Welcome to the club newsletter!

This is the first Wobbiegossip for a while and it will be great to keep it going in future!

In this issue, we've got several columns which I hope to make regular, and a couple of other articles. The (hopefully) regular stuff will be:

**It happened to me...**

Incident report stories from members that we can all learn from. Note that these are de-identified, so if you have had anything go wrong, there's no reason not to share it, as it might help someone else and won't cause embarrassment.

**Trip reports**

Club and non-club trips. If you've done anything interesting or unusual lately, send in the story to give the rest of us some ideas on where to go next.

There are no trip reports in this issue because no one asked us to include them... Photos would be great too!

**Technique tips**

If you've got any hints on how to improve diving techniques, this is the place for them!

**Useful links**

Links to useful information. No advertising, please! But if you know of websites our members would find interesting or useful, let us know!

**Anything else**

If you have anything else that should go into the newsletter, send it to me and I'll include it in the next issue. Maybe it's just a cool photo! No deadlines are involved ☺

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**President's Message**

Welcome to the revival of the Unidive Newsletter, Wobbiegossip. And also a warm welcome to all our new semester 2 members! Did you know it is our approximate 50th anniversary this year?!

For those who aren’t aware, Wobbiegossip has been a fairly regular newsletter in the past but it needs a champion and when no one volunteers, like many other things, it just doesn’t happen. So thank you very much Rob for taking on the challenge this year! If you’re interested in seeing some old ones, have a look on the website: [http://unidive.org/club_docs/#wobbiegossip](http://unidive.org/club_docs/#wobbiegossip)

In fact... you should all go checkout the website in general. There’s a wealth of information on there, whether you’re new or not. Some of it requires you to log in - but you do all have a password, even if you’ve forgotten it! Particularly useful bit: [http://unidive.org/contacts/](http://unidive.org/contacts/)

One of the other useful things on the website is the Dive Site Info section: [http://unidive.org/club_docs/#dive-site-info-editable-versions](http://unidive.org/club_docs/#dive-site-info-editable-versions). This is great for people who are looking for something new (where haven't you been yet?) and for boathandlers and trip organisers to make sure they know the specifics for the sites they’re going to.

However, I’ve also noticed that these are getting a bit out of date - wouldn’t it be great if they got updated more often? If anyone wants to champion that cause, let me know!

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**Volunteering:**

- Join the next Unidive conservation project
- Cook BBQs at the shed
- Organise a dive
- Host a social event
- Help with the anniversary party

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IT HAPPENED TO ME

Rapid Descent with tank turned off.

April 2000, wreck of the President Coolidge near Luganville on the island of Santo in Vanuatu

Diver A had arrived as part of a tour run by a dive shop. He was in his early 20s, with about 350 dives up at the time, including several dives on different areas of the wreck on the same trip.

His gear was set up as single tank hogarthian rig, consisting of an aluminium backplate, a small wing, a single tank with a single regulator (including a 7ft hose for air sharing). 3 lights had been added – a canister light with the battery pack on the right hip, and 2 backup lights clipped to the harness. The only gas carried was air, as that was all that was available (according to rumours at the time, the only oxygen currently on the island was a half full supply cylinder being kept at the local hospital for emergencies).

On arrival at the site, Diver A assembled his gear as normal then turned the tank off to avoid any chance of losing gas while attending the briefing. After the briefing, Diver A returned to his gear, checked the lights were working, and took a breath off his regulator to ensure that it was also working correctly.

On descending, Diver A managed to get about half a breath at around 5m, after which the regulator stopped delivering air. At this point, Diver A had no gas and was in a rapid descent with the bottom at around 40 or 45m. His first attempt to fix the problem was to reach behind his head and check his tank valve. As suspected, the valve was turned off, and turning it back on allowed normal breathing. The rest of the dive was uneventful.

Analysis

The main problem here was complacency – Diver A had stopped paying attention to his pre-dive checks after several days of diving, presumably nothing had gone wrong with them.

Diver A had breathed on the regulator prior to the dive as a check that it was working and the tank was turned on - but he didn't check his SPG, which would have shown a drastic drop in pressure. There was enough air in the regulator to get a breath or two out of even when the tank was turned off.

