

Postal Address: VSAG, 15 Regal Ct, Vermont South VIC 3133 editor@vsag.org.au www.vsag.org.au

VSAG Member Profile

Denise Ridgway

Year joined VSAG: 2012.

Been diving for: Nearly 16 years.

First diving experience: Was in Turkey, where I did my Open Water Course. My partner was doing a paragliding course in Ole Deniz and I didn't want to just sit on a beach while he had fun so I thought I'd try some diving. I have just checked my dive log and my first ever training dive was at a site called "Dalyan Koy". None of the dives were particularly spectacular but I knew as the week went on that this was something I really wanted to continue to do once I got back home. I joined a BSAC club on my return to the UK and started my cross-over course that winter. My first UK dive was in a quarry called Stony Cove in 4deg water in a semi-dry. I went and bought my first dry suit the next weekend!

Favourite diving location in Melbourne: Lonsdale Wall, as it is so varied. Depending on where you drop in you will have a totally different experience every time.

Most memorable diving experience: I love wreck diving and a dive trip to Truk with Scuba Doc in 2011 was absolutely fantastic – so many wrecks; so little time. Must go back some time. However, I feel I also have to mention a dive trip to the Norwegian fjords in June 2007. There were lots of huge wrecks, some from WW2 but a few older and all were marvellous to dive. The weather was great all week, the water like glass, the viz crystal clear and it was very weird not having darkness at night... at 1am it was still like dusk. The live aboard was also memorable but for all the wrong reasons. The skipper was the rudest man I have ever met, although he did know his stuff, and on the last day something went wrong with the plumbing which meant we could not have a shower or use the heads. Luckily, the skipper of another live aboard doing the same itinerary allowed us to use their facilities.

Most unusual or amusing diving experience: I have had a few of these but one was in the Red Sea. During a dive I started to hear a clicking noise and guessed we were near some dolphins. I



looked around and saw a mother and baby in the distance and as I watched her she started to swim over to me. She came so close I could have touched her and I felt she was really having a good look at me and then went on her way. Moments later a whole pod flew out of nowhere right over the top of the whole group of us and you could practically hear the chorus of WOW from the divers.

Most valued piece of diving equipment: Regulators and a full cylinder as I have not managed to develop gills yet.

Do you have a dive boat: No. I do have a radio license and plan to get a boat license once I have got my citizenship out of the way. I love going out on boats and my favourite kind of water is flat calm!

If you could dive anywhere in the world, where would you most like to dive?: There is no one place and I have a long wish list, which includes the Galapagos, Ningaloo, Komodo and others. I will get to these places eventually.

Any diving words of wisdom: It is supposed to be fun so do what you enjoy.

Any other comments: I'm looking forward to doing lots more diving with VSAG:0)



Est. 1954 Official Journal of the Victorian Sub-Aqua Group, Inc.

In this April 2013 – May 2013 issue...

Article	Author	Page
Member profile: Denise Ridgway	Denise Ridgway	2
Notices		4
Editorial	Lloyd Borrett	5
VSAG Committee 2012–2013		6
VSAG Committee News	Lloyd Borrett	7
Meeting report: Culturally sensitive artificial reef designs	Lloyd Borrett	8–9
Dive report: Spodgington's Hole, Rosebud Reef & Hurrica	ane	
	Graham Ellis	10–13
Dive report: A Day Inside at Torpedo Reef & Rob's Reef	Lloyd Borrett	13–15
Dive report: Lost Reef & Surf Club Bommies	David Geekie	16–17
Dive report: Coogee, Lost Reef & Excellent Reef	David Politakis	17–18
Dive report: Disappointment Averted	David Politakis	19–20
Dive report: Rye Pier and iGills	Meg Johnson	21, 52
Diving the Nuclear Fleet at Bikini Atoll	Lloyd Borrett	22–45
Emergency contact information		46
Tidal streams at the heads: Apr 2013 to Jun 2013	Graham Ellis	47–49
VSAG dive and meeting calendar	Graham Ellis	50
Member profile: Michael Sesin	Michael Sesin	51

VSAG General Meetings

Maori Chief Hotel

3rd Thursday in the month
Meeting starts at 8.00 pm
(Dinner starts from 7.00 pm)

117 Moray Street (corner York Street)

South Melbourne VIC 3205

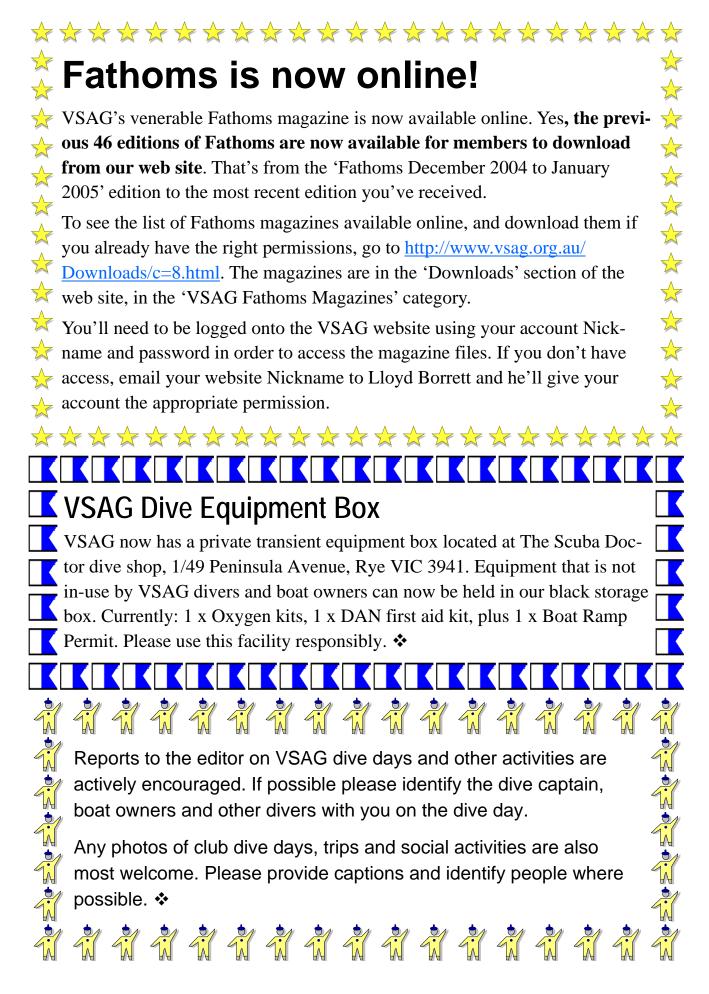
Melway: 1D L11

Email to editor@vsag.org.au

Lloyd Borrett M: 0418 170 044 Cheryl Lees M: 0448 863 455

14 Sheoak Rd, Frankston South VIC 3199

Copyright © 2013 by Victorian Sub Aqua Group, Inc. ACN 004 591 575. All rights reserved.



Editorial

Okay, so nearly half of this edition of Fathoms is taken up with my dive expedition report on the October 2012 trip to dive the sunken nuclear fleet at Bikini Atoll. I was planning to split it over two editions, but as plenty of dive reports were not contributed, I had the room.

If I haven't already bored you rotten with tales from this Bikini Atoll expedition it will all be new to you. And if I have, well I've still tried to provide plenty of additional details. I've been back from this expedition for four months, yet it still is just so fresh in my mind.

Before I left Bikini Atoll for home, I was already working out how to get back there again. I'm now a tour leader for an October 2013 expedition and I'm just as excited about going back, as I was when heading out on the first trip!

But there's more...

Yes, VSAG has been a hive of activity over recent months. Boats full of divers heading out to dive our great local dive sites nearly every weekend. Sometimes the conditions have been challenging, but on others it has been about as good as it gets. (Why is it Cheryl and I seem to always be out on the challenging dive days?)

The club keeps getting stronger with more new and active members. You can read about two of them in this edition.



VSAG on **Facebook**

The VSAG group page on Facebook is certainly becoming a mecca for active members of VSAG see https://www.facebook.com/groups/ vsag.divers/

Pictures are often posted from dive days on the day, or soon thereafter. Plus some of the pictures are attracting great comments and feedback. There's more than we could possibly put into Fathoms, so if you want to see what's going on, join our Facebook group and check it out often.

Member of the Month Awards

I know John Lawler and yours truly were really chuffed to be the inaugural joint winners of the VSAG Member of the Month Award. It's great that VSAG has created this new initiative to recognise the fantastic above and beyond contributions made by various members from time to time.

Pool Time

Unable to get out diving this last hot February weekend, I resorted to putting a cylinder of EAN53 under my arm, a reg in my mouth, a mask on my face, and jumped into the pool without a BCD! It made for an interesting buoyancy control exercise. Cheryl's niece and nephew also enjoyed having a go.

Best regards, Lloyd Borrett. ❖

VSAG Committee 2012–2013



President / SDFV Representative

David Geekie 145 Johnston St, Newport VIC 3015 president@vsag.org.au

0419 300 686 dgeekie@bigpond.net.au

Vice President

Peter Briggs 37 Blue Ridge Dr, Mooroolbark VIC 3138 vicepresident@vsag.org.au

03 9727 3947 (H) 0412 585 546 pcbriggs@bigpond.net.au

Secretary

Alan Storen 15 Regal Ct, Vermont South VIC 3133 secretary@vsag.org.au

03 9803 3573 (H) 0417 017 446 storens@bigpond.net.au

Treasurer / Property/Equipment Officer

Peter Galvin 6 Dawson Glen, Heathmont VIC 3135 treasurer@vsag.org.au

0417 061 564 pgalvin@au1.ibm.com

New Member Coordinator

John Lawler 7 Cloris Ave, Beaumaris VIC 3193 membership@vsag.org.au

03 9589 4020 (H) 0414 922 916 jlawler@aapt.net.au

Webmaster / Newsletter Editor

Lloyd Borrett 14 Sheoak Rd, Frankston South VIC 3199 editor@vsag.org.au

03 5904 9005 (H) 0418 170 044 lloyd@borrett.id.au

Social Secretary / Assistant Newsletter Editor

Cheryl Lees 14 Sheoak Rd, Frankston South VIC 3199 socialsecretary@vsag.org.au

03 5904 9005 (H) 0448 863 455 cheryl_marj@hotmail.com

Dive Calendar Coordinator

Graham Ellis 2A View Rd, Glen Waverley VIC 3150 divecoordinator@vsag.org.au

03 9803 0069 (H) 0403 070 920 graham_ellis@optusnet.com.au

Point Scorer / SDFV Representative

Trevor Williams 168 Newman St, Kensington VIC 3031 pointscorer@vsag.org.au

03 9372 6189 (H) 0404 069 572 trevor.j.williams@westnet.com.au

To email all VSAG committee members: committee@vsag.org.au

VSAG Committee meets at 8.00 pm every 2nd Thursday of the month (except in January)

All Members Welcome

Maori Chief Hotel, 117 Moray St, South Melbourne VIC 3205

VSAG committee news

by Lloyd Borrett, VSAG.

