologies and techniques that are shaping diving's future, **OZTeK'11** stands on the cusp of a revolutionary change in recreational diving, one whose impact will be as profound as the introduction of the demand regulator in 1943.

No longer regarded as having purely military applications - or a complexity that places them beyond the scope and understanding of recreational divers - rebreathers have come in from the cold to prove their worth as technical diving tools that are opening up new avenues of exploration and discovery.

With a new series of Closed Circuit Rebreather programmes - intended for both the recreational as well as the technical diving markets - about to make their debut, **OZTeK'11** is the place to find out more about these courses, and to learn more about the various units that are now available.

A celebration of all that is best in diving, **OZTeK'11** will feature something of interest to everyone who dives - especially those whose minds remain open to future possibilities.

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### **OZTeK'11 Dive Exhibition**

(See [Exhibition Floorplan](#) for stand details)

One of the most comprehensive diving exhibitions to be held in this region of the world in recent years, the **OZTeK'11** Dive Exhibition will showcase everything that divers require. Featuring the latest developments in equipment trends, technologies, training techniques and travel destinations, the **OZTeK'11** Exhibition will be a shop window onto the entire world of diving adventures.

With the exhibition space fully booked, companies and organisations having a stand presence at

**OZTeK'11** include:

Allways Dive Expeditions; Aquanaut; Aqua Tech; Asian Diver Magazine; Cave Divers Association of Australia; Closed Circuit Divers; DAN Asia-Pacific; Digital Diver; Dive Adventures; Dive Centre Bondi; Dive Centre Manly; Dive Log Australasia; Dive Mania; Dive Pacific Magazine; Dive Rite; Diversion Dive Travel; DiveTek; Dive Tub; Dive Victoria Group; Dive Wananavu; DKG Drysuits; Draeger Safety Pacific; Eaglehawk Dive Centre - Tasmania; eScuba; Far Asia Co Ltd; GreenForce; Halcyon Australia; Historical Diving Society SEAP; Hollis; IANTD; Inner Space Systems Corp; Jetsam Technologies; Light Monkey; Liquivision; Lissenung Island Resort; Manta Industries; Mares; Neptune Sports; Ocean Guardians; Oceans HQ; PADI TecRec; Papua New Guinea; Pro-Diving Services; Rags II; Rebreather Lab; Rx Dive; Scuba Diver Magazine; SSI; Scuba Imports; Scubapix; Scubapro; SDI Australia; Shearwater Research Inc.; SNUBA; Solomon Islands Visitors Bureau; Southern Cross Divers; Spirit of Freedom; Sport Diving Magazine; TDI Australia; Tech Asia; Thermo Gauges; TUSA; Two Fish Divers; Underwater Kinetics; VR Technology, and Waterproof Suits.

Complementing the busy **OZTeK'11** Conference programme of simultaneous theatre, seminar and workshop presentations delivered by some of diving's most celebrated identities, the **OZTeK'11** Dive Exhibition is a stand-alone event open to all: And with an admission charge of just \$15.00 - and the chance to win 'Lucky Door' prizes of equipment and overseas diving trips worth thousands of dollars - it's a visit that may just change your life and the way that you think about diving.

A truly international event that's been chosen as the launch platform for a number of exciting new products and initiatives, **OZTeK'11** is the one-stop shop window onto the dynamic world of diving.

For further information on exhibitors, click on the links opposite, or check out the website's [Exhibitor List](#)



# **Fiji trip plan June 18 to July 3**

World's best Shark diving?.... Certainly in the top 3 after the Great Whites in South Africa, Tiger beach in the Caribbean. Last August I managed to see 5 different Tiger sharks including "Joyce" the 14 foot giant with the girth of a 44 gallon drum. I did not see "Scarface", the 18 foot giant who has been visiting over the last few years. Maybe next time.

World's best Soft coral diving. The photo opportunities for those "pretty diver shots" are limitless. Beqa became world famous for some of these stunning dives with more colour than you see on an LSD trip.