The good news was that the response to the emergency was correct – the tank valve was identified as the problem and opened. During a rapid descent, there is enough momentum after the first few meters that stopping and turning around isn't a very good option, and while Diver A had a buddy, trying to get the buddy to fix the problem wasn't required in this case.

At the time, rapid descents – typically at 40m per minute or more - were routinely used in an attempt to maximise bottom time. They seem have fallen out of favour lately, as they can cause a number of problems, which this incident demonstrates.

Using normal sport diving protocols such as breathing air on deep dives was considered acceptable by most divers at the time – although technical diving techniques did exist, they were much rarer and not as well understood as they are today.

Useful Links – by Robert Cook


The Rubicon Repository is the best single place on the web for free, full text papers on diving medicine. It's probably the most useful single site on the internet.

USN Manual – http://www.supsalv.org/00c3_publications.asp?destPage=00c3

The US Navy diving manual is not only legitimate to simply download a copy of, it's also free. There's a huge range of information in here – some of it is more relevant than other parts, but some of the better parts are hard to find anywhere else.
TECHNIQUE TIP – The Final Few Feet

One of the more common problems that I see people having is controlling ascent speed between their safety stop and the surface. This is due to the last few meters having a very rapid change in pressure, especially if it is looked at as a percentage. I thought I’d give a write up a few ideas on how to slow down the ascent in this zone. There are several versions of how to do this.

The most effective way to control buoyancy in the last few meters is by breath control. This technique involves starting with the diver neutral at the end of their safety stop, then becoming positive by taking a larger than normal breath. This is enough to start the diver ascending. Buoyancy is primarily regulated by the size of the breaths that the diver takes on the way up. While some air has to be let out of the BCD, the lungs can be controlled much more precisely, and should be used for times like the end of the dive where precision is important. The main downside of handling your buoyancy this way is that is takes time to learn.

A simpler alternative is to simply let air out of the BCD prior to leaving the safety stop. This will make the diver negative, and the diver simply swims up slowly, taking care that they remain slightly negative. This technique is faster to learn, but is much less precise.

It is often worthwhile to add pauses on the way up to ensure that the buoyancy is still under control.

Regardless of the method used, the movement from the safety stop to the surface should take at least a minute, and preferably longer.

-Robert Cook

UniDive Marine Conservation

A new position has been approved by the management committee and created in the club to help promote marine conservation within the club. The idea would be that the person would help organise presentations, applying for project funding, assisting with project management, promoting projects and be contact person for members and non-members.

The person has no voting right in the committee.

The position has grown to help keep the momentum going for promoting marine conservation within UniDive. UniDive has been active over the years with conservation projects. These projects included members participating in many hours of volunteer work where they have been, applying for funding, learning or teaching, report writing, data analysis and promoting the marine environment. The club and members have gained experience and respect, and several members used it to get on marine research projects or jobs.

UniDive has history of various conservation related projects: Cleaner Oceans organising regular cleanups at Amity organised by Blair Jerdas, annual Reef Check surveys and events organised by Jen Lodder and her team, and the UniDive Point Lookout Ecological Assessment project. Currently some members are applying for funding to conduct an ecological assessment at Flinders Reef North Moreton Island, so fingers crossed they will succeed.

-Chris Roelfsema

Flinders Reef Ecological Assessment.

Flinders reef is the next one on the list to focus on, as no detailed seasonal ecological assessment and mapping has been done for it. Flinders Ecological Assessment would include academics and practical training at UQ and Straddie, and then survey/camping weekends at North Moreton Island. This will require 4WD, boat, camping and diving gear, compressor, tents and food to go over for a 2 or 3 long weekends.

Mark, Ruth, Lock, Melly took the lead to write an Australian Geographic Grant application. Although it was not successful the effort they have done will make writing the next grant application easier. As we are imminent that we can get funding from somewhere, especially as UniDive has a good track record with now also an award winning project (had to write that). We require about $7500, to get the project kick off, so anybody having good ideas for grant opportunities let me know.

-Chris Roelfsema
UniDive PLEA Update

All data is collected; report, Straddie book, Straddie brochure, data and maps are published; 150 out of 500 Straddie books left; articles have been published in Dive Log, Australian Geographic, local newspapers, and UQ news; and awards are won, there is still work in progress.