The following is a summary of main points raised at the February 2012 committee meeting.

- John Lawler and Lloyd Borrett are now starting to build a comprehensive set of GPS marks that can be shared by VSAG boat owners. Having accurate marks for navigation and dive sites will aid in the running of dive days, plus improve boat safety.
- Trevor Williams spoke about 'Leadership by the DC' as a way to address some common issues occurring on VSAG dive days.
- Cheryl Lees to circulate details of 'The Reef' concert and ask for expressions of interest as a possible VSAG social night.
- Trevor Williams revealed his choices for VSAG Monthly Award winners for January and February 2013.
- Trevor Williams reported on his analysis of the current data being collected via the new point scoring system.
- Lloyd Borrett reported all of the 30 Nautilus Lifeline units have been sold to VSAG and Getunder members, and all but one distributed. None were kept as VSAG equipment.
- Lloyd Borrett reported that Fathoms is now being published online for download from the VSAG web site

by members. Issues back to December 2004 now available online.

• Meeting Speakers:

Feb: David Lennon

Mar: Mick Kakafikas on Tonga

Apr/May: David Reinhardt, or Lloyd

Borrett on Bikini Atoll.

VSAG welcomes new member

Would all VSAG members please extend a warm welcome to Ian Smith (Feb 2012) and help him settle into VSAG's unique culture.

Ian has a RIB dive boat and is keen to get it setup properly for use on VSAG dive days. �



Meeting Reports

Thursday, 21 February 2013

Culturally sensitive artificial reef designs

by Lloyd Borrett, VSAG.

David Lennon from Sustainable Oceans International was our guest speaker at the February 2013 meeting of VSAG. David had presented previously at a VSAG meeting about the hugely successful "Reef Balls" projects he has been involved with around the world, including in Port Phillip Bay.

This time David spoke about culturally sensitive artificial reef designs. David used some of his recent projects in the middle east and Fiji to show us how the needs of the local fish, plus the culture of the local people can be taken into account when designing the structure and layout of artificial reefs.

It was a very informative, interesting and thought provoking presentation.

What Are We?

Trevor Williams, VSAG's Point Scorer, ran us through the changes that have been made to the points scoring system used to come up with our "Club Member of the Year" award. The points system has been updated and expanded to take in activities other than dive days, such as dive



Guest speaker David Lennon. Photo: Lloyd Borrett.

trips, social events, plus Fathoms participation and contributions.

By studying the nature of the activities of club members via the points scoring system, Trevor has been able to gain some valuable insights into how active we are and the way we seem to have quite distinct ways that members use what's on offer from VSAG.

For example, while a handful of people are active across the full spectrum of VSAG activities, others mostly participate just in dive days, while some only attend the occasional club meeting or social activity. Others just go on interstate or overseas dive trips.

By using this information from the Points Scoring system, we're now better able to make improvements to the activities we provide.

Member of the Month Awards

Trevor proposed, and the committee agreed, to introduce a "Member of the Month Award" to recognise outstanding contributions to VSAG by members. This award isn't based on the points system, but instead is a way to reward other forms of contributions. It will be given when it's deemed appropriate rather than every month.

January 2013 Award

The inaugural recipients of the VSAG Member of the Month Award were John Lawler and yours truly for our work on the VSAG Boat Safety Guidelines over the past 18 months.



Trevor Williams with inaugural award winners Lloyd Borrett and John Lawler.

February 2013 Award

Over the last 12 months some VSAGers have been getting together to assist VSAG boat owners in making improvements or fixing issues with their boats and boat trailers. A common thread through all of this work has been the magnificent coordination, engineering support and generous time that David Flew has provided on every occasion.

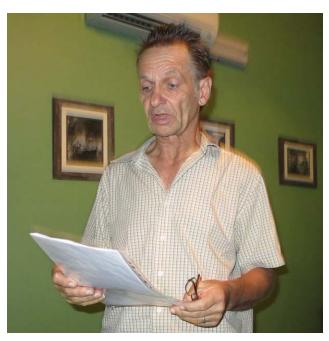


Trevor Williams with February Award winner David Flew. Photo: Lloyd Borrett.

The February 2013 VSAG Member of the Month Award to David Flew recognises his past and ongoing efforts in assisting our boat owners to make their craft available for club diving.

Wilsons Prom

Andy Mastrowicz gave an update on the plans for Easter 2013 at Wilsons Prom. Heaps of divers, but only a few boats, will be heading down to The Prom for the diving and social activities this year. ❖



Andy Mastrowicz updates members on Easter at Wilsons Prom. Photo: Lloyd Borrett.

Dive Reports

Sunday, 27 January 2013

Spodgington's Hole, Rosebud Reef and Hurricane

by Graham Ellis, VSAG.

With much anticipation, intrepid VSAG divers waited to hear whether conditions for the planned dive day would be suitable for diving. Throughout the week the weather patterns continually changed for the five days leading up to the dive day and kept us guessing. After much discussion between John Lawler, Lloyd Borrett and myself, a decision was made that the dive was on.

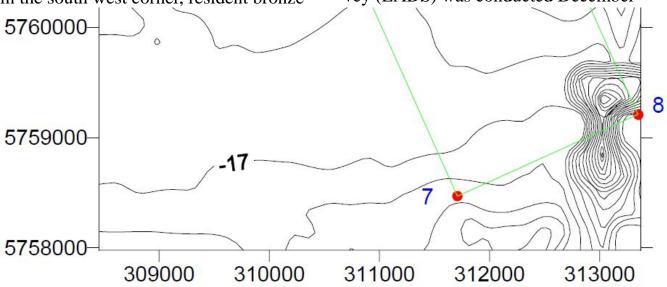
Spodgington's Hole has been on the agenda for about 12 months but at no time had the planets aligned for us to do this. Spodgington's Hole consists of drop offs, under-cuts with abundant cray fish, swim throughs, crystal clear water, wreck in the south west corner, resident bronze

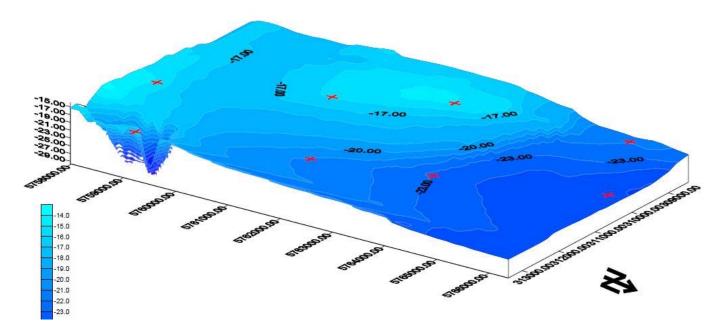
whaler sharks and massive schools of fish.

The discovery of Spodgington's Hole had come about from two documents which briefly describe the hole as noted in the following passages and illustrations/ charts. The first one came from "Bathymetric Survey of Pinnacle Channel Port Phillip" which describes the site as follows;

"Of note in Area C is the figure of 8" shaped depression in the southeast corner. This feature is characterised by two adjoining holes, below the normal seabed of 17metres, to a depth of 30metres. This feature is not too dissimilar to the "Portsea Hole", a depression near Portsea pier and other similar features close to Port Phillip Heads. Reference to a report Holdgate et al., (1981) describes the existence of late Pleistocene river channels."

In addition a Laser Airborne Depth Survey (LADS) was conducted December

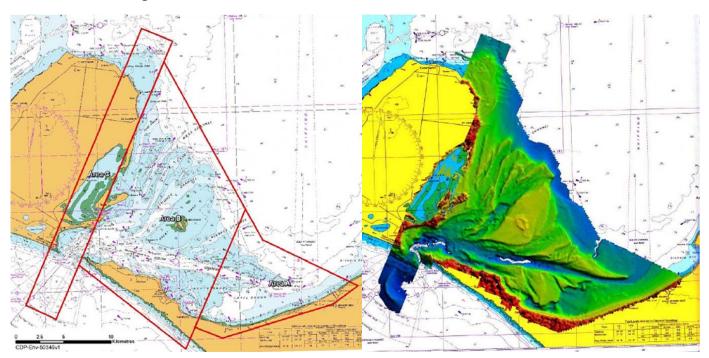




2009 and January 2010 on a 5x5 metre grid laser spot spacing. This also confirmed the existence of the hole.

The three boats of Campisano, Borrett and Ellis assembled at The SCUBA Doctor for loading of dive gear and briefing of the divers amidst rain, cloudy skies and threatening wind. Once loaded, down

to the Rye boat ramp to find that parking wasn't a problem for the Australia Day long weekend. Boats were launched with Campisano and Borrett boats surging off toward South Channel Fort and the boat of Ellis wondering where everyone had gone. Radio contact was made which then had all boats heading towards the



The two depressions associated with the boomerang trench near the heads and the trench of Spectacular Reef are shown clearly in the sea bed features above. In addition Spodgington's Hole is shown quite clearly in the lower right of the sea bed survey.

South Channel pile light before heading off to fabled Spodgington's Hole.

Ten minutes later with the assistance of a stiff 15 knot tail breeze we were ready to start our carefully coordinated grid search for the edges of the hole. Lloyd was the first to sound the deepest point of the hole at 30 metres with Peter not too far behind. With the precision of a carefully planned grid pattern all boats managed to create tracks on their plotters resembling a three year old's scribble pad while at the same time managing to ping waypoints where the hole appeared to be steepest.

Lloyd and Peter got shot lines out to allow the first group of divers to gear up in preparation. During this period sounder screens showed large schools of fish which filled up half the depth showing on the sounder screen. The shot lines indicated that we had slack water allowing the first group of divers into the water which included John Lawler and Benita McDonough with Lloyd Borrett and Tony van den Blink shortly after. While waiting for the divers the large school of fish showed on the sounder a number of times. The question remained in our minds while the first group of divers were down there ... "Was this Spodgington's Hole?"

About 25 minutes later the first group of divers surfaced and returned to the boats with feedback on seeing large schools of fish and above average sized scallops which Benita had a good sample of.

