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The Muddy Puddle

VOLUME 3,ISSUE 4

DEC 2001

Contents

AGM Comes and Goes

Once again the Club AGM has come and gone. If you weren't there well that's tough. If you were, many thanks for turning out and I hope you enjoyed the evening.

All posts of the committee presented reports, ranging from yours truly almost giving a one word report, but was forced to expand on it, to our D.O's summing up of the year.

Surprisingly virtually all the posts will remain unchanged except that of Equipment Officer which will (it appears) be handled by a collection of club members. Although I am still unclear as to who is in charge.

The Other post freed is that of Editor, yep if you feel brave or foolish enough you can write and publish utter rubbish about the club.

What came out of the meeting was that the club has a membership in the low 40's, but it changes all time with the rejoiners, new memberships and so forth.

The bank balance remains fairly healthy and is relatively unchanged compared to this time last year.

Dry events, although not so numerous this year did produce a profit for the club coffers.

The Boat saw more action this year, and although it will never pay for itself, did retrieve some of its losses. All present concurred that the greater emphasis on RIB diving was beneficial to the club and the membership.

Not all the training goals were met this year, but it has been considered a successful year both by trainers and trainees.

The Diving activities for the year have been another success. The lovable British weather struck into some of the trips but on the whole it was another excellent year.

On the minus side there were a number of downers… the first being divers diving with Nitrox fills, when not probably qualified. The second, was a small number of seemingly solo dives carried. These will not be allowed to continue.

Finally onto the awards.

Trainee of the Year:
Keith Wicks

Diver of the Year :
Andy Perrion.

Gilbert Award:
Chris Boddington.

After that most people shot off to a highly (!!!) recommended curry house in Tooting and made merry for the evening.

DIVES COMING SOON

Dive Sheets coming Soon

Please confirm with the Dive Marshall the night before that the dive is going ahead!!!!!

Wanted

EDITOR

No need to be able to write, spell or tell the truth.
No Previous experience Required.

Pay Poor!

Red Sea 2002

25th Oct—1st Nov
7 Days
Live-a-board
Sun, Sea and Silliness
All members welcome
Spaces Limited.

TRAINING OFFICER'S / EDITOR'S RAMBLINGS

After all those long, hard, cold days of training my O'3 Drysuit finally let me down. Yes as those of you at Stoney will have witnessed. The neoprene around the right knee pad tore along a 3 inch seem, and now the suit is only held together by lycra.

Woe, woe is me, but for God, Harry and for England I continued on, into the dark, cold, clammy depths of Stoney.

But enough of my woes, what else has happened over the past few months?

Well I am please to say that several members went off to sunnier climes and undertook some blue water diving (I can see!! I can see!!).

I know a number of members of the club went off to Gozo, and my thanks to all the instructors , dive leaders and experienced divers that helped them, assisted them and instructed them. I know those that you taught greatly appreciated your help and leadership. All seemed to have enjoyed the trip.

Another group went to the Red Sea where all they learnt was that it takes three divers to carry enough air for Dave Elphick to do a 20 metre 40 minute dive.

Back home on the training from it has been fairly quiet. I spend 6 weeks in sunny Glasgow so was unable to assist, but some training went to as usual. It's as I've said all year I just get in the way.

Anyhow, two new members joined, Ben and Roy. Roy is/was a member of her majesties Royal forces and Ben too is quite handy with a weapon (apparently). Welcome to both of you.

Both of these gentlemen have undertook the pool sessions for Club Diver., and passed the pool assessments with flying colours. Theory work will start in the new year.

I am also pleased to announce that Anna Martin has completed and passed her Club Diver qualification, whilst Bruce Ayres has completed his Sports diver. Congratulations to the both of you.

Next year, will once again see a formal plan of action for the Club's training routine, starting with Club Diver in January. However BSAC are re-organising the training again next year. Details are still a little sketchy but Club Diver will become Ocean Diver. Sports Diver will include greater skills tests and seem to revert to what is was a few years ago. Dive Leader will change again, as will Advance Diver.

My aims for next year are thankfully not as extreme as this years were. I would like to get as many people as possible to Sports diver, still retaining our safety minded approach. That is the aim for the first 6 months. For the second half of the year, concentration will be given to those present sports divers who wish to go on to Dive Leader.

For the present D.L's I haven't forgotten you. I know several people want to get their Advanced Diver, and due to some problems last year that was not possible. I have the test papers and if you approach me we shall sort out a time and place.