The plan for the trip is 15 nights including a week at the Pearl Pacific resort and a week at Lalati resort on Beqa Island and one night in transit. There is a backup plan! If there is a problem with booking Lalati (It is a very small boutique resort) we might go to Octopus resort up the Yasawas.

I intend to plan at least 24 boat dives (12 each week at 2 per day) and possibly some free shore dives at Lalati. The cost is about \$100 a day for dives. (\$1200 for diving)

This is an excellent trip. It is great value at slightly under \$3000 and very comfortable. I am taking my non diving but keen snorkelling wife.

I have been to Fiji twice in the last 14 months.  
The magic Fiji that has always been famous is still there on the ground.

If you are interested in finding out more, please contact me on

[mikescotland@optusnet.com.au](mailto:mikescotland@optusnet.com.au)

[scubamagic@hotmail.com](mailto:scubamagic@hotmail.com)

0415 158 168

02 9521 7720

I would encourage you to do some research. Here are some dub dubs for you to look over.

<http://www.lalatifiji.com/home/>    <http://www.thepearlsouthpacific.com/>

<http://www.beqalagoonresort.com/>    <http://www.octopusresort.com/>

I also use a site called [www.Beautifulpacific.com](http://www.Beautifulpacific.com) and go to "fiji" link and then "Outer islands" and "Beqa Lagoon". It has plenty of pictures for each resort.

I can't wait. Mike Scotland.

## **- Recent Club Happenings -**

### **Club Dive 11/12/10 to Middle Ground**

Bright and early on a Saturday morning the clans gathered for a club dive out to Middle Ground. 4 boats went out, Lescat, DownUnder, Scram2 and SeaJohn. All full of excited divers looking forward to another day of diving. Conditions looked perfect with flat seas and the sun was shining.

On arrival at Middle ground, the seas might have been flat, but the colour didn't exactly look like the blue we were hoping for. It looked decidedly green with lots of jellies in the water. It looked green, and it was green..... it also got very dark and foreboding as we were descending and then I realised it was the reef – just looked like a dark blob coming out of the gloom.

Having said that – you dive with what you've got and decided it was going to be an up close and personal dive ie, Braille diving. I dived with Les and we didn't stray too far from the anchor (not a reel between us) but the sponge gardens looked healthy with lots of different nudis and big schools of fish – probably sea pike all around us. Back up through the jellies and gloom to the warmth and sunshine after our allowed time and all boats then headed to Dark Bay for morning tea. After rafting the boats together, the usual wonderful array of food and beverages came out and we also had some of the sparkly stuff to celebrate as it was my 1000<sup>th</sup> dive. Another great day had by all and as one of the wise one says:

“no such thing as a bad dive, just some are better than others”.

Carol

## **Reports from weekend. 1<sup>st</sup> and 2<sup>nd</sup> Jan.**

Bare Island Right – Sunday

Natasha Digby and Carol M

*Viz was better than I've seen in a while, though lots and lots of jellies. Nice dive., (Nat)*

The Steps (Sunday)

Ken, Bram, Josiah

*Viz 5 – 8, 18 degrees saw black and white nudies and two weedies, which is always most excellent.*

*A nice little dive to start the new year.*

Ken R.