Several organisations have congratulated UniDive with the successful project and the Healthy Waterways awards. These include: Mayor of Redland City Council, Manta Lodge and Scuba Centre, Point Lookout Dive Charter, Andrew Powell (Shadow Minister for Energy and Water Supply), Dr. Steven Mills (Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef), Moreton Bay Research Station, Global Change Institute, Australian Coral Reef Society, School of Geography Planning and Environmental Management, Centre of Marine Science, Healthy Waterways.

Ongoing activities include:

**Coastcare Award Application**
Lock, Ruth, Eva, Douglas submitted a nomination for annual Queensland Coastcare Award. If we can win two, why not try for a third one?
Unfortunately, we didn’t get this one – but maybe next time!

**Scientific paper**
The PLEA science team members are conducting further analysis (our Italian friend Michele is still analysing while in Europe) and writing the findings up. Soon we hope to send some of the PLEA members the paper for internal review. After the review the paper will be submitted to [http://www.plosone.org](http://www.plosone.org)

**Influencing Management**
Discussion and presentations in regards to the outcomes of the project have been taken place with Queensland Parks and Wildlife Services, and data is incorporated by various government agencies in their planning. Dive operators, QPWS and diving community are discussing reducing physical coral damage at Shag Rock, using the PLEA data is evidence of the damage, which is rewording.

The results of the project were presented at the Annual Australian Coral Reef Society Meeting in August. This resulted in presenting the project technical report, book and the findings to the Steven Mills (Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef). The meeting will help influence the government in regards to moorings, and marine park zonation, placing Flinders and Straddie on their agenda. Yes we make a difference.

**Video**
Visual moving images of the project, and with some of the interviews, is still in progress and hopefully this will be finalised soon.

**Invert and Substrate ID training/refresher**
In August there will be academic training in invert and substrate ID and review of survey methods. Any members are welcome but those with Reef Check training and planning to help in the September survey are expected to come.

**September Annual Winter Survey using Reef Check and CoralWatch methods**
Several PLEA participants have been trained in the reef check survey method(on which the PLEA methods are based on). There for the UniDive will organise the winter surveys to provide Reef Check with the winter data set for Point Lookout, partly funded by remaining PLEA budget.

PS if anybody wants to be Conservation Officer or an assistant, let Chris know 😊
The 50 Bar Rule – by Melly Oey

This is the story of an AHA! moment I had some time ago. We’ve all been on awesome boat dives, the weather gods are smiling, the sun is shining, and the water is crystal clear and a beautiful 25 degrees. I usually can’t wait to get into the water when the dive briefing ends with the very well known “be back on the boat with 50 bar!”

“What?” I used to think, “Why 50 bar? Why can’t I stay down and use all that air for more bubble blowing, looking at pretty fish and frolicking under water? Why waste it all?” I didn’t know how much longer this would have allowed me to dive, but it was clearly “longer” and that was all I cared about.

Then the day came where I realized how selfish this thinking was. “How so?” you might ask. Well, let me explain it to you…

Diving is a buddy sport, as I’m sure you know. Great! For me this usually meant grabbing someone more experienced to take care of me – I always thought my buddy is my life insurance underwater.

But hang on… doesn’t that mean, I should take care of my buddy as well? Since I rely on my buddy having enough air to get to the surface in an emergency, I should also have enough for them. It’s giving and taking, right?

Now the big question: How do I know how much air I need for my buddy, just in case?

Well we can figure that out, starting with asking “how much air do I breathe?”

Maybe you know your own surface consumption rate, but to make things simple let’s say we breathe 20 L/min on the surface normally and 30 L/min when we’re stressed. Don’t forget these are estimates that work for most people and you should adjust them for your own personal rates.

Next we need to consider pressure: most of us can remember that the pressure on the surface is roughly 1 atmosphere and it increases by 1 atm every 10 m down. So that’s 2 atm at 10 m, 3 atm at 20 m and 4 atm at 30 m.

Now we have to do some maths… but stay with me!

Let’s assume my buddy and I are pottering around at 30 m (remember that’s 4 atm) and if something goes wrong I’m STRESSED and breathing more than usual (30 L/min).

This means I’m consuming 120 L/min (30 L/min x 4 atm) and time is ticking!!