I would like to run a Lifesaver course and a O2 administration course before mid-year, although that would be instructor dependent.

Boat handling is still something we are looking into. However if you would like to drive the boat then approach Mark, our the Boat Officer and he will be happy to offer advise and support.

I would like to sum up by thanking all the Instructors and Dive Leaders, without who's help nothing is possible and thank you all for your patience and understanding. It has been a great honour and privilege to work and assist many of you that once taught me how to dive.

Finally on a training front, congratulations to Paul 'Tekkie' Carval on passing his Nitrox Diver course, wonders will never cease!!

Chris Boddington

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Diver(s) of the Month

For this last issue of D.O.M under my reign I thought it would be good to look back at some of the also rans of the past 3 years. Those that never quite made it to win the award but gave it their best. I have however removed their names to save their embarrassment.

"Things started to go wrong for other people on supposedly less complex dives. One dry-suited diver forgot his ankle weights on one dive but continued on regardless. (Ankle weights are not a necessity for Dry-suit diving but are considered a great help by many). This Diver became inverted on a wreck and had trouble righting himself, but with the aid of his buddy managed to complete his way back to the shot. He and his buddy ascended to their deco stop correctly but once again he became inverted… Doh!! His buddy was unable to right him this time for one reason or another. To stop himself ascending any further he took a tight grip of the line and finned vigorously to compensate for the suit buoyancy. Luckily Mr ********** completed his deco successfully with the aid of the shot line, his buddy, and the use of an extremely tired set of legs. But this was just the shape of things to come."

"He persuaded his group of shuttle divers that it should be ok, although he would make the decision further out. Being a No-dive - No-pay system the divers went along with this, and trusted his judgement.

The boat was not overly large but sufficient to handle the divers needs. It had all the latest electronic navigation aids, including GPS, Depth and fish-finders, and Sonar/Radar. However the skipper decided that these "aids" were not needed, and decided to rely on the Force, no not the Force, but force of magnetism. Sure enough this sixth sense worked, for only 10 minutes into the journey, out of the fog bank, some 20m distant from the boat loomed a 120m long, several thousand ton, Ocean-going container ship.

Now this wouldn't have been too bad for the skipper, if and this is a big if, if it had actually been moving, but it was moored up at the dockside less than 500m from where the divers had boarded the boat. "

"On this day, ******** stepped forward to show us all how to dive. One the second dive of the day he and his buddy, Joanne, descended to the bottom, a depth of 9m, which soon rose to 6m. After 25 minutes at 6m, ******l decided it was time to go up. Like the "Good Boy" that he is, he thought about a decompression stop. Ah, now he was in trouble, ****** usually stops at 9m and at 6m, but he had just dive to a maximum of 9m, but spent most of his time at 6m. What a dilemma, he thought, the solution came to him; stop a 3m for a minute or two. For those that don't believe it, I believe there is a Dive sheet to confirm this"

"She can fart like no other. Now I myself have been known to release slightly noxious odours on occasion, I have also had the unenviable experience of sampling the Greater Easom Gaseous Expulsions and lived to tell the tale. But even that Krakatoa of Methane, Mr Elphick would be had pushed after several pints of the black stuff, a Chicken Vindaloo, 4 tins of baked beans and a packet of Johnny Fart Pants Farting Powder to match *******'s output on Monday the 25th August 2001. There is a new hole in the O-zone layer just above Falmouth, where enough concentrated methane was pushed out in one brief motion to put British Gas out of business"

"Then there is the case of two divers who planned on doing just 10 minutes of decompression, but ended up nearer to 40 minutes. The two claimed that when they left the bottom, their computers read 10 minutes of decompression was required, they also claim that neither of them was narced… But when they reached their first deco stop their computers were demanding that more than 30 minutes of stops be done. How can this be? Yes, they were at 37 m, and yes there was a lot of shot line out, but even so 10 minutes does not become 30 minutes, unless you ascend very, very, slowly, e.g.2 m per hour. No, these were either Narced, (there's no shame it that) or haven't bothered to read the manuals, which came with their dive computers. Hopefully, Mr****** and Dr ***** have learnt something from this experience, and will be undertaking a little light reading. May I suggest Dive Computers for Dummies, and "Nitrogen Narcosis and how it effects you: - a study on lab rats" by the US Navy."

"On this day in question, a few of the less experienced members of the club where being shown how not to behave from some of the "Should Know Better" Brigade. To quote one Dive Leader 'I returned to the shot, could see through all the silt, as there were six divers there. So I just grabbed a buddy, anybody and went up!'"