Live long and dive well

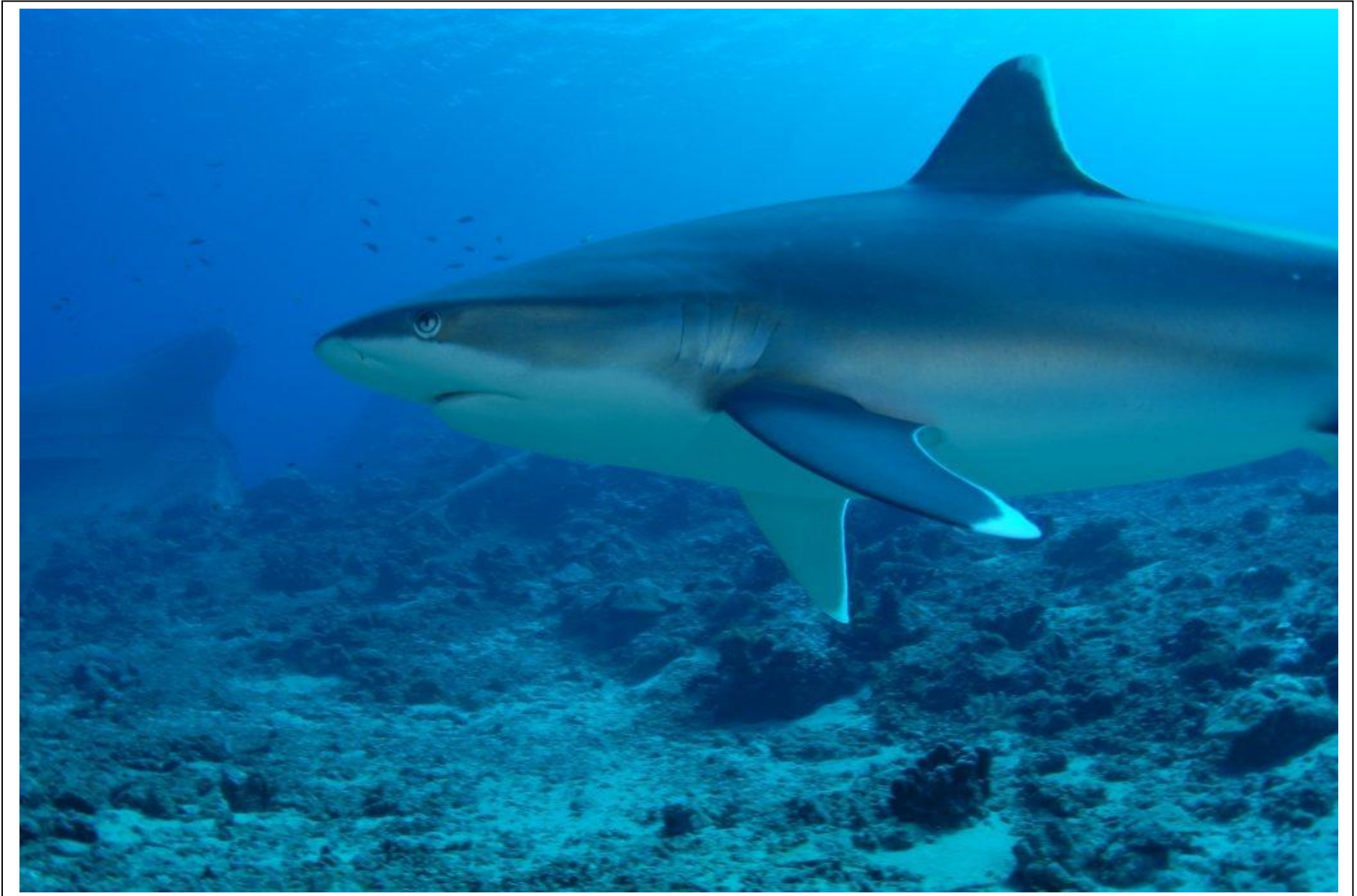




Some recent Pictures from Mike Scotlands adventures in Beqa, Fiji and Kurnell.













## **Xmas Dives (25<sup>th</sup> December 2010 to 30<sup>th</sup> December 2010)**

### **Xmas Morning Dive (25<sup>th</sup> Dec 2010)**

While the rest of Sydney slept & or opened their presents on Xmas morning myself, Carol Harris & Leon, Nancy Scoleri & Garry Perkins slipped into the calm & clear waters of Bare Is at 10.55 am.

The water temp was a pleasant 20 degrees C & the vis was between 10 & 15m. We swam along the front of the Island scattering the feeding goat fish. On a sponge I noticed a small green Sacoglossan slug (these leaf like slugs suck the “sap” out of green algae). We then swam down to the deep wall, where the bottom temp was down only by a degree. We saw lots of nudis – ianthania, neodoris, splendida & marginata as well as a number of large egg rosettes which had been laid by large dorids or pleurobranchs during the night. There was the usual array of sponges & small fish. At 35mins we turned back & swam at a leisurely pace to the exit point. Along the way we saw a couple of small cuttlefish.