Rosebud Reef

The divers had come up and so had the wind, so we were all off to dive site number two, Rosebud Reef. One learning point from heading off to this site was that to dive together everyone has to have the same coordinates for the dive site. The boat of Ellis et al finished up just south of the Hurricane using coordinates which were very wrong. Radio contact was made, all boats together again and Rosebud Reef was shot by Lloyd. The wind conditions were a lot better now & we were sheltered by the Rosebud coastline. Divers entered the water to find 10 metres viz and an abundance of sea life on the reef.

The Hurricane

The next dive site was The Hurricane, for people who missed out on Spodginton's Hole. Again, reasonable visibility and great sea life.

The dive finished off, boats were retrieved and we all met back at The SCU-BA Doctor for tanks fills and a bit of decompression. Despite the dodgy start to the day weather wise many of us managed to get a touch of sun with Lloyd being the winner.

Did we find Spodginton's Hole? As it turns out the biggest problem with this site is the quiescent tidal conditions. This means that the tidal flow has been insufficient over the decades to stop silt settling into this depression. This meant the hole is now full of talcum powder like

silt. Is the hole there? – unquestionably yes. Does it look spectacular and have lots of rugged features and keep you waiting in anticipation at each rock structure? We will probably never know because we have now explored this site and don't think we will be returning any time soon. Benita's summary of the site was a hole with lots of slime. Needless to say, despite ticking one of the boxes, that being the large schools of fish, we hadn't found Spodgington's Hole. The legend lives on!

Divers and boats for this dive day were:

- Lloyd Borrett, Cheryl Lees, David Goodwin and Tony van den Blink on Lloyd's boat.
- Peter Campisano, Carole Campisano, Bob Pavlich and Andrew Quested on the Campisano boat.
- Graham Ellis (Dive Captain), John Lawler, Benita McDonough and Denise Ridgeway on Graham's boat. �

"My soul is full of longing for the secrets of the sea, and the heart of the great oceans sends a thrilling pulse through me"

Henry Wadsworth Longfellow

"Twenty years from now you will be more disappointed by all the things you didn't do than by the things you did do. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover."

Mark Twain

Sunday, 10 February 2013

A Day Inside at **Torpedo Reef and** Rob's Reef

by Lloyd Borrett, VSAG.

Who

"Miles Ahead": John Lawler, Benita McDonough, Ian Smith, Denise Ridgway, Christine Reynolds.

"Raydon": Lloyd Borrett (Dive Captain), Cheryl Lees, Ian Scholey and guest diver Andrew Gabriel.

In the beginning...

With a weather forecast and conditions suggesting we shouldn't go outside, we opted for a day of diving inside the heads. So eight VSAGers, together with a guest diver Andrew Gabriel gathered at the Sorrento Boat Ramp top trailer parking area and loaded the gear onto the two dive boats.

With five divers on his boat, John Lawler was astonished at just how much "stuff" accumulated in every possible hidey hole aboard "Signature One". Safety briefings completed, we headed down to the ramp, launched and headed over toward Queenscliff.

Torpedo Reef

We located Torpedo Reef and setup for some nice drift dives. Cheryl and Ian rolled in first from "Raydon". As always, the reef structure in this area is very inter-



Above: Cheryl & Ian watch Benita unloading her car. Andrew passes a cylinder up to Cheryl. Below: Ian gets gears up aboard "Raydon". Divers ready for safety briefing on "Raydon". Photos: Lloyd Borrett.



Above: Benita unloading more stuff for stowing on "Miles Ahead". John Lawler gives the safety briefing aboard "Miles Ahead". Photos: Lloyd Borrett.

esting and the current wasn't that strong so divers were able to dig in the reef hooks from time to time and take a leisurely look around. Once Cheryl and Ian were back on board, Andrew and I started our dive. It's interesting drift dives like this that make diving in Melbourne so special. By the time we were back aboard "Raydon" the wind had picked up a bit.

Rob's Reef

With the time for slack water fast approaching, we headed over and John Lawler dropped a shot on Rob's Reef. Cheryl decided to sit out the second dive, so Ian, Andrew and I geared up and waited for slack water.

The three of us rolled in and descended and started to enjoy the spectacular structure of this reef system. Lots of Bommies and swim throughs to check out.

We came across the divers from "Miles Ahead". Eventually it was time to head back to the surface. We then powered our way back to Sorrento, retrieved the boats and headed back to The SCUBA Doctor for air fills and an after dive chat.

Another great day out on the bay! �



A swim through at Rob's Reef. Photo: Lloyd Borrett.



Above: Lloyd signals Andrew to descend. Andrew enjoying Torpedo Reef. Below: Ian tumbles in with Andrew about to. Lloyd signals the descent to Rob's Reef. Photos: Lloyd Borrett.



Sunday, 17 February 2013

Lost Reef & Surf Club Bommies

by David Geekie, VSAG.

The Queenscliff contingent — Trevor Williams, Steve McMaster, Pam Dagley and David Geekie — of the VSAG dive day met at AB's house at Queenscliff at 8:30 am to ready the boat and socialise briefly with those going out on "Freediver".

We launched around 9 am, did the safety briefing and headed off towards the Rip in very pleasant conditions. The weather behaved as forecast, the light easterlies dropping as the morning wore on. Once

outside the Rip we managed to contact the Sorrento based boats of John Lawler and Peter Campisano to discuss the day's diving options. "Freediver" had placed a shot line on Lost Reef at 30 metres and we opted to join them, as did Peter Campisano. JL opted for a dive on the Coogee.

Conditions both on the surface and at the bottom were excellent. Lost Reef dive site is located at the eastern end of a limestone reef that runs for several kilometres parallel with the coast, the sand base is around 37 m. There were huge schools of different types of fish, particularly perch, trevally and possibly mackerel. I have not seen this much fish life before in Victoria, it was more like diving



VSAG Southern Mornington Peninsula crew. Photo: David Politakis.

in the tropics. There were even fascinating jelly fish on the ascent.

PC had lowered an anchor by hand adjacent to the shot line, this worked out perfectly for Pam and I. We descended by the shot line, followed the reef line around to the NE and circled back to the anchor line for the ascent. We then tied off to PC's boat for our lunch of hotdogs.

AB's 'revolting' crew decided to repeat the dive rather than head to another location. PC, JL and ourselves decided to head in to some shallower reefs (Bommies) near the Surf Club. Conditions once again were magical, it was like diving in an aquarium. It is rare that we don't have surge at depths of around 10-15 m in Bass Strait but on Sunday we cracked it and the dive site offered some nice terrain and reasonable fish life.

All in all another fantastic day's diving in great company. Thanks to all for participating. ❖

Sunday, 17 February 2013

Coogee, Lost Reef & Excellent Reef

by David Politakis, VSAG.

Boats & Divers

Signature 1 — John Lawler, Benita McDonough, David Flew & David Politakis.

Signature Geekie — Pam Dagley, David Geekie, Steve McMaster & Trevor Williams.

Campisano boat — Peter & Carole Campisano, Peter Briggs (Dive Captain) & Peter Altis.

Conditions

A week of northerly & easterly winds delivered the best possible dive day imaginable for Melbourne dive nuts just outside Port Phillip heads on this day. Visibility was an astounding 20–25 metres plus, that good I could make out JL & Dave Flew as they scoured the wreck of the Coogee from the surface — therefore almost 35 mtr viz! With no swell, no chop, just beautiful 35 degree blue skies & blue water the order of the day, what more could you ask?

Nautilus Lifelines

The three VSAG boats bobbing about all had an awesome day out, evident by the constant cross communications & chatter between the boats and mucking around on the new Nautilus safety devices which it's evident some of us need a brush up on. Even the basics like switching the unit on proved a comical challenge for the non-initiated. Another handy tip generously revealed on the day is "they self switch off after 5 minutes so stop looking for the off button" was heard bantered across the radio (LOL).

Diving

Three sites were dived, the wreck of the Coogee, Lost Reef & a cray bash in crystal clear (I mean crystal) 10 metre deep water at the aptly called Excellent Reef, out from surf life saving club off Point

Lonsdale. Obviously the clarity and rich deep blue colour of the water made the day special and memorable even for the veterans who have seen it all.

In all 6 crays came up to make the outing even more worthwhile for those who like a little cholesterol in their diet! On a side note one of the raised crays was a Victorian DPI tagged cray # 82684. Upon reporting to the authorities responsible, that very cray had been tagged 18 months prior. It kept the same geographical position in all that time — within 100 metres of initial tagging, grew 19 mm (carapace) and weighed an extra 170 grams for those who find it interesting?

Overall, don't want to rub it in, but it was a great safe, fun filled day — conditions absolutely superb! Capped off back at the boat ramp mid afternoon by an Air Force Roulette formation fly over display. We headed back to The Scuba Doctor for liquid refreshment and wrap up of the day while filling the tanks for the next dive adventure ahead. A special mention to those who continue to make their time & boats available to the club for all to enjoy this great pastime —

THANKYOU. ❖



Tagged crayfish. Photo: David Politakis.

Sunday, 24 February 2013

Disappointment **Averted**

by David Politakis, VSAG.

Signature 1 — John Lawler, Benita McDonough, Ian Smith, Tony van den Blink & David Politakis.

Campisano boat — Peter & Carole Campisano, Greg Richards & Christine Reynolds.

Signature Geekie — Pam Dagley, David Geekie, Trevor Williams (Dive Captain) & Denys Schermansky.

For the crew & skipper of Signature 1, this day brought many twists & turns. The sensational forecast & continuous midweek emails had the boat crew all hyped up. Those who had dived the week before in sensational dive conditions were anticipating another repeat dive day given the weather, water & wind conditions all being fantastic.

Everyone arrived early, keen to get the formalities over & done with. All gear was aboard checked and stowed with 25 min to spare till instructed depart/launch time. Then for Signature 1, ready to depart up in the top level parking bay, JL's Pajero simply decided to die on us.

Bonnet up; wrench in hand, various eyes looking at the underneath, but still a dead car! Frustration was starting to kick in. So was a little disappointment at the thought of not being able to dive, let alone launch. On a deadline to make the HMAS Canberra booking allocation,

cool heads definitely were not prevailing. What to do?

Various plans were conjured, swap batteries, jump start, (roll start — just kidding JL) have Peter Campisano launch, un-hook, launch JL's & return etc. etc. but time was beginning to bear down on us. Then common sense luckily prevailed. Finally, after probably 10 minutes, we simply hooked the boat up to another member's idle car?

It was so obvious, but in all the excitement/disappointment we overlooked the most logical approach. JL was then burdened with the ultimate headache of trying to work out how to get boat & car home? He selflessly put that aside in the interest of the dive day ahead, despite being a little concerned, but various club members assured him all would be taken care of, and it was.