"One this same day, another Dive Leader decided to show his prowess. This twin laden "Adonis", showed his metal, deciding this would be a good opportunity to impress the younger members. However, I do not believe all when according to plan. For the weather was not kind, and between the Technical Talking and strutting like a South American Dictator, this Diver was throwing up for England. Then after kitting up and claiming to be ready, it was pointed out that his dry-suit inflator wasn't connected, then it was pointed out he wasn't wearing a weight belt. Oh dear time to de-kit again. It was said that ***** blushed, blushed??? And looked very ashamed of himself. No never…."

Remember these were just runners up. Now I know I said I remove the names, but I didn't say I wouldn't tell you.. You can fill in the gaps….
Mr Paynton and Mr Sailes ; Eddie Driver;
Gary Eason; Paul Carvall ; Jamie Dawson
These names seem to have appeared quite a lot over the past 3 years.

Tekkie Talk

With the increasing number of 'technically' trained divers in the club, and their increasing Tekkie chatter I thought it was about time those not skilled in the art of TROX-talk should have a simple explanation of some of the terms used.

Argon : A gas used to warm dry suits instead of air, due to greater thermal properties, however a cheaper alternative is a good curry the night before.

Boogie Box : this is a dive computer to you and me, although not altogether trusted by the tekkie community.

CNS : Central Nervous System, which can suffer from Oxygen Toxicity.

EAD : Equivalent Air Depth, this is not the depth you are at but a theoretical depth that you would be at if diving on air rather than a non-air gas. Confused??

EANx : Enriched Air Nitrox; This s a mixture of Nitrogen and Oxygen, where there is greater than 21% oxygen often referred to by the percentage of Oxygen or as Devil Gas or just Nitrox.

Harness : This is a sort of S&M bondage system to strap a diver to his tanks and buoyancy device.

Line, Hanging on the : or known as a **Hang** or **Hang-time**. This is a term to denote the time spent decompressing whilst either on a shot line or under a SMB.

Mix : this is a term used to describe the EAN fill of a tank. The mix is usually given a number relating to the percentage of Oxygen, i.e 32 mix, 36mix or a 50/50 mix which is a 50% oxygen 50% nitrogen mix.

MOD : not a 1960's throwback but the Maximum Operating Depth. Due to the physiological restraint of Oxygen being poisonous to the human body at certain pressures, the different Mixes have different safe maximum depth limits.

Narced, **Narcs**, **Gone Whacko** or **Eyes like Saucers** : are all terms for Nitrogen Narcosis, although it is not limited to Nitrogen but can be associated with other Inert Gases.

OTU : Oxygen Toxicity Unit, see **UPDT**.

Plan : yes in Tekkie Diving your really do have to plan your dive, and dive the Plan.

PPO2 : Partial Pressure of Oxygen.

Rebreather : This is a device which enables you to re-breathe your own expelled air, by removing the CO2 and replacing it with Oxygen. Some say it is the Future of all diving.

Safety Sausage : a SMB or Delayed SMB, in the long tube like shape, not one of the useless ball shaped ones.

Stage Bottle : This is an auxiliary tank, which usually contains a **Mix** designed for use while decompressing. Usually is either a 7 or 10 litre tank.

Travel Gas : This is mix which the diver uses to either reach or ascend from their required depth. It is not the gas which is used whilst at that depth, as that is the Bottom **Mix**.

Trimix : this similar to Nitrox except that is a mixture of 3 gases hence the name Trimix. It is generally used for greater depths than Nitrox.

Trox : This is just a term for Nitrox.

Umbilical : This is used to describe a torch that has it's lamp head connect to it's battery pack by an long umbilical cable, allowing the battery back to be secured out of the way and for a less bulky torch in the diver's hands.

UPDT: Unit Pulmonary Toxic Dose. Don't even think of getting into a conversation about this one. 1 **UPDT** is equal to breathing 100% O2 for 1 minute at 1 BAR! Subsequently replaced but the term **OTU**.

Wing : A wing is a buoyancy device which is usually horseshoe shaped and sits between the divers tanks and a Backplate. It is designed to give better underwater horizontal stability than a traditional jacket style BCD.

I hope this has helped some of you, now you should be able to understand some of the stranger diving conversations in the club.

If your really interested then why not do a course.

Recent Holidays

Gozo, well I was supposed to have had a report back from Gozo, but my spy has gone into hiding, so there is apparently little to tell, and without accurate information I will have to go with the here say stories I heard second hand.