Through out the entire dive we had the company of a friendly blue wrasse.

We surfaced after an enjoyable 58 minutes in the water.

After the dive we enjoyed a cold drink & Xmas pies. I can't think of a better way to spend Xmas morning.

### **Wednesday 29<sup>th</sup> December 2010**

We met Yves at Rose Bay for a pleasant run to the Bellubra. The seas were calm & we arrived inside 40 mins.

I dived with the two guys on rebreathers, Nipper (Merv Maher) & his mate who had a scooter. They did around 30mins on the bottom while I left on 18min. Bottom temp was around 20 degrees

During this time we were able to do both halves of the Bellubra, with Nipper running a line between the 2. Vis was around 20m with a slight current on the bottom running in an easterly direction.

The 6 other divers were all GUE's so we left them to do their own thing. Twins with trimix & two slings, is definitely over kill on wreck such as this!! Deco was pleasant in 21 degrees water but became bumpy in the last 5 mins due to a rising swell. Those doing deco later opted to deploy SMB's next to the boat.

### **Thursday 30<sup>th</sup> December 2010**

Another great day & another high tide saw Ray & Andrew Moulang, Cherie & Monica +family myself depart from the ramp at Rose Bay & head over to Castle Rock to collect Mark Ridsdale & Vera. From here Ray & Andrew Moulang, myself + Mark & Vera we went to North Head & dived the amphitheatre north of the harbour.

**This was to be Vera's first boat dive after her course. After gearing up she opted to sit on the back of the boat & slide in as it was rolling a little too much for to get via the usual method of a giant stride.**

**After 40 mins the three of us entered the water when Mark & Vera came back to deco.**

**The site here slopes from rocks at 14m to kelp & sand at 22m. The area had lots of small fish – yellowtail & yellow finned pomfrets as well as red Mowong. It was interesting to see no blue groopers here.**

**In several areas there were large concentrations of sausage zoanthids. These were generally thicker in diameter than those found inside the harbour & a slightly different colour, -brown rather than dark green.**

**On ascent to the safety stop we were greeted by several large lion's mane jellies moving past in the current.**

**After the dive we went back to Mark's yacht for lunch & a swim before heading back to the ramp at Rose Bay.**

**By - Peter Flockart.**





DB6 Quick Release Bag Mounting Options

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pay for fills/tests) \$350  
MartinM-  
[marchan@optusnet.com.au](mailto:marchan@optusnet.com.au)

## TECHNOLOGY

## Breathing deep with liquid-filled lungs

Inhaling oxygen-rich liquid would allow divers to explore deeper into the ocean than ever before, and even eliminate decompression sickness

Helen Knight

YOU step into your diving suit and pull a helmet over your head. The helmet immediately starts to fill with liquid, but you don't panic, you simply begin breathing in the fluid as you would air.

No, this is not a scene from the movie *The Abyss* (pictured, below right), but the brainchild of inventor Arnold Lande, a retired heart and lung surgeon formerly based at the University of Texas Medical School at Houston.

While some researchers work on ways to keep divers under for longer (see "How to spin seawater into air", right), Lande has designed a liquid breathing system that he claims will allow people to dive to great depths without the risk of decompression sickness, otherwise known as the bends. It is caused when inert gases like nitrogen and helium in the air mixture divers breathe dissolve into their blood, particularly under the terrific pressures of the deep ocean. If a diver resurfaces too quickly, these gases can bubble into body tissues like the bubbles that form as a soda bottle is uncapped, causing terrible joint pain, seizures and paralysis.

Breathing an oxygen-carrying liquid would dispense with the need for inert gases like nitrogen, says Lande, and so eliminate the threat of the bends.