Pete & Carole Campisano hatched a plan and all was good by the end of the day as it turned out. Thanks guys.

Back to the water. Calm, clear, inviting it was full steam ahead. Arriving at the dive site — we then had our next dilemma. Which buoy? They had all been moved around? Buoy 4 was our nominated marker but it was in the wrong spot.

Again 3 boats & crews roamed around scratching their heads, most thinking how can this be — it's always been known this way! After some attempted phone calls to Parks Vic, we ended up being told by a passing boat skipper that recent works/workmen had replaced all the buoys in wrong positions. So all good

and we simply tied up on buoy 1 - no one else other than VSAG boats on the dive site anyhow.

Diving the wreck was a treat, fairly good viz inside the hull, no surge and lovely water temperature.

Back to the boat, some surface time, a little lunch and then the decision was made to dive in 10–15 metres for crays given that a slack water dive would be awkward to facilitate effectively for all divers.

So groups of divers entered the water in search of crays out from the surf club off Point Lonsdale area. It was definitely cray territory. Four came up onto Signature 1, pretty sure the Campisano camp got a couple too & I let one out of my catch bag "%\\$\&_ #\\$", and many others seen, but just out of reach. Again though,

a real struggle to find any Abalone – not one seen, even small? Great spot & interesting ground. A top day again out on Bass Strait. Beautiful conditions & great company.

Back to the ramp, the trusty Toyota filled the gap left by Mitsubishi and all was happy.

Johns boat was safely delivered to Peter C's house in Dromana — then Peter kindly towed Signature 1 to Beaumaris for John. The Pajero went via RACV on its way to the doctor on the back of a truck, so all was taken care of just like Pete said. A big thanks to all involved again especially skipper John Lawler for a great day out diving given all the hurdles presented. Turns out the mechanical issue was a defective starter motor. *



Photo: David Politakis.

Sunday, 10 March 2013

Rye Pier with iGills

by Meg Johnson, VSAG.

I got my edition of Fathoms last month and saw Lloyd Borrett's report in 'Diving the Web' on the iGills SE-35 iPhone housing. And I had to have one — it was an impulse buy... and today I tested it out under Rye Pier. It was either going to be a success — or I'd be off the shop to buy a new iPhone.

It was a beautiful day in Melbourne low 30's, blue skies, perfect for diving. We got to Rye and unloaded the gear at the pier. I went to park the car and when I came back there was some random guy named Stan from Clayton who'd missed the boat at Portsea and asked if he could dive with us, so off we went.

We had a lovely hour-long dive under Rye Pier, it was high tide, and there were lots of little fish, beautiful colourful sponges, lots of seahorses, and a few pesky snorkellers. I was a bit trepidatious about my iPhone, but all went well. It's really easy to use, and even though I'm not a great photographer at the best of times, and this was my first underwater outing with a camera, I was really pleased.

When the iGills arrives, you need to download the app. In addition to taking photos and videos, the app logs your dives and turns your phone into a dive computer (not that I'm going to give up my old Suunto anytime soon, but it's a nice back-up). The dive log is good — it gives you a dive profile for your dive, temperatures (water was 23 degrees today — beautiful), dive times, entry and

exit times, attaches all your photos to your dive log. It was a lot of fun.

So, there you go — the iGills — straight from Amphibian Labs in the USA — lots of fun, easy to use, great dive log, photos ready to share the minute you surface, and I suppose if worst came to worst and you found yourself without a boat when you surfaced you could call 000 from your iPhone while you floated about in the bay.

It does, however, chew up the battery. My iPhone was pretty much fully charged when I started (and I'd synced it before I left home, just in case). I took 40 photos under Rye Pier and when I surfaced the battery was at about 50%. You need to put it into flight mode so it's not constantly searching underwater for a signal. But, best case scenario, if you were prudent with your shots (which I was not), you'd get maybe 2 dives out of it before you needed to charge it.

While I haven't dived with VSAG since December 2009, I'm still a member, and still out there diving. I had a dive in Spain in September last year, at Tossa De Mar—the Moray Eels were amazing, with a gold filigree skin unlike anything I've seen in the Pacific, and I've got a trip booked to Sipadan in August (if only DFAT would down-grade their warning back to 'exercise extreme caution' from the recently advised 'reconsider your need to travel'). Apparently the defunct Sultan of Sulu has decided he wants his land back in East Sabah... anyway hopefully I'll post another dive report from Sipadan in August with more photos from my iPhone. �

(Ed: see pictures on back cover.)

Diving the Nuclear Fleet at Bikini Atoll

by Lloyd Borrett, VSAG.

Bikini Atoll is without a doubt, the top wreck diving destination on the planet! Soon after I started diving back in 2006 I met Peter Fear, The Scuba Doctor, and started to hear stories from Peter and some of the others who had been with him on a dive expedition to Bikini Atoll in 2005, about just how great the place was. Some of the guys on that trip stopped diving for more than two years afterwards saying, "What's the point, nothing can top Bikini Atoll!"

By the time Peter Fear returned from his second expedition to Bikini Atoll in 2007, I was salivating at the concept of

diving the USS Saratoga (CV-3), an aircraft carrier and one of the world's largest "dive-able" wrecks. So I booked to go on the 2009 expedition and started to do the technical diving training to get the skills and certifications I'd need.

Back then around 250 or so divers a year got to go to this remote location in the Marshall Islands. The Bikini people had setup a land-based diving operation and you could fly in to Bikini Atoll via Majuro. An expedition spot costed more than \$12,000 plus expenses for a 2 week trip per diver. Yet it was still a destination every serious wreck diver dreamed of getting to.



Test Baker underwater atomic bomb blast at Bikini Atoll. Photo: US Military.

Then late in 2007, the operators cancelled diving at Bikini Atoll because they couldn't rely on the airline to get people in and out. Disaster! How was I ever going to fulfil my dream of diving on the sunken ghost warships of the nuclear fleet? Without a major lottery win, or the ability to hook up with someone going there by boat as Paul Allen, the co-founder of Microsoft, did on his luxury 126 metre mega-yacht 'Octopus', it looked like I would never get to dive at Bikini Atoll.

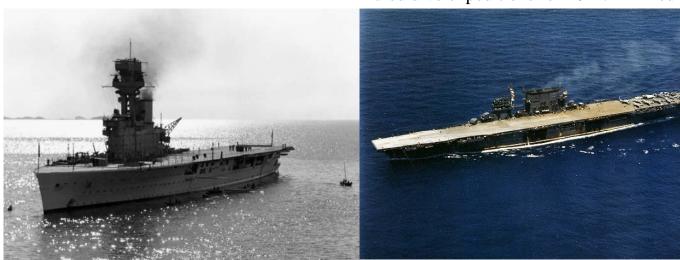
Then one Wednesday afternoon in October 2010, just a few weeks after returning from an expedition diving the British HMS Hermes aircraft carrier sunk by the Japanese in WWII off Batticolola, Sri Lanka, I got a call from Peter Fear saying, "There's a boat leaving to go to Bikini Atoll on Sunday and there's a spot on it if you want it?" About 30 minutes later my boss came into my office and asked why I was looking so depressed. I told him about the offer, and he said, "Go!" I then explained my work commitments

for the next three weeks, and he said, "Don't go!"

So Peter Fear was off on his third trip to Bikini Atoll. This time it was a trial liveaboard expedition on the Indies Trader Marine Adventures vessel. Martin Daley, the owner operator, had invited Peter Fear, plus Pete Mesley from New Zealand, along to offer their expertise on setting up the live- aboard dive operation.

Within a few short weeks of diving on HMS Hermes (95), the world's first aircraft carrier, Peter was diving on the USS Saratoga again. Lucky bugger! There are only three aircraft carriers in the world you can dive on, and he'd got to dive two of them within a month of each other. (The third is the USS Oriskany (CV-34) sunk as an artificial reef, now popularly known as the "Great Carrier Reef", off Florida, USA.)

The trial live-aboard diving expedition to Bikini Atoll was a great success and Indies Trader Marine Adventures obtained the only license to dive Bikini and scheduled dive expeditions for 2011. I immedi-



HMS Hermes (95). Photo: UK Military.

USS Saratoga (CV-3). Photo: US Military.

ately booked to go on one with Peter, but had to cancel because of work. I then booked to go on The Scuba Doctor's expedition in February 2012 and again had to cancel because of work. But, in October 2012, I finally made it to Bikini Atoll!

The Journey

Bikini Atoll is a remote place, situated in a lonely part of the world, just north of the equator in the Pacific Ocean halfway between Australia and Hawaii. It's one of the 29 atolls and five islands that compose the Marshall Islands, and part of the geographic area referred to as Micronesia.

I flew from my home in Melbourne to Cairns with Peter Fear (on his sixth trip to Bikini Atoll) on a Thursday morning and we met up with two other Australian divers there — Fiona Edwards and Steve Crosling. Then just after midnight on the Friday, we continued onto Guam where we met up with three other divers — Michael Cooper, Oliver Bourquin and Emmanuel Raze — who'd flown in from Europe. But there was a problem.

We were being told by the airline that a severe storm was beating up Kwajalein Atoll, our departure point for the Indies Trader live-aboard vessel MV Windward, and we might not be able to land there. We got on the next island hopper flight anyway, with the hope that we'd make it to Kwajalein.

First stop Chuuk Lagoon and we waited to get an update from the airline captain. Not looking good. Then onto Pohnpei, where we were told the truth. There wasn't a storm. The USA were conducting missile testing at Kwajalein Atoll and the airspace was closed! So we continued on to Kosrae and then bypassed Kwajalein and flew into Majuro. On Saturday morning we joined up with five



other divers — Bill Jakab, John Lundberg, Stephen Pahl, Warren Wisnewski and James Wisnewski — who were coming from the USA via Hawaii. We all took off for Kwajalein.

Flying into an American Ballistic Missile testing base that is at 'Code Alpha', where the Americans just don't want visitors, was certainly an experience. Those guys are paranoid! By midday we cleared customs and were escorted to the ferry terminal by US military officials, where we were greeted by Edward Maddison, the Bikinian dive master for the expedition. Eventually, come late afternoon, we boarded an army ferry boat and headed for Ebeye Island, a short distance away.

The MV Windward live-aboard was there to meet us. Chis Abrahams, the Aussie boat captain, and Peter Fear took us through the safety briefing and showed us around. This is a working boat, not a luxury live-aboard, and we'd be travelling to a very remote location and doing some



Missile test facilities at Kwajalein Atoll. Photo: Lloyd Borrett.

deep (50–54 metre) technical diving and long run times. So we paid attention.