First off, there was the tale of a gentleman with a black eye and stitches. All I could gleam for the myriad of witnesses is that he walked into a rock. Hmmm not very convincing is it. The best I can make out is that one night, Andy Hart, had a little too much to drink. A diver should always know his limit Andy , I am surprised that you haven't figured this out with all your exposure to the club by now. Anyhow, he was a little the worst for wear after watching some football game, and instead of what is rumoured (he got into a punch up with a German), he walked out of the bar, along the road and tripped over and smacked his head on a rock. Several stitches latter and some TLC and he was fine.

The other tale I have heard, is that , well it's a bit delicate, and there are few reliable witnesses. Basically one of the male members of the club came back from a night on the town to find one of the female members of the club undressed and tucked up in his bed, at which point the male diver, screamed like a banshee in shock. I have no further information than that nor do I know what happened next. However the website WWW.REDHOTGOZODEEPDIVERS.Com have a webcam recording showing the whole event on the net, allegedly.

I have also been asked to request that Steve Barrett leave his BOX at home! What ever that means.

Apart from all that I believe that the trip was another outstanding success, congratulations to the organisers , Rob and Sue.

The Red Sea was also supposed to be written up, but again I was let down. So here is what the main culprits got up to:

Chris Boddington: Enjoyed a black bush or two. However his bowel control is not a good as it once was, only 4 days this year.
Paul Carvall : Was seen to attempt Gurning, and was also seen snorting a white powder, using a mirror and some a straw.
Tony Ray and Dave Elphick: were obviously having fun one night, as Tony's headboard could be heard banging against the bulkhead for several hours in a very rhythmic manner. They calmed it was the door.
Dave Elphick also managed to acquire some underwater porters to carry around his air supply.
Paul Brown : Was a pillar of diving excellence until he followed the wrong rope an invisible ship.
Tom Maguire : Ah Tom, well rumour has it that Tom went Skinny dipping in a hotel pool on the last evening, with some company.
Jonathan Greisenswaite : Still an air god, although he didn't change his t-shirt or shorts in 7 days. I don't wish to consider what else wasn't changed.

Diving wise, well group went out to dive the Brother Islands in the Red Sea. 50km from the main land, and only accessible to livaboards. The first thing to note, is that these are two very small islands, so no land based trips were planned.

Diving was superb. The fish life was exceptional, with both soft and hard corals, including the famous Black coral which was actually green. There are 3 wrecks, but not for the faint hearted, the shallowest starting around 20m, and then dropping away. The deepest ended around 66m. Even when there was supposed to be no current there was, which means you have to fin, yes fining is an alien concept I know to most British divers, but nether the less it has to be done.

Visibility was in the region of 30-40m, and a water temperature of the mid to high 20's.

But the main reason to go is to see sharks, yes sharks. Over the course of the week. 6 species were seen, ranging from the mild mannered black tip reef shark to the less friendly Oceanic White tip, and the visually stunning Hammerhead to the equally stunning Thresher shark, but for many divers the highlight of trip was a close encounter with a 5m Manta ray, all the divers ignored the 2 silver tip sharks hanging around to get a closer look at the Manta and they weren't disappointed.

Dolphins were spotted and visited the boat, whilst the Croydon crew were playing with the sharks, so missed them. All in all an excellent week.

The boat Valerie was excellent and has been booked again for late October next year, for the club trip away.

Whether we go North, South or back to the Brothers, you can be sure that the Boat, food and Dive guide will be superb, and as usually the club trips are great fun.
For more details regarding the trip please speak to Tony Ray.

Christmas Party :

Another successful party, although the insanely loud Hawaiian shirt worn one member almost over shadowed the evening. Congratulations to all the prise winners, and well done to Dave for organising it.

However would the person who took a picture of their wedding tackle please refrain from doing so again , it is not big and not very nice. It gave many people quite a scare. And shaving before the picture only

PLYMOUTH

As the club is off to Plymouth at Easter here is an article from Diver June 1999, to help those that haven't been before to get an understanding for what it will be like. However they forgot to mention all that beer drinking that goes on.