The idea to use liquid breathing for deep diving was first investigated in the 1960s. Alveoli in the lungs can exchange oxygen from a fluid if the gas is mobile enough in solution. But the

human body isn't up to the task of heaving a liquid in and out fast enough to inhale sufficient oxygen and exhale enough carbon dioxide, so the idea was dropped.

In a paper presented last month at the first International Conference on Applied Bionics and Biomechanics in Venice, Italy, Lande proposed a way around this problem. He has designed a system in which the diver breathes in an oxygen-carrying liquid called perfluorocarbon, contained in a diving helmet.

To help their lungs push the liquid in and out, the diver would wear a cuirass ventilation device fitted around their chest. These devices, named after the armour worn by medieval soldiers, wrap around the upper body and are attached to a pump that exerts or removes pressure on the chest to help the lungs inhale and

exhale. "This would provide the assistance to the diver's breathing that he needs while he is working hard, having to pull a liquid into his lungs and expel it again," says Lande.

Gaseous oxygen would be bubbled into the liquid in the helmet to keep it topped up. The helmet would not help with the removal of CO<sub>2</sub>, though. The system gets rid of this gas directly from the blood through an

**"Once they were breathing the liquid in, divers would not have much of a problem with it"**

artificial gill fitted to the suit, in the form of a gas-permeable membrane. A catheter inserted into the femoral vein in the groin takes the blood out of the body to be filtered through the membrane. Heart and lung machines use a similar system, called a membrane oxygenator. For divers, the CO<sub>2</sub> would be absorbed by a material such as soda lime, and the treated blood would re-enter the body.

Could divers tolerate breathing in a liquid? The powerful human gag reflex would normally cause them to cough it straight back up. But Lande says that can be overcome with training and, if necessary, a drug to dull the sensation of liquid pouring down the windpipe. "Once they were breathing the liquid in, I don't think they would have much of a problem with it," he says. "The alternative is putting a tube down their throat, which carries the risk of infection."



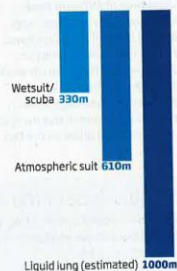
Scuba only takes you so deep

To keep the diving suit topped up with power and oxygen, Lande envisions a small propeller-driven, torpedo-like auxiliary vehicle that the diver would take along with them, to carry the necessary battery pack and oxygen tanks.

The idea is perfectly feasible and has been demonstrated extensively in other mammals, says Thomas Shaffer of the Nemours/Alfred I. duPont Hospital for Children in

## Deep diving

Maximum depths achievable for divers



For daily technology stories, visit [www.NewScientist.com/technology](http://www.NewScientist.com/technology)

## HOW TO SPIN SEAWATER INTO AIR

Israeli inventor Alan Bodner has developed a prototype device to extract air from seawater by lowering its pressure. This causes any gas dissolved in the water to bubble out – just like opening a carbonated drinks bottle. The air can then be captured and pumped into an underwater habitat or used by a diver.

Bodner first unveiled the concept back in 2005 but has now developed a proof-of-concept model. The battery-powered system, about the size of a briefcase, can process 200 litres of seawater per minute. The device uses a centrifugal pump to lower the water pressure, and the air bubbling out is then sucked up by a vacuum pump and piped into a container.

When combined with gas exhaled by a diver, this would be enough to

provide them with the litre of oxygen per minute that they need, says Bodner. The system could be attached to a torpedo-style auxiliary rig which a diver could take into the depths with them.

To remove carbon dioxide from exhaled air, Bodner is now developing a system in which the stale air is "scrubbed" of CO<sub>2</sub> by mixing it with seawater. The air is pumped into a mixing chamber and seawater is then sprayed in. The droplets cling to and exchange gases with the air molecules, reducing the CO<sub>2</sub> in the air, which is then separated from the water and re-circulated back into the breathing apparatus. "This method, combined with my system that can supply oxygen from the water, provides a complete solution for breathing underwater," says Bodner.