Each of the twelve of us chose a bunk bed in the large, one room, lower accommodation hold and then started to unpack and setup our kit on the dive deck. The shared accommodation is really not a problem and quite comfortable. But if you're looking for your own cabin with ensuite, this is not the boat for you!

Operation Crossroads

The Second World War ended shortly after the Americans dropped two atomic bombs in Japan, the first one 'Little Boy' on Hiroshima on 6 August 1945, and the second 'Fat Man' on Nagasaki three days later. These were the second and third atomic bombs, in history, detonated on earth, the first being the Trinity nuclear test in July 1945. But as they were used on civilian targets, nothing was known about atomic warfare and the effects of atomic blasts on military targets.

Amid great publicity, the USA launched the spectacular and expensive 'Operation Crossroads' to determine the effect of atomic bombs on American warships. Yes, as ridiculous as it seems to us today, they wanted to know if atomic bombs would sink warships at sea. Bikini Atoll, because of its remote location away from regular air and sea routes, was chosen as the new nuclear proving ground.

While the 167 Bikinians were getting ready to be relocated from their tropical paradise, "for the good of mankind", some 242 naval ships, 156 aircraft, 25,000 radiation recording devices, plus more than 5,600 experimental rats, mice, goats, pigs and guinea pigs soon began to arrive for the test. Over 42 thousand military and civilian personnel were involved in the operation. Eighteen tons of cinematography equipment and more than half of the world's supply of motion picture film were on hand to record the atomic bomb detonations. In all, cameras at Bikini would take 50,000 still pictures and 457 km of motion picture film.

Around the same time French fashion designer Louis Reard was looking for a name for his new, controversial, tiny swimsuit design and the "Bikini" was launched. It was proclaimed that this swimsuit was going to have the same effect on the male libido as the nuclear bombs had on Bikini Atoll!

Even though there was considerable interest by scientists excited about as-

sessing the full effects of atomic energy in the field, Operation Crossroads was still for the sole benefit of the military. Their main goal was to make stronger, deadlier nuclear weapons, and see how a navy could withstand a nuclear attack. But it was also about flexing their muscles to the rest of the world, so they invited military and political representatives from all over the world, including the USSR.

Ninety-five ships — the equivalent of the sixth-largest navy in the world at the time — were prepared as the target fleet for the atomic blasts: 4 US battle ships, 2 aircraft carriers, 2 cruisers, 11 destroyers, 8 submarines, numerous amphibious and auxiliary vessels, plus three surrendered German and Japanese warships. Most were fully loaded with weapons and fuel ready for action. Some had special scientific experiments placed on them.

To see what the atom bombs might do to living things, the experimental animals were put aboard to replace the crew. Servicemen sheared a number of them and



Bikini people leaving Bikini Atoll in 1946. Photo: US Military.

Operation Crossroads target fleet in Bikini Lagoon. Photo: US Military.

put suntan lotion on their bare skin to see if that would somehow mitigate the effects of the radiation.

Operation Crossroads consisted of two nuclear detonations, each with a yield equivalent to 23 kilotons of TNT.

The **Test Able atomic bomb** was detonated at an altitude of 158 metres on 1 July 1946. This airburst was meant to duplicate the conditions of the Hiroshima bomb drop, this time, over water. It was something of a dud test, because the bombardier missed his target. Oops!

The ships sunk by this blast included: the USS Gilliam and USS Carlisle attack transports which sank immediately; the USS Anderson and USS Lamson destroyers which sank within hours of the blast;

and the Japanese IJN Sakawa light cruiser which sank the following day. A further 14 ships sustained serious damage.

The Test Baker atomic bomb was detonated 27 metres underwater beneath the landing craft LSM-60 on 25 July 1946. The ships sunk by this blast included: LSM-60 amphibious (no identifiable part of LSM-60 was ever found and it was presumed vaporised by the nuclear fireball), USS Arkansas battleship, USS Pilotfish submarine, USS Saratoga aircraft carrier, YO-160 yard oiler, HIJMS Nagato battleship, USS Skipjack submarine, USS Apogon submarine, and ARDC-13 dry-dock.

The radioactive contamination of the lagoon and target ships from the Test



Aerial map of Bikini Atoll. Note Bravo Crater in top left corner. Photo: US Military.

Baker underwater blast caused far greater problems than were expected. Only nine surviving Test Baker target ships were eventually decontaminated and sold for scrap. The majority were sunk at sea, mostly near Kwajalein Atoll, after decontamination efforts failed.

Thus Bikini Lagoon became the final resting place for some of the most historically significant warships in naval history. The dangers of the radioactivity and limited services in the area led to divers staying away from this most remarkable scuba diving site for many years. However, from the dust and detritus of the nuclear weapon tests, the lagoon at Bikini Atoll has emerged as the world's greatest wreck diving site.

Note: During 1954, 1956, and 1958, twenty-one more nuclear bombs were detonated at Bikini Atoll, yielding a total of 75 megatons, equivalent to more than three thousand Test Baker bombs. The first after Operation Crossroads was the dirtiest: the 15 megaton Bravo shot of Operation Castle on 1 March 1954, the largest-ever US test. The blast was nearly three times greater than its creators expected. It vaporised three islands in the atoll. Fallout from Castle Bravo test caused radiation injury to the islanders living on Rongelap Atoll at the time. Of all of the nuclear testing conducted by the USA, 80% of the radioactive fallout resulted from test explosions at Bikini Atoll.

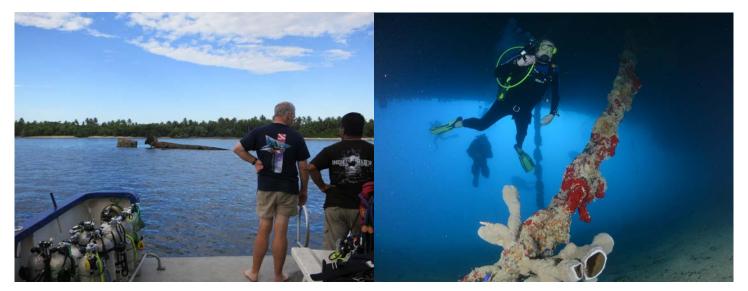
Diving the **Prinz Eugen**

On Sunday morning, MV Windward motored over to the site of the German heavy cruiser Prinz Eugen. This warship saw extensive action during World War II, and attempted a breakout into the Atlantic Ocean with the battleship Bismarck in May 1941. The two ships engaged the British battle cruiser Hood and battleship Prince of Wales in the Battle of Denmark Strait, during which Hood was destroyed and Prince of Wales was severely damaged.

After WWII, the Prinz Eugen was awarded as a war prize to the United States and taken to Bikini Atoll in 1946 to join the target fleet for Operation Crossroads. She survived the two atomic bomb blasts and was towed to Kwajalein Atoll, where a small leak went unrepaired because the radiation levels were too dangerous.

On 22 December 1946, five months after the atomic tests, Prinz Eugen capsized and sank within a few hundred metres of a nearby island. She now sits upside down with one of her massive stern propellers protruding out of the sea and her bow at around 38 metres.

The dive expedition split up into four groups: the four Aussies, the two rebreather guys, and two groups with dive guides. We dropped down amidships and made our way to the bow where we found a huge white tipped shark resting under cover. Then we made our way to



Left: Getting close to diving the Prinz Eugen German heavy cruiser. Photo: Lloyd Borrett. Right: Peter Fear at the bow of the Prinz Eugen. Photo: Luke Baade.

the stern, checking out plenty of nooks and crannies along the way. With a length of 208 metres, a beam of 22 metres and displacement of 16,970 tons — this is a big boat!

For the afternoon dive, Peter Fear and I split off from the others and penetrated the Prinz Eugen. We made our way to a companion way between two decks where Peter continued on to explore an area he hadn't previously been to. (I wasn't able to get through the opening!) After about 10 minutes he returned and we continued to explore the level we were on.

There can't be a better way to do checkout dives to start a dive expedition than this!

Onwards to Bikini Atoll

With the divers back aboard from diving the Prinz Eugen, everything was stowed securely and MV Windward started over **28 hours of steaming** to cover the 450 km (240 nautical miles) to Bikini Atoll.

On the way we sailed past Rongelap Atoll, which is not far from Rongerik Atoll where the Americans relocated the entire population of 167 Bikinians in March 1946, in preparation for Operation Crossroads. They were given a few weeks' worth of food and cheerful assurances that they could return to their lands as soon as the tests were over.

Rongerik Atoll was originally uninhabited because the Bikinians held a deeprooted traditional belief that the atoll was inhabited by evil spirits. It was also considered to be too small to live on (it is one sixth the size of Bikini Atoll) and



Are we there yet? Photo: Lloyd Borrett.

Bikini islander sailing canoe being relocated. Photo: US Military.

didn't have enough food and water to sustain life. Well, they were right! In July 1946, medical officers from the USA visited the islands. They were shocked to find that the Bikini people were critically malnourished and literally starving to death. Immediate preparations were made to transfer them to Ujelang Atoll in the western Marshall Islands.

But then the Americans chose to establish another nuclear testing ground at Enewetak Atoll, just 200 km north east of Ujelang Atoll. Even after all the buildings were erected for the Bikinians to move into on Ujelang Atoll, it was decided that the Enewetak people would be moved to Ujelang Atoll instead.

It took two years of suffering on Rongerik Atoll until the Bikinians were finally moved to Kwajalein Atoll in March 1948. They camped miserably on a small strip of grass beside the airstrip until the USA finally found an island for them to live on.

In November 1948 the then 184 Bikinians were relocated to Kili Island. But this was a disaster, too, because little food could be grown on Kili and it was a single small island, without a lagoon. Kili Island was pounded by the three to six metre waves of the Pacific crashing against its rugged shores most of the year. This made it difficult for the people to get out to sea and receive provisions from outside. Compare this to their Bikinians homeland of 23 islands which form a calm lagoon, providing them with the opportunity to fish and sail their canoes all year round. They began to refer to Kili as a "prison" island.

Today, there are about 5,000 Bikinians. Some remain on Kili Island, but most are on Ejit Island of Majuro Atoll, and there are others scattered throughout the Marshal Islands and the world. Their traditional way of life has nearly vanished. They gather food in a supermarket, not

on tropical islands and from a lagoon. While some still wait the clean-up of Bikini Atoll to begin in earnest so that they can go home, sadly most have never been to Bikini. For them it's a myth.

Island Paradise?

We arrived at the anchorage site off Bikini Island late Monday afternoon. Stuff the shark curfew — be out of the water between their 1700 hrs to 0800 hrs feeding time — I jumped in to cool off from the tropical heat.