The rocks and reefs offshore from Plymouth provide some intriguing names. There's Hand Deeps, Hat Rock and John Liddiard's own favourite for colourful diving - the Eddystone

I descended the shot line on the Eddystone to a kelp-covered slope at just 8m. Not just any old kelp, but the large and firmly rooted kelp that lives in strong currents and clear water. A last pull on the line, a quick flick of the fins and I was over the ridge and beneath the gentle current. The change in marine life was instant. The wall below me was covered in tightly packed clumps of orange, cream and pale green plumose anemones, stretching down to a rocky seabed at 20m.
A large, green and brown speckled ballan wrasse weaved around, pecking away for small morsels. To my left a shoal of pollack hovered in the current above the ridge.
Further down the wall the plumose anemones gave way to small green and white jewel anemones and clumps of tan-coloured hydroids. If I looked closely, nudibranchs were easily located, munching away at the miniature forest.
Staying halfway up the wall, we drifted slowly south with the current. Soon the wall had become a steep slope of large white plumose anemones rising just 5m above a sandy seabed at 25m with a scattering of rocks.
Not wanting to get too far down-current, we looped out across the sand and back along the seabed towards our starting point.
Facing me on the sand were a pair of dozing dogfish, while hovering above was a long, thin, light brown ling with a distinctive barbel just below its chin.
The dogfish ignored us, but the ling kept a wary eye out as it searched for a clear patch of seabed, then dipped down to scratch first one side and then the other against the sand. Fish apparently do this to remove parasites from their skin. Perhaps this ling had the fish equivalent of a smug, satisfied smile that comes from a good scratch at an itchy back.
Now clear of the sand, a forest of gorgonia stretched across the flat rocks in front of us, swaying gently in the current. Every now and then a clump of ross coral clung to the rocks looking like a plate of brandy snaps on the dessert trolley. A bit of a misnomer, ross coral, as it is actually a bryozoan.

Faith restorer

Altogether Eddystone is about as good as reef diving can get, but the special thing about this dive was my buddy's reaction.
A recently qualified BSAC Sports Diver, she had done all the standard training sites and was not all that impressed with UK diving, the poor visibility and the lack of marine life. In fact, she was thinking of selling her wetsuit and only using her qualifications on tropical holidays. One good dive on the Eddystone cured her of all that.
We were diving my favourite part of the Eddystone reef, just a few metres south of the lighthouse. Considering its location in relation to south-coast shipping traffic, it would be easy to expect the Eddystone to be covered in wreckage. But apart from the scattered remains of some steel wreckage, a few hundred years of lighthouses seem to have done a good job of keeping modern ships clear of the rocks. From a diving point of view, the real attraction of the Eddystone is the marine life.
From surrounding waters, which at times are over 50m deep, the Eddystone reef rises to break the surface as a jagged collection of rocks. Running from east to west, the depth jumps from 20m to 6m, then gently slopes back down again. The reef continues at easily diveable depths for more than 800m in an east-west direction, with many rocks rising to within a few metres of the surface.
With rocks like this all over the place, does it really matter where you start? Why not just jump in anywhere and explore? Well, it is nice to do that every now and then, but you run the risk of diving on a kelp-covered plateau with gently sloping sides. Personally, I prefer to have some vertical or even overhanging rocks with a good covering of anemones and hydroids.

Cuckoo land

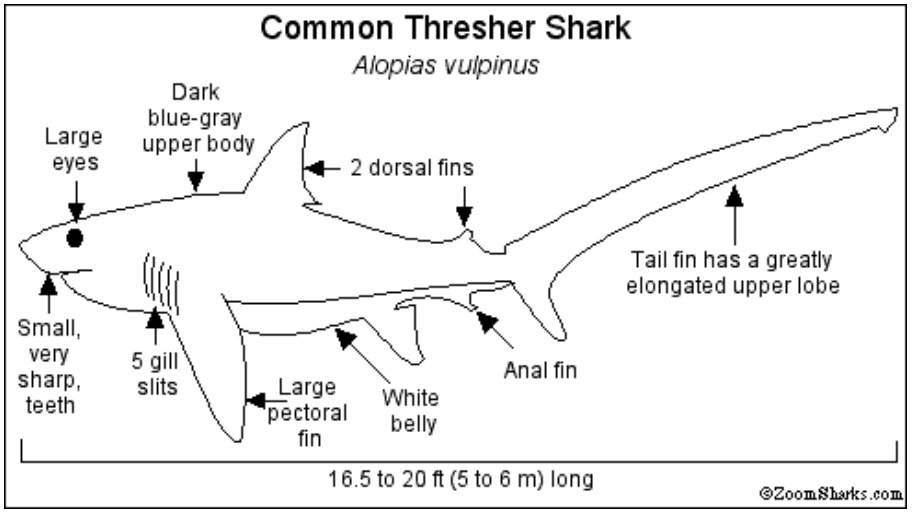
Just a few miles to the north-west of the Eddystone is Hand Deeps. Another large reef about 800m across, but this time only rising to a depth of 9m with no rocks breaking the surface.
I can imagine it getting its name a few hundred years ago, as an old crusty fisherman sat in the pub one night telling tall and salty sea tales: "There be a shallow reef out there that is only a hand deep. I can lean over the boat and touch the bottom."
There is no lighthouse to mark Hand Deeps, but the right area is easily identified by the number of pot-buoys around it. Like the Eddystone, it is possible to have a good dive on many different parts of Hand Deeps, but the really special site is a wall