Wilmington, Delaware, who has investigated liquid ventilation since the 1970s. "A number of us put a perfluorochemical into animals' lungs and sent them to very great depths – over 300 metres – and then decompressed them in less than 1 second," he says. "Normally that would mean instant death for a mammal, but with the perfluorochemical, it wasn't a problem."

There have long been unconfirmed rumours that the US navy experimented with liquid breathing for divers in the 1980s, says Shaffer, who in 1989 was running trials using liquid ventilation to treat premature babies and adults in respiratory distress. While undertaking these trials, he worked with a doctor who claimed to have previously been a Navy Seal involved in these experiments. "His story seemed credible, but he refused to talk publicly about it," says Shaffer.

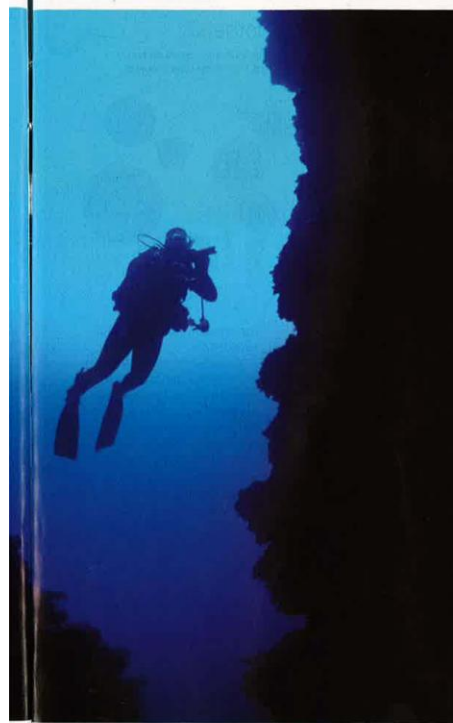
According to this source, the technology worked, but some divers developed stress fractures of the ribs from the huge effort

required to breathe liquid without the help of any assistive device.

Another, far more serious, danger would be from divers panicking and vomiting into their breathing liquid, says Shaffer. "If you were to get sick in the fluid and aspirate it, you would have a lot of problems."

This could be overcome by putting a one-way valve in the system that would prevent any unwanted fluids from entering the lungs. If successful, this technology could allow divers to go as deep as 1000 metres below the surface to respond to deep-sea disasters (see graph, far left). Though the blowout of the Deepwater Horizon oil rig in the Gulf of Mexico occurred at a depth of 1500 metres – too deep for the system to be effective – it could be useful for similar emergencies.

Indeed, Shaffer himself was approached by a member of the Russian navy and asked for advice when the Kursk nuclear-powered submarine sank in 2000, but there was not enough time to put a device together to allow divers go down to the wreck, he says. ■



Puts the aqua into aqualung



Here are the images of Halifax Park & a before image  
courtesy of David Harasti's web site.





For Sale  
Contact:..  
Paul Watkinson  
<paul@watkinson.biz



The Committee is:			
<b>PRESIDENT:</b>	Jason Coombs	9345 4599	<a href="mailto:President@stgeorgescubaclub.org.au">President@stgeorgescubaclub.org.au</a>
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<b>SECRETARY:</b>	Eddie Ivers	0403 014 241	<a href="mailto:Secretary@stgeorgescubaclub.org.au">Secretary@stgeorgescubaclub.org.au</a>
<b>TREASURER:</b>	Mark Ridsdale	0419 243717	<a href="mailto:Treasurer@stgeorgescubaclub.org.au">Treasurer@stgeorgescubaclub.org.au</a>
<b>ASST SEC / TRES:</b>	David Casburn	0405 186 184	<a href="mailto:dcasburn@iinet.net.au">dcasburn@iinet.net.au</a>
<b>WEBMASTER:</b>	Michael McFadyen	9545 5596	<a href="mailto:Webmaster@stgeorgescubaclub.org.au">Webmaster@stgeorgescubaclub.org.au</a>
<b>EDITOR:</b>	Ray Moulang	04034 37974	<a href="mailto:Newsletter@stgeorgescubaclub.org.au">Newsletter@stgeorgescubaclub.org.au</a>
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