After dinner on MV Windward, the four Aussies transferred onto Bikini Island where we got to stay each night in a fourroom accommodation block with running water, toilets, showers and airconditioning. It was created by the Bikini people for the once successful, but now defunct, land-based dive operation that was to be an economic saviour for the Bikini people.

Edward Maddison, our Bikini dive master, showed us around the almost deserted ghost town with great pride. Typically there are only four to six people living at Bikini Atoll for six months at a time, as a skeletal caretaker staff to look after the remaining facilities. There is a poignant sign above the entrance to the machine shop that reads, "WE CAN FIX EVE-RYTHING EXCEPT BROKEN HEART."

It was sad to see the accommodation blocks, large kitchen and dining room, dive shop, dive briefing room and theatre on the island all siting there unused and slowly deteriorating since the land-based diving operation closed in 2008.

The trees in the coconut plantations have mounds of dropped coconuts at their bases. Not to be eaten. You could stare at this tropical scene for as long as you want, but you won't see the hidden danger. The soil, while not dangerous to touch, still contains the radioactive iso-



Land-based diver accommodation. Photo: Lloyd Borrett.

Don't eat the coconuts! Photo: Lloyd Borrett.

tope Caesium-137. The danger is that the plant life, as well as any animal life that feeds on the plants, takes in the Caesium-137 and concentrates it. So you can only eat food transported in, or caught in the sea. The fresh water on the island is manmade and safe to drink.

Sitting on the porch each morning, watching the sun come up at around 5:30 am over the staggering beauty of the immaculate, deserted white-sand beach and tranquil lagoon at Bikini Atoll, was like being in heaven on earth. The only sounds I could hear came from the seabirds wheeling above me and the lap-lap of waves on the sand. I have not seen a

nicer beach anywhere in the world. There are no flies or mosquitoes on Bikini.

And yet, we were there to see the vestiges from an atomic hell that lie deep below the surface of Bikini Lagoon.

Old 'Sara'

On Tuesday morning we transferred back onto MV Windward, had breakfast and then listened to a comprehensive history lesson and dive briefing by Brian Kirk, another dive master, and Peter Fear as we headed out to moor on the site of the USS Saratoga (CV-3) aircraft carrier. She is a steel-hulled vessel with a waterline length of 253 metres, a flight deck length of 270 metres, a beam of 33 metres, and



Bikini Island beach. Photo: Pete Mesley.

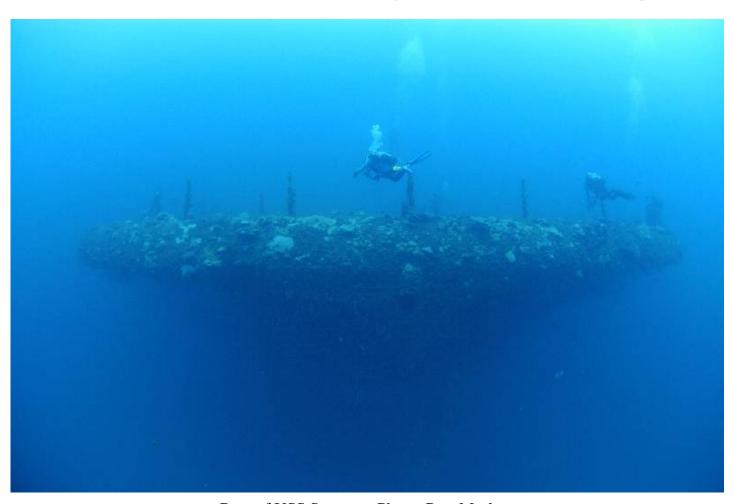


Comprehensive history lesson and dive briefing. Photo: Lloyd Borrett

officially weighing 37,000 standard tons. Designed to carry 78 aircraft of various types, including 36 bombers, she is BIG-**GER than the SS President Coolidge** and the Titanic!

In February 1945, Saratoga carried night fighters during the Iwo Jima invasion and raids on the Japanese home islands. After the war, in 1945 she transported more than 29,000 servicemen back home to the states, and in 1946 was brought in for target duty at Bikini Atoll.

'Sara' survived the Test Able atomic blast with only minor damage, notably the burning of the teak on her flight deck. Saratoga was severely damaged by the Test Baker underwater atomic blast which was detonated just 370 metres from the carrier, and she sank sometime after. The best of the three "dive-able" aircraft carriers in the world, she lies upright in 50 metres of water. The super-



Bow of USS Saratoga. Photo: Pete Mesley.



Cockpit of a Helldiver plane on the USS Saratoga. Photo: Pete Mesley.

structure is at 18 metres, flight deck at 28 metres, and the airplane hangars at 39 metres.

We followed the mooring line down to the flight deck near the bow and then made our way to the bow. Judging then commenced for the best dive from the bow into the vastness beyond. The sight of the upright bow of the huge warship was simply magnificent. After taking it in for a few minutes, we headed over to the starboard side and then made our way back to the tower. We checked out a brass diver's helmet along the way.

We then explored the control tower, penetrating inside to the bridge where the normal portholes were lined up against the front wall, having been replaced with blast portholes with small slits, presumably used when the ship was in battle or under attack. Swimming along the flight deck as we headed back to the bow, I couldn't resist the temptation to mimic a bomber plane taking off. You could really feel the expanse of this massive ship.

And yet, we'd barely covered the forward half of it on this first dive.

On our second dive that afternoon we returned to the USS Saratoga. This time we made our way to the forward elevator shaft and ventured down to see a fully intact Curtiss "Helldiver", canopy open, wings in the stowed position with live bombs in the bomb bay just a little forward of the plane. This is what it was all about!

As this wreck offers the shallowest dives in Bikini Lagoon, we would often dive on her in the afternoon as the second dive



Helldiver plane near Saratoga bow. Photo: Pete Mesley.

of the day. There is so much to explore that you could keep diving on 'Sara' for years and still keep finding something new. Edward Maddison started diving the nuclear ghost fleet back in the 1980s and has done more dives on 'Sara' than anyone, yet still looks forward to every dive.

On a later dive we headed off the starboard side of the ship towards two more Helldivers lying on the sand. These had been secured on the deck during the atomic blast but were torn off their chains and came to rest some 40 metres away from the wreck.

The interior of the Saratoga is vast, to say the very least. Permanent lines have been laid in some areas. With 7 decks of passageways, rooms, storerooms, accommodation, galleys etc. you could spend the rest of your diving career on this warship and never grow tired of diving her!

One of the dives that totally blew my mind was when three of us, led by Peter Fear, penetrated into the dive locker and beyond. We went past the storage shelves, into a large room and then through a doorway into the dive locker where we saw two standard dress diving helmets sitting alongside each other. On coming out of the dive locker, we headed down a passageway with rooms off to either side. One was some form of dining area or kitchen, with plates stacked up high in a corner. Another had Coke bottles strewn about and I resisted the temptation to souvenir one.



Diver's helmets inside Saratoga. Photo: Lloyd Borrett.

We headed back outside and then went to another level into a machine shop located at the bottom of the port side of the main elevator. Lathes, drill presses, grinding pedestals, workbenches and all the other paraphernalia of a well-equipped workshop all still in situ. Everything was covered in the finest red rusty silt, possibly still radioactive if you dug deep into it!

This wreck is just so impressive. Countless planes, bombs, artefacts, plates, bowls, jugs etc. lay untouched since 1946. On our last dive at Bikini Atoll, three of us decided to go bow to stern and back on the Saratoga and truly take in the vast expanse of this magnificent aircraft carrier. Old 'Sara' is quite simply the greatest wreck dive in the world!

It's a battleship!

On the Wednesday morning I was really excited as we headed out to dive the Japanese battleship HIJMS Nagato. She was launched in 1919 and as the jewel of the Imperial Japanese Navy, was Admiral Isoroku Yamamoto's floating fortress

flagship during Japan's World War II attack on Pearl Harbor. The steel hulled vessel is 221 metres long, 34 metres wide, weighed 32,720 standard tons and was capable of doing 27 knots.

She was the first battleship in the world to mount 16-inch (actually 410 mm) guns on her deck. Some of you might have seen the huge shells for these guns on one of the sunken Japanese supply ships at Chuuk Lagoon.

The Nagato survived the Test Able air blast, but eventually capsized and sank five days after the Test Baker underwater blast. She is upside down in 55 metres of water and is an incredible dive.

We did a live boat drop from MV Windward and headed down to the keel of the Nagato, and continued down the port side



HIJMS Nagato battleship at Bikini Atoll. Photo: Military.

of the hull until the bridge came into view. It used to tower above the surface of the ocean, some 30 metres high, but the bridge now sits perfectly placed along the sand to one side of the ship.

We came to the exact spot where Admiral Isoroku Yamamoto gave the order "Climb Mount Niitaka" to start the attack



An underwater Stonehenge on the HIJMS Nagato. Photo: Lloyd Borrett.

on Pearl Harbour — a very humbling experience.

I have vivid memories journeying along the port side of the ship and under the hull in the darkness seeing two imposing 16-inch guns coated in whispery lavender rope coral. Your body is simply dwarfed by the massive gun barrels. Then at the Nagato's stern, her four colossal screws and twin rudders appear like an underwater Stonehenge. It was a truly magnificent sight.

Standard procedure for all dives was to return to the buoy line to which the support boat would be tied. It would deploy a line with a drop cylinder of EAN50 at 15 metres and another with EAN95 at 6 metres, plus a trapeze with bars at 9, 6 and 3 metres. MV Windward was live, retrieving surfacing divers after a radio

call from the support boat. For dives on the Saratoga, MV Windward would tieup to a substantial bow mooring line and deploy the trapeze and drop line.

A few days later we also dived on the USS Arkansas (BB-33) battleship. Noted for the size of its main battery of twelve 12-inch guns in six twin gun turrets and 12-inch thick armour, this US battleship lies bottom side up and listing to starboard in 54 metres of water. The riveted steel vessel is 171 metres long and weighed 23,066 standard tons.

USS Arkansas served in World War I, and during World War II she escorted convoys in the Atlantic and bombarded shore targets during the invasions of Normandy in Europe, and Iwo Jima and Okinawa in the Pacific. She survived the Test Able air



Lloyd Borrett and Peter Fear diving the USS Arkansas battleship. Photo: Bill Jakob.



Peter Fear checks out a USS Lamson torpedo. Photo: Pete Mesley.

atomic blast, but was sunk by the Test Baker underwater atomic blast.