on the north corner of the reef.
Here the reef peaks at 9m, gently slopes to 15m, then plummets vertically to 40m before breaking to a 45° boulder slope which drops away into the distance.
>From a shot at the shallowest point of this dive, following the steepest slope in a northerly direction leads into one of two corners cut back into the wall. Between these two corners is an outside corner or point that is most exposed to current and hence has very dense marine life. The predominant coverings on the wall are brightly coloured patches of large jewel anemones and clumps of dead men's fingers.
Sea urchins cling to the vertical face and munch their way through this carpet of life.
Fish life includes goldsinny, cuckoo and ballan wrasse. At the points and corners where the current is strongest there are often shoals of pollack. Cracks are home to crabs and lobsters.
Cuckoo wrasse can be very curious, often approaching to within a metre and looking straight into a diver's eyes. If you hold a hand still they might even peck at a finger.
As one moves eastwards, the wall soon breaks up into a boulder slope. Westwards the wall continues for a fair distance, with jewel anemones occasionally giving way to patches of plumose and daisy anemones on exposed corners. The crest of the wall falls quickly to 20m then more gently to 25m. There are some more sharp corners, but overall the wall maintains a general westward direction.
From Hand Deeps, several miles further to the west lies Hat Rock. This is a much smaller reef that rises mostly vertically from the seabed to a minimum depth of 20m. The main dive site is the north face of the rock.
Marine life is very similar to Hand Deeps, dense patches of brightly coloured jewel anemones, occasional clumps of plumose anemones, sea urchins, hydroids, nudibranchs and lots of fish.
Unlike the Eddystone or Hand Deeps, the flat top of Hat Rock is a little deep for serious kelp growth. Although there are the occasional sprigs, the carpets of jewel anemones extend across the top of the rock. With a greater average depth, this also makes Hat Rock potentially a more serious dive.
All three of these areas off the coast of Plymouth offer spectacular walls of anemones, clear visibility and the best of UK marine life, in the "wow, spectacular, amazing" category.
If I had to choose just one of these areas for a dive, then I would always go for the Eddystone.

COMMON THRESHER SHARK

Alopias vulpinus

GENERAL DESCRIPTION
Thresher sharks are Lamniformes (or mackerel sharks) whose tail fin has a greatly elongated upper lobe. They are very strong swimmers who can vault completely out of the water.
Common threshers have a countershaded body, dark blue-gray above and white underneath. It has small jaws, but can use its tail to corral and even kill fish. The first dorsal fin is much, much bigger than the second; the pectoral fins are curved.



Like other mackerel sharks, it has an anal fin, 5 gill slits, 2 dorsal fins, no fin spines, mouth behind the eyes, and no nictitating eyelids. It is a very strong swimmer and can even leap out of the water. It is mostly nocturnal (most active at night).
SIZE
The Common Thresher shark ranges from 16.5 to 20 ft (5 to 6 m) long.
HABITAT AND DISTRIBUTION
The Common Thresher Shark swims from the surface to a depth of about 1,150 feet (350 m). It lives in open tropical and temperate waters, including the eastern and western Atlantic, the central Pacific, and the Indo-west

Pacific.

TEETH AND DIET
The Thresher eats squid and fish, corraling them with its elongated tail, stunning them with slaps from it, and catching them with its very sharp (but small) teeth.

THRESHER SHARK ATTACKS
The Common Thresher Shark is not aggressive, but can be provoked. The thresher's large tail can injure divers.

SPEED AND SWIMMING
The Common Thresher Shark a very strong swimmer and can even leap out of the water.

REPRODUCTION
Threshers reproduce via aplacental viviparity; the eggs hatch inside the female. The developing embryos are ovophagous; they will eat smaller, weaker siblings while in the womb. Mature females (at least 10 feet (3 m) long have litters of 4 to 6 pups, bearing live young. These pups are 3.5 to 5 ft (1.1 to 1.5 m) long at birth.