I need at least 1 min to check out what’s going on and sort it out before ascending. **1 min at that depth cost me 120 L!**

I’m at 30 m and I do a safety stop at 5 m. A 25 m difference, so with an ascent rate of 9 m/min I need about 3 min to get there.

Luckily I will consume less air, the shallower I get. To make it easy, I can average the depth to 18 m between my 30 m start point and my 5 m safety stop. So how much air will I need?

2.8 atm (pressure at 18 m) x 3 min (time for ascent) x 30 L/min (breathing rate) = 252 L

Wow! From 30 m to my safety stop I have already used 372 L (120 L + 252 L) of the air that I brought with me and I still have to hang around for 3 min at 5 m for a safety stop and take another minute to the surface.

How much air do I need for that?

1.5 atm x 4 min x 30 L/min = 180 L

Remember this was all about looking after my buddy, so if I include them, we need 50 bar each. So if I leave the bottom with 100 bar and nothing goes wrong, then I’ll crawl on to the boat with 50 bar left. But crucially, if something does go wrong I have enough air to get us both safely to the surface on just my tank.

Don’t you think this sounds damn familiar? When they say “be back on the boat with 50 bar” that means “make sure you always have enough air for both you and your buddy to surface safely, even in an emergency”.

In total I have used 552 L to get from 30 m to the surface.

Are you still with me? Ok… so what does that really mean?

I usually use a steel 12.2 L tank. That means my tank has 12.2 L x 230 bar = 2806 L in it. Since my gauge works in bar, how many bar is the 552 L I need to get to the surface?

552 L + 12.2 L/bar = 45.2 bar

Hurray! Now I know I need ~50 bar to ascend from 30 m depth when something goes wrong. Good to know, right?

But that’s just for me…

Remember this was all about taking care of your buddy, so if I include them, we need 50 bar each. So if I leave the bottom with 100 bar and nothing goes wrong, then I’ll crawl on to the boat with 50 bar left. But crucially, if something does go wrong I have enough air to get us both safely to the surface on just my tank.

Don’t you think this sounds damn familiar? When they say “be back on the boat with 50 bar” that means “make sure you always have enough air for both you and your buddy to surface safety, even in an emergency”.

It all makes sense now!

My experienced buddies no longer need to shake their heads at me, I know better now and so do you. I’m glad I asked, it’s never too late to learn.

Always take care of your buddies and have amazing fun dives together!

Happy Bubbles!

"Now I know I need ~50 bar to ascend from 30 m depth when something goes wrong."
How do I contact people?

President: president@unidive.org
Vice President: vice-president@unidive.org
Treasurer: treasurer@unidive.org
Secretary: secretary@unidive.org
Diving: dive@unidive.org
Boating: boat@unidive.org
Memberships: memberships@unidive.org
Gear Maintenance: maintenance@unidive.org
Gear Hire: loans@unidive.org
Training: training@unidive.org
Ancillaries: ancillaries@unidive.org
Social: social@unidive.org
Webmaster: webmaster@unidive.org

Management Committee: unidive-exec@lists.uq.edu.au
Safety Committee: unidive-safety@lists.uq.edu.au
Boathandlers: unidive-boathandlers@lists.uq.edu.au

Email lists:
Unidive-members@lists.uq.edu.au — this will email the ENTIRE CLUB. Please keep it only for official club correspondence, such as advertising club dive trips and social events.
Unidive-chat@lists.uq.edu.au — this is for stuff you think members will be interested in, but that is not official club correspondence, such as selling gear, finding an extra buddy for your private trip etc.

About Unidive...

The objects for which the Association is established are:-

(1) to advance SCUBA diving and skin diving within the University of Queensland;
(2) to promote amateur SCUBA diving and skin diving safety by strict adherence to the safety rules of the sport;
(3) to protect and propagate marine life;
(4) to arrange expeditions and organise social events and competitions for members of the Association;
(5) to affiliate with national and state bodies and to work in conjunction with clubs of similar aims for the further safety and advancement of the Association and its members;
(6) to promote good relations between members of the Association and the public;
(7) to provide education and training in SCUBA diving and associated activities to members of the Association; and
(8) to comply with the constitution and regulations of UQSport.