The first thing you notice as you drop down to the bottom of the USS Arkansas's hull (at the top!) is the terrible damage inflicted on her by the Test Baker blast. Her hull is crushed like a concertina, huge waves of buckled hull plates folded in on the more rigid structure of the girders within. There is a huge gash where the nuclear blast pierced three layers of 12-inch armour. All testaments to the mind-boggling forces unleashed by the atomic bombs!

The sunken nuclear ghost fleet

Over our eight days at Bikini Atoll we settled into expedition life and proceeded to dive on most of the sunken warships to be seen there.

One outstanding wreck that we explored was the USS Lamson (DD-367) destroyer. She was 104 metres long at the deck. USS Lamson was heavily damaged and sunk during the Test Able blast on 1 July 1946. The atomic blast tore off the light topside superstructure, stacks and mainmast, plus smashed the bridge. USS Lamson is lying upright with her stern

near a depression in the reef indicating she sank stern first.

The guns remained in the mounts and the torpedo tubes are intact. The depth charge tracks are twisted and torn but you can clearly see the depth charges in the tracks. USS Lamson has everything you could ever dream of finding on a shipwreck — large guns, anti-aircraft guns, racks fully loaded with depth charges, plus torpedo tubes (with the torpedoes hanging out!). It was easy to see that in this ship's heyday it could hold its own with all the armament it carried.

The old bridge superstructure was destroyed during Test Able but the ship's telegraph and some of the instrument binnacles are still in place. The USS Lamson is covered in whip corals and soft corals, and her forward 5-inch gun has a large plate coral growing at the end of the barrel. Schools of glassfish can be seen everywhere, and there are aggregations of marbled grouper and coral trout everywhere.

We dived the two submarines sunk during the nuclear blasts, which were significantly larger than the four WWI J-class subs I was used to diving back home in Melbourne. The USS Apogon (SS-308) submarine is 95 metres long, weighing 2424 standard tons submerged. Lightly damaged during the Test Able atomic blast, USS Apogon was submerged in 52 metres of water and moored at a keel depth of 30 metres at a range of approximately 780 metres from the point of the



Apogon submarine bow. Photo: Pete Mesley.

Test Baker underwater atomic blast. She was found on the bottom and attempts to salvage her were abandoned before she was brought to the surface.

She sits perfectly upright on a lifeless sandy bottom but is a beautiful dive as she is completely covered in whip corals and soft corals, and shrouded in swirling schools of glassfish, that are usually found around the conning tower. Indeed, the shadowy silhouette of USS Apogon's conning tower, completely enveloped by glassy sweepers, is one of the most beautiful sights you'll ever see underwater. At

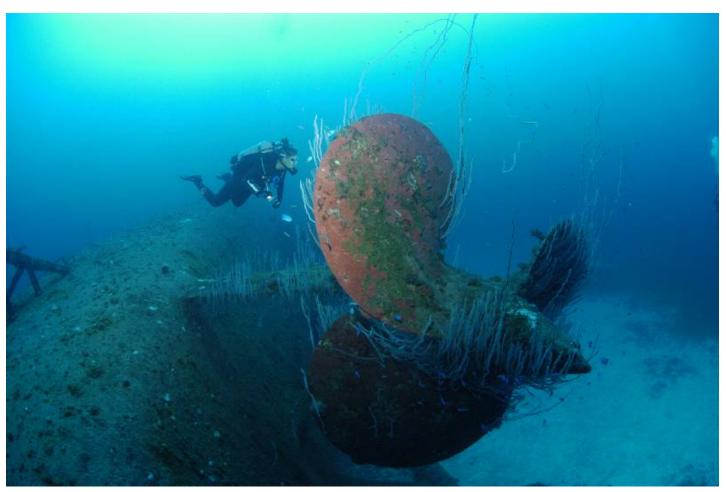
the stern you can see a torpedo tube with a loaded torpedo up the spout!

USS Pilotfish (SS-386) submarine was submerged in 52 metres of water and moored at a keel depth of 17 metres at a range of approximately 275 metres from the point of the Test Baker underwater atomic blast. The USS Pilotfish lies with a 30–40 degree list to port with the stern partially buried in the sand. The plating between the frames of the after torpedo room is dished to a depth of about 150 mm. The superstructure and tank tops are also dished in several places, and the superstructure plating has numerous tears and holes.

The USS Anderson (DD-411) destroyer of 2,300 tons displacement, 106 metres in length, but only 11 metres in beam. She was thus very sleek and very fast, being capable of a speedy 37 knots. USS Anderson was very close to Test Able atomic blast ground zero, and was one of the few ships to sink in that blast.

Like all good destroyers she bristles with toys: four 5-inch main guns, four .50inch calibre anti-aircraft guns, two depth charge release tracks, ten depth charges, and two sets of four 21-inch torpedo tubes.

Lying on her port side in around 50 metres, she has fabulous twin props that are great for photos. The ambient light and



Anderson props. Photo: Pete Mesley.







Gun on the Carlisle. Photo: Luke Baade.

the way the sand scoops under the bow make it probably the most impressive of all the bows in Bikini to photograph.

We saw the tiny ladder up the side of the ship where hundreds of sailors found their salvation from drowning as the Anderson picked up survivors during major WWII battles. It was hard to imagine the emotions those war-torn young men must have felt as they climbed to safety. She was escort to no less than 4 carriers that were sunk under her protection.

The USS Gilliam (APA-57) attack transport was the first ship struck by the Test Able blast and sunk in Bikini Lagoon when it accidentally became surface target zero for the test. The basically destroyed hulk of USS Gilliam sits upright on the bottom of Bikini Lagoon in 55 metres of water. The impression upon viewing the hull is one of chaos — ship parts crumbled, torn, and scattered.

The USS Carlisle (APA-69) attack **transport** shows plenty of atomic bomb damage from the Test Able blast that

sunk her. She sits upright on the bottom. All along the port side of the ship the hull has been folded like paper. Folds go horizontally along the entire length of the hull. Extensive damage on the superstructure and the main deck forward has collapsed. The starboard side of the hull is largely intact. There are interesting artefacts on the main deck aft towards the stern.

I passed on the opportunity to dive on the Japanese light cruiser IJN Sakawa, preferring to do yet another dive on the USS Saratoga instead.

Scuba Diving at Bikini Atoll

Let's face it, the magnitude of a dive expedition to Bikini Atoll isn't for everyone. First there is the sheer isolation. You're aboard a 24 metre vessel for 14 or so days out at sea, 25 to 30 hours away from the nearest help which is a USA missile testing base, and they don't want to know you. You can either enjoy the

wonderful freedom of having no cellphone or Internet service, or despair at being cut off from the world.

But if you go, you will get to experience what is without a shadow of a doubt the best wreck diving you will do in your diving career. Plus you're in water at a temperature of 30 degrees Centigrade, with 30 to 50 metre visibility. Wow!

You get to do two decompression dives per day, diving to 45 to 55 metre max depths. The two re-breather divers in our expedition party were typically doing run times of 2 to 3 hours. On open circuit we were typically doing 70 to 100 minute

run times and 20 to 30 minute bottom times, with a four to six hour surface interval in between dives.

I dived with twin 12 litre steel cylinders filled to 250 bar with air, carrying an 11 litre aluminium cylinder with EAN50, and then using a 7 litre steel cylinder with EAN95 on the deco bar. While I used the EAN95 to accelerate my deco, when my dive computer cleared, just to be conservative, I still stayed in the water for the same time as the others who were not using EAN95. I'd spend my time on the deco bar going over in my mind the



Divers on the MV Windward's deco bar. Photo: Lloyd Borrett.



Deco chamber on MV Windward. Photo: Lloyd Borrett.

Bikini Sunset Bar bonfire. Photo: Lloyd Borrett.

fantastic details of whichever warship we'd just explored.

MV Windward is equipped with a 48inch, twin lock chamber, deck hyperbaric decompression chamber, to provide safety for advanced remote location sport and technical diving. There is Nitrox, O2, Helium and Sorb, plus steel and aluminium twinsets, deco pony cylinders etc.

On two nights the crew and expedition divers left MV Windward and joined the island maintenance crew at the **Bikini** Sunset Bar for a tropical beach BBQ. It just doesn't get any better than this.

After our last dive at Bikini Atoll it was time to wash down kit, and then stow everything securely for the long steam back to Kwajalein Atoll. We arrived back at Ebeye Island in the late afternoon, and then had our last expedition dinner together, celebrating with ice-cream bought on the island.

What about the fish?

After arriving back in Melbourne I was telling a local dive buddy about my amazing experiences at Bikini Atoll. And his first question was, "What about the fish?"

Well with the corals of the atoll having had more than 50 years to recover from the nuclear testing, the place is now teeming with fish life. With the coral come the reef fish like anemone fish, titan triggers, bat fish and so on. Then there are the fish that feed on the reef fish like snapper, jacks, dogfish tuna, barracuda, grouper and Bluefin trevally. With noone anywhere near the atoll to harvest them, Bikini Atoll is now a plentiful and pristine fishing environment.

Sharks are a constant factor. Bikinian dive guide Edward Maddison's eyes nearly popped out of his head when a large tiger shark came in for a very close look while we were on the deco bar.

No-one goes in the water in the morning or the evening because that's when the sharks feed. I was told one dive group, back in the land-based diving days, wanted to do a night dive so they loaded the boat, got their gear together, motored out to a wreck site and dropped into the blackness. When they shone their lights around, all they could see was a wall of shark eyeballs glowing eerily in the sea around them. The night dive was aborted immediately and never attempted again.

Usually a dive at "Shark Pass" is scheduled, however because we'd missed a day at Bikini Atoll due to the missile testing, many of us were keen to pass on this and do another wreck dive instead. As it turned out, adverse weather conditions meant we couldn't do this dive anyway.

The thing is, at Bikini Atoll you're diving in the greatest warship wreck museum in the world. We were there to see the historic warships and the results of an atomic attack on a naval fleet. Unlike dive destinations like the Galapagos Island and Great Barrier Reef, we were not there to look at the fish!



Bikini Atoll Dive Expedition October 2012. Photo: Lloyd Borrett.



Liveaboard MV Windward off Bikini Island. Photo: Lloyd Borrett.



Lloyd Borrett doing deco after diving the USS Saratoga at Bikini Atoll. Photo: Bill Jakob.

Do YOU want to go?

With only 12 divers able to be accommodated on MV Windward, and only a handful of expeditions each year, Bikini Atoll is now a very exclusive dive destination. Less than 100 divers per year get the opportunity to dive the nuclear fleet at Bikini Atoll. Yet the cost has come down to around \$7,900 plus expenses, per diver, ex Cairns. Go figure! I personally rate this a much better value for money than dive trips I've done to the Galapagos Islands and to dive the HMS Hermes aircraft carrier off the east coast of Sri Lanka.