POPULATIONS
The Common Thresher is decreasing in numbers because of overfishing (it is hunted for meat and its fins).

ALTITUDE DIVING : expand your diving envelope!

By Jonathan Grisenthwaite.

For most people “scuba diving” means diving in the sea. In fact, divers often make the same presumption too. It is certainly true that the sea offers an incredible diversity of different diving experiences. But there is one further category of dive environment: fresh water.

Fresh water diving potentially offers as varied a range of diving experience as diving at sea. For example, the six mainstream (excuse the pun!) categories of fresh water dive are: natural lakes, reservoirs, rivers, quarries, ice diving and caves. In addition there is one further dimension to fresh water diving: **altitude.**

The definition of “altitude diving” is any dive site situated at an altitude of 1,000 feet above sea level.
Note it is possible to dive all five fresh water categories at altitude, though the majority of fresh water dive sites are well below 1,000 feet.

It is accepted that diving in the sea usually offers much better prospects than in fresh water. So why dive in fresh water and at altitude at all? We divers are adventurous animals (admittedly some of us are just animals). There is much to be said for broadening your diving experience by doing a few varied fresh water sites; an altitude dive adds spice. It is also an excellent way of remaining dive current throughout the year. So you can avoid the winter no diving blues. It is also true that a significant minority of divers enjoy the same adventure/exploration induced adrenalin-rush as when diving at sea. And finally it gives you yet another new angle to bore your non-diving friends shitless! (From personal experience I recommend the “altitude diving yarn” as an excellent coup de grace when competing with football/golf/shopping gossip!)

To set my credentials on this topic, I have almost 50 fresh water dives logged, including 12 altitude dives (these twelve were done in Wales and Ireland). A few of you have dived in fresh water before, but I understand that none of you have dived at altitude. So I’ve volunteered to marshal some altitude dives for Club members over the winter, starting when the sea diving season closes down (lamentably not too far away now). But as will be clear from the below, this diving is only for two star divers and above. Of course this whole diving proposition is subject to approval by the DO.

So what are the key differences between altitude and sea diving? These can be broken down into

three:

1. Atmospheric pressure. At sea level the atmospheric pressure is about 1 bar or 1,000 millibar (mb). But for every 10 meters you ascend in altitude there is a corresponding drop in atmospheric pressure of 1 millibar. We all know that 10 meters of water equals 1 bar, so here is confirmation that water is 1,000 times denser than air. If our dive site is at an altitude of 370 meters (1,214 feet), then the atmospheric pressure is approximately 4% less than at sea level. The maths: 370 meters of altitude equates to a surface pressure of 1,000 – (370 / 10) = 963 mb. So the atmospheric pressure at the dive site is only 0.96 bar. The key issue of altitude diving is that the dive site surface pressure is below 1 bar. During your altitude dive you reach your maximum depth and then start to work your way back up to the surface (where the atmospheric pressure is less than 1 bar). But on this ascent you face a higher *pressure ratio* than you would on an otherwise identical sea dive. By "pressure ratio" I mean the rate of change in ambient pressure during the ascent. Another way of explaining it is that on a dive for every one meter you ascend the ambient pressure reduces by a relatively greater amount than an otherwise identical sea dive. This is the crux of altitude diving; it is important you understand. Remember ambient pressure is the total pressure on a diver, i.e. atmospheric pressure and water pressure. Here is a numerical demonstration of the workings of the pressure ratio:

A) On a sea dive to 20 meters the ambient pressure is 3 bar. Ascending to the surface reduces ambient pressure to 1 bar. So the pressure ratio is 3 / 1 = 3.00

B) The atmospheric pressure at our altitude dive site is 0.96 bar. So at 20 meters depth the ambient pressure is 2.96 bar. When ascending to the surface the diver faces a greater pressure ratio of 2.96 / 0.96 = 3.08

"So what?" I hear you ask. The significance of a higher pressure ratio in altitude diving is that on ascent the diver experiences faster & larger bubble formation than when compared to an otherwise identical dive at sea. This means the diver faces an increased risk of decompression sickness on an altitude dive relative to a sea dive. Even on a relatively low altitude dive like ours, the extra risk material. Much has been written about the unique physical and physiological effects of altitude diving. This risk is managed by diving more conservatively, in particular by reducing bottom times and by increasing safety stops.

{Technical aside: the average atmospheric pressure at sea level is 1,013 millibar. This is rounded to 1,000 mb, i.e. 1 bar. But of course the weather on the day determines the actual sea level atmospheric pressure, i.e. it could be greater or less than 1 bar (it normally ranges from 990 mb to 1030 mb). Purists define altitude diving as any dive where the atmospheric pressure at the surface is below 980 millibar (mb). So it is possible to do an "altitude dive" whilst diving in the sea if this coincides with a significant low pressure weather system. I'm told it happens a lot in Iceland, for example.}

2. Fresh water. This means that water temperatures are likely to be cold, i.e. 5 C or less. Sometimes very cold water temperatures can be encountered – this extreme being encountered during ice diving for example. This has two implications for the diver:

A) Increased risk of regulator free-flow at either/ both the first stage and the second stage. This risk is managed by using an environmentally sealed regulator (i.e. where the first stage is filled with oil rather than water), and by using cold water regulator techniques (i.e. keep the second stage dry before/during the dive, and minimise regulator workload by breathing slowly and smoothly). Note that fresh water usually contains distinct bands of temperature varying by depth. Generally the colder water is the deepest, so the diver make encounter several tangible thermoclimes on descend/ascent.

B) The diver will get colder than on a sea dive. Cold and altitude are risk factors for decompression illness.

Fresh water is also less dense than sea water; the difference being about 2.5%. So you'll need to remove some lead from your weightbelt, roughly about 2 KG. Interestingly, if diving in a wetsuit or neoprene drysuit you will feel more buoyant whilst descending the first few meters. This is because the air bubbles inside your wetsuit are at 1 bar pressure whereas the dive site surface pressure is less than 1 bar. This results in the wetsuit drysuit expanding

slightly at altitude and hence becoming more buoyant. Note this positive buoyancy disappears below a few meters and thereafter the diver will be less buoyant.

3. Dive site specifics. This covers a wide range of factors such as dive site isolation, low visibility, reduced light at depth, and miscellaneous dangers (weirs, overhead diving environment, landslide, undercurrents, difficult entry/exit point, returning home via a route that brings you to a higher altitude than the dive site).

Given the above, let me wet your appetite (another pun) with some specifics of the proposed dive site:

Lower Lough Bray (Wicklow Mountains) is a natural corrie lake (i.e. created by the circular grinding motion of a passing glacier). Altitude is 370 meters or 1,214 feet.
Parking is limited so each trip would best suit 6 divers and a shore marshal. Two stars minimum.
Keep warm before the dive. Will bring Oxygen and First Aid kit.
Sign an affidavit leaving all your worldly possessions to myself!
Dive in pairs only – the conditions are too demanding to allow the usual & infamous "Dalkey trio diving".
The water is peaty and at 5 meters it is copper coloured.
At 10 meters plus you'll encounter pitch black, your vision will be restricted to the beam of your torch. Hand signals must be made within this light beam.
Dive shoulder to shoulder and review separation actions (buddy lines useful, but detach prior to ascent).
Below 15 to 20 meters you encounter significant silt; this can lead to complete "silt-out" if enveloped by your or somebody else's silt cloud. Just keep your eye on your depth gauge and your buddy and slowly move out of the cloud.
The dive profile should be very cautious, so aim to ascend back up the rocky slope to the shore.
Avoid mid-water ascents due to risk (certainty) of spatial disorientation risk. If you are forced to make a mid-water ascent then concentrate on the depth reading – it is the only way you'll control the ascent. Remember you'll be multi-tasking on such an ascent due to need to shine torch on depth gauge/computer whilst dumping air and monitoring buddy. Mid-water ascents are very easy to foul up in these conditions. Whatever happens, do mega safety stops.
Reach the shore with at least 50 bar - unless you've messed up and you need to eat into this to ensure the dive can be completed safely (at least when you do reach the surface you'll not face the remote chance of not finding the boat).
Let me know if you are interested. I accept that it will not appeal to every diver.
To be frank, you are not going to see very much at this dive site. I know of one diver who saw a trout here.
But the dive does have enormous novelty value, and there are huge photo opportunities pre-dive. Enjoy!

Final Farewell:

I hope you have enjoyed the rambling over the past 3 years and many thanks to all those who have taken the time and effort to contribute to this lowly publication, and many thanks to all my Spies, without whom nothing would be possible.

Finally, I am often asked who was Narced? Well, I still cannot reveal this masked diver of mystery but they will not be forgotten.

Good luck to who ever takes over and Happy Bubbling.

Chris