The Scuba Doctor has one dive expedition to Bikini Atoll scheduled for October 2013 and there are just three spots left. The two expeditions Peter Fear has organised for October 2014, already have just eight spots left in total. See http://

bit.ly/QRRjFt for the details. This highlights the demand from those who realise Bikini Atoll is a world heritage site and a bucket-list destination for serious wreck divers.

I suggest you book to go ASAP. Who knows if the live-aboard will remain a viable operation with so many rising costs? Besides, the wrecks will not last forever. Peter Fear and Edward Maddison kept describing just how they were changing on each visit.

From my experience at Bikini Atoll in October 2012, all of the hoopla ever spoken about the sunken nuclear ghost fleet is all true. Except, that I didn't come back glowing in the dark! It was just so amazingly special that I'm already booked to go back again in October 2013! ❖

Emergency Contact Information Mornington Peninsula Area		
Police – Ambulance – Fire	000	
Water Police	1800 135 729	
or	03 9534 2983	
Diving Emergency Service	1800 088 200	
Rosebud Hospital		
1527 Nepean Hwy, Rosebud	03 5986 0666	
Frankston Hospital		
Hastings Road, Frankston	03 9784 7777	
The Bays Hospital		
Main Street, Mornington	03 5975 2009	
Southern Peninsula Rescue (Sorrento)	03 5984 4555	
Mornington Bay Rescue Service	0419 233 999	
Coast Guard (Queenscliff)	03 5258 2222	
Coast Guard (Hastings)	03 5979 3322	
Coast Guard (Safety Beach)	03 5981 4443	
State Emergency Service (SES)	26 14 68	
Diving Doctors		
Dr Pamela Dagley (Eltham)	03 9439 2222 (VSAG member	
Dr Vanessa Haller (Carrum Downs)	03 9782 6666	
Dr Adrian Murrie (Sorrento)	03 5984 4322	
Dr Guy Williams (Rosebud)	03 5981 1555	
VHF Emergency Channel 16	(club channel 73)	
27 MHz AM Emergency Char	anel 88 (club channel 96)	

Tidal Streams at the Heads — April 2013

RED italic times are slack water with EBB about to start (Flood Slack) which are the best diving conditions near the Heads. **BLUE** are Ebb Slack. All times have been adjusted for daylight saving which ends on Sunday 7th April.

Mon 1	Tue 2	Wed 3	Thu 4	Fri 5	Sat 6	Sun 7
111	152	233	316	403	459	5
633	713	756	842	934	1037	509
1329	1413	1458	1545	1634	1728	1054
1959	2045	2131	2219	2309		1733
Mon 8	Tue 9	Wed 10	Thu 11	Fri 12	Sat 13	Sun 14
5	107	204	255	338	417	453
632	749	853	944	1027	1105	1140
1225	1355	1509	1608	1656	1736	1812
1851	2011	2117	2211	2256	2335	
Mon 15	Tue 16	Wed 17	Thu 18	Fri 19	Sat 20	Sun 21
10	43	115	148	221	259	344
526	559	632	705	741	822	913
1214	1246	1319	1352	1425	1500	1541
1845	1918	1951	2025	2102	2141	2224
Mon 22	Tue 23	Wed 24	Thu 25	Fri 26	Sat 27	Sun 28
439	548	6	101	153	243	330
1019	1141	659	801	856	945	1033
1630	1739	1310	1431	1535	1628	1717
2313		1905	2026	2130	2223	2310
Mon 29	Tue 30	Wed 1	Thu 2	Fri 3	Sat 4	Sun 5
418	<i>505</i>	41	127	215	308	406
1120	1207	554	646	740	841	950
1802	1847	1254	1341	1427	1514	1604
2355		1931	2015	2058	2143	2230

Tidal Streams at the Heads — May 2013

RED italic times are slack water with EBB about to start (Flood Slack) which are the best diving conditions near the Heads. **BLUE** are Ebb Slack.

Mon 29	Tue 30	Wed 1	Thu 2	Fri 3	Sat 4	Sun 5
418	505	41	127	215	308	406
1120	1207	<i>554</i>	646	740	841	950
1802	1847	1254	1341	1427	1514	1604
2355		1931	2015	2058	2143	2230
Mon 6	Tue 7	Wed 8	Thu 9	Fri 10	Sat 11	Sun 12
511	619	16	112	204	251	334
1110	1235	724	820	908	951	1030
1703	1817	1356	1502	1556	1640	1717
2321		1940	2051	2148	2234	2314
Mon 13	Tue 14	Wed 15	Thu 16	Fri 17	Sat 18	Sun 19
413	450	23	57	131	206	244
1106	1140	527	603	641	721	807
1750	1822	1214	1246	1318	1351	1425
2349		1853	1923	1955	2026	2059
Mon 20	Tue 21	Wed 22	Thu 23	Fri 24	Sat 25	Sun 26
326	416	513	615	718	52	152
901	1007	1125	1250	1409	817	913
1502	1547	1646	1806	1935	1515	1611
2134	2213	2300	2353		2053	2155
Mon 27	Tue 28	Wed 29	Thu 30	Fri 31	Sat 1	Sun 2
251	349	446	29	120	212	305
1007	1059	1150	544	642	743	847
1700	1747	1830	1238	1324	1409	1452
2248	2339		1913	1954	2034	2113

Tidal Streams at the Heads — June 2013

RED italic times are slack water with EBB about to start (Flood Slack) which are the best diving conditions near the Heads. **BLUE** are Ebb Slack.

Mon 27	Tue 28	Wed 29	Thu 30	Fri 31	Sat 1	Sun 2
251	349	446	29	120	212	305
1007	1059	1150	544	642	743	847
1700	1747	1830	1238	1324	1409	1452
2248	2339		1913	1954	2034	2113
Mon 3	Tue 4	Wed 5	Thu 6	Fri 7	Sat 8	Sun 9
359	455	553	649	18	112	204
956	1110	1225	1337	742	831	916
1538	1631	1737	1857	1441	1535	1618
2154	2238	2326		2015	2119	2209
Mon 10	Tue 11	Wed 12	Thu 13	Fri 14	Sat 15	Sun 16
252	337	420	4	38	112	147
958	1036	1113	<i>502</i>	543	624	708
1656	1728	1759	1147	1220	1253	1325
2251	2328		1828	1856	1925	1953
Mon 17	Tue 18	Wed 19	Thu 20	Fri 21	Sat 22	Sun 23
224	305	350	441	539	642	4
756	851	954	1106	1225	1343	747
1359	1435	1516	1608	1717	1843	1452
2021	2052	2126	2208	2300		2012
Mon 24	Tue 25	Wed 26	Thu 27	Fri 28	Sat 29	Sun 30
114	224	332	438	17	109	200
849	948	1043	1135	540	641	741
1550	1641	1726	1809	1223	1308	1349
2126	2228	2324		1849	1927	2004

VSAG Dive and Meeting Calendar			
Date	Activity Details Dive days can swap between Sat and Sun depending! Dive sites adjusted on the day to suit divers and conditions.		
23/24 Mar	DC: Lloyd Borrett, 0418 170 044		
29 Mar – 1 Apr	Easter Wilson Prom Trip DC: Andy Mastrowicz, 0402 060 711		
29 Mar – 1 Apr	Easter Local Diving DC: Graham Ellis, 0403 070 920		
6/7 Apr	DC: Alan Storen, 0417 017 446		
13/14 Apr	DC: Peter Galvin, 0417 061 564		
18 Apr	General Meeting, Maori Chief Hotel, 8.00 pm		
20/21 Apr	DC: Peter Briggs, 0412 585 546		
25 Apr (Thursday)	ANZAC Day Diving DC: Trevor Williams, 0404 069 572		
27/28 Apr	DC: John Lawler, 0414 922 916		
4/5 May	DC: Graham Ellis, 0403 070 920		
11/12 May	DC: Lloyd Borrett, 0418 170 044		
16 May	General Meeting, Maori Chief Hotel, 8.00 pm		
18/19 May	DC: Alan Storen, 0417 017 446		
25/26 May	DC: Peter Galvin, 0417 061 564		
1/2 Jun	DC: Peter Briggs, 0412 585 546		
8/9/10 Jun	Queen's Birthday long weekend DC: Trevor Williams, 0404 069 572		
15/16 Jun	DC: John Lawler, 0414 922 916		
20 Jun	General Meeting, Maori Chief Hotel, 8.00 pm		
22/23 Jun	DC: David Geekie, 0419 300 686		
29/30 Jun	DC: Lloyd Borrett, 0418 170 044		

by Graham Ellis, Dive Calendar Coordinator, VSAG

Book in for a dive day ASAP after receiving notification via email. Please provide the Dive Captain with your full name, mobile phone number and e-mail address.

You are required to call the Dive Captain between 6:00 p.m. and 7:00 p.m. the evening prior to the dive day to confirm that you will still be coming on the dive. ❖

VSAG Member Profile

Michael Sesin

Year joined VSAG: 2012

Been diving for: 41 years

First diving experience: Started as a spearo, then my mate gave me the basic instructions, I borrowed a tank and went diving. This was before any certification agencies in Australia. Shore and pier dives were the go. Two years later a couple of diving related deaths pushed me to having formal training in 1972.

Favourite diving location in Melbourne:

Not only Melbourne but Australia and that would be the Rip and surrounding area. We are damn lucky in having the variety of wrecks, reef, and food, so close to home.

Most memorable diving experience:

Taking my first breaths underwater and the sensation of flying, then followed by the peace and tranquillity.

Most unusual or amusing diving experience: I guess every one has experienced the close calls where you get out and think "gee I'm lucky to be alive." This one is a bit different - I was diving around the rip area and carrying a small pneumatic spear gun, food gathering and lost my gun - oh well these things happen. A month later I was in the same area sight seeing and looking for old bottles when I spotted 2 inches of strap sticking out of the water. Naturally I gave it a tug



and there's my spear gun and it still worked.

Most valued piece of diving equipment:

All of my gear is important, as without it I can't dive, so each piece has it value but without a reg I can't breath, and without a tank I have no air. I can keep going but I guess you get the picture.

Do you have a dive boat: Yes, I have a half cabin fibre glass medium V with a 80 HP out board. Seats have been removed to increase deck space for diving and other mods to enhance diving.

If you could dive anywhere in the world, where would you most like to dive:

There are so many interesting places it is a hard choice but for wrecks I would pick Truk, and for scenery and reef, Palau.

Any diving words of wisdom: Stick to the rules and don't push the limits.

Any other comments: Enjoy the diving and stay safe. �

