

The British Sub-Aqua Club



National Diving Committee Diving Incidents Report **2012**

Compiled by

Brian Cumming

Diving Safety and Incidents Advisor

Introduction

This booklet contains the 2012 Diving Incidents Report, produced by British Sub-Aqua Club (BSAC) in the interest of promoting diving safety. It is important to note that it contains details of UK sports diving incidents occurring to divers of all affiliations, plus incidents occurring worldwide involving BSAC members.

The 2012 'Incident Year' ran from 1st October 2011 to 30th September 2012.

Report Format

The majority of statistical information contained within this report is also shown in graphical form. Please note that all statistical information is produced from UK data only and does not include Overseas Incidents unless noted as 'All Incidents'.

The contents of this report are split into an overview of the year, and then the details of nine incident categories plus some historical analyses. The various sections can be found as shown below:-

i)	Overview	Page 1
ii)	Fatalities	Page 6
iii)	Decompression Incidents	Page 10
iv)	Injury / illness	Page 21
v)	Boating & Surface Incidents	Page 28
vi)	Ascent Incidents	Page 35
vii)	Technique Incidents	Page 40
viii)	Equipment Incidents	Page 42
ix)	Miscellaneous Incidents	Page 45
x)	Overseas Incidents	Page 47
xi)	Numerical & Statistical Analyses	Page 52
xii)	List of Abbreviations	Page 54

Within each category the incidents are listed in the order of their occurrence, not necessarily that of Incident Reference. They are laid out in the following form:

MONTH/YEAR OF INCIDENT **INCIDENT REF.**
Brief Narrative of Incident.....
.....

The nature of many diving incidents is such that there is usually more than one cause or effect. Where this is the case the incident has been classified under the more appropriate cause or effect. For instance an incident involving a fast ascent, causing decompression illness, will be classified under 'Decompression Incidents'.

Brian Cumming,
BSAC Diving Incidents Advisor,
November 2012

Acknowledgements

Data for this report are collected from several different sources. I would like to extend my thanks and appreciation to the following for their assistance in its production and in ensuring its completeness:

Ken Bazeley, National Diving Liaison Officer, Maritime & Coastguard Agency
Peter Chennell, Sea Safety Manager,
Roger Aldham, Data Quality Supervisor,
Carole Brown, Data and Statistical Analyst,
Royal National Lifeboat Institution

MOD Superintendant of Diving

Mark Caney, PADI Europe, Middle East and Africa

Sub-Aqua Association

Scottish Sub-Aqua Club

Jim Watson for invaluable HQ support

Dr. Yvonne Couch for proof reading this report

and, in particular, all of those divers and other sources who have taken the trouble to complete Incident Reports and share their learning experience with others.

Overview

2012 has seen 314 UK diving incidents reported. The number of reports received in recent years has been fairly consistent at around 370; so this year represents a 15% drop.

There are a number of possible reasons for this:-

- A normal amount of diving has taken place but:-
 - It has been safer and fewer incidents have occurred.
 - A normal number of incidents have occurred but fewer have been reported.
- Less diving has taken place and thus fewer incidents have occurred, leading to fewer reports.

It would be nice if the first reason was found to be the cause of the reduction (safer diving) but it seems almost certain that the true reason is that there has simply been less diving in the UK in this period.

Normally the distribution of incidents by month follows a sinusoidal form with the lowest number of dives in December and January, rising to a peak in June and July. This year's distribution shows a clear 'plateau' during the summer period at around 40 incidents per month being reported. In a normal year the number of reported incidents would have risen to a peak of about 60 in June and July. This plateau accounts for the reduced number of incidents reported in the 2012 incident year. So, up until April an expected number of incidents were reported but in May, June, July and August that number is depressed. This period clearly coincides with the appalling weather conditions that the UK suffered this summer. So the clear conclusion is that less diving took place during this time. The only other possibility is that for some unknown reason diving became safer in just these four months and that seems very implausible.

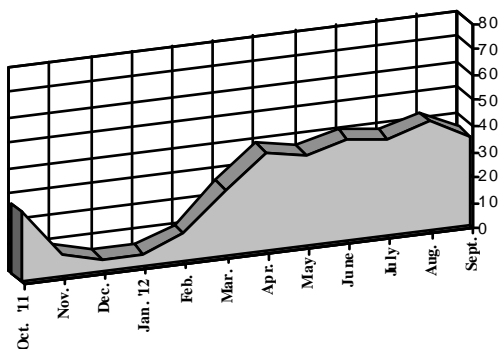
Incidentally, August and September's totals are always somewhat depressed, each year, as a result of the time that it takes for reports to reach us. Each year a number of reports are received after our cut-off period for the annual report. These reports are included in the database for future research purposes but they are not included in the annual report.

Number of reported incidents



The distribution of reported incidents by month is shown in the following chart. Normally about 70% of diving incidents take place in the summer months (April to August); this year, very unusually, it has only been 62%.

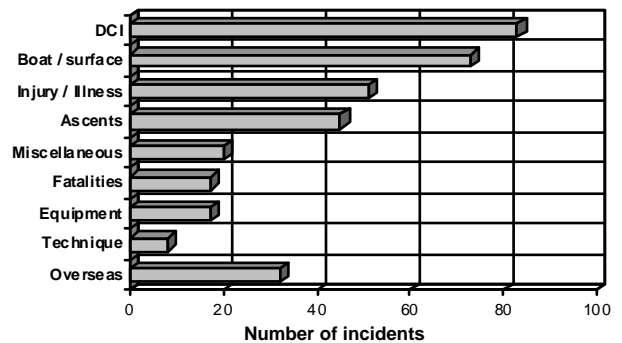
Incidents by month



Incidents by category

The incident database assigns all incidents into one of nine major categories, and the following chart shows the distribution of the 2012 incidents into those categories.

Categorisation of the year's incidents



In 2011 'Boating and Surface' incidents was the largest category and it had been ten years since this group had topped the list. This year sees a return to the normal situation where cases of 'DCI' are the biggest single category with 'Boating and Surface' incident back to its normal second place.

Cases of 'DCI' have been following a slight downward trend over the last ten years and this year's total of 83 continues that trend.

Incidents involving 'Boating and Surface' events had been falling progressively since the late 90s. In the previous three years this number had jumped back up to levels seen 10 years earlier. This year 73 incidents were recorded and this is much more in line with the earlier downward trend.

This category mainly comprises of problems with boat engines (engine failure and out of fuel) and lost diver(s).

The third category is 'Illness and Injury' with 51 incidents reported. The bulk of this is thought to be cases of DCI. But these cases are reported through the RNLI and their reports do not specifically record DCI, they often just state 'Diver illness'. For this reason it is not possible to distinguish cases of DCI from other diver ailments. 51 cases is a little below the average of recent years.

'Ascents' is the fourth category and this involves incidents where divers have made an abnormal ascent but avoided DCI or other injury. This category peaked in 2006 and has been steadily falling since that time. It is good to see that this trend has continued in the 2012 incident year. 45 'Ascent' related incidents were reported and one has to go back to 1999 to find a lower number. A lot of effort has been put into improving diver buoyancy control and these numbers reflect the beneficial changes that have been made.

The last category to be mentioned specifically is 'Fatalities' and although the numbers are quite small it is, of course, the most serious. This year saw 17 diver fatalities; this is somewhat above the average of the preceding ten years which was 14.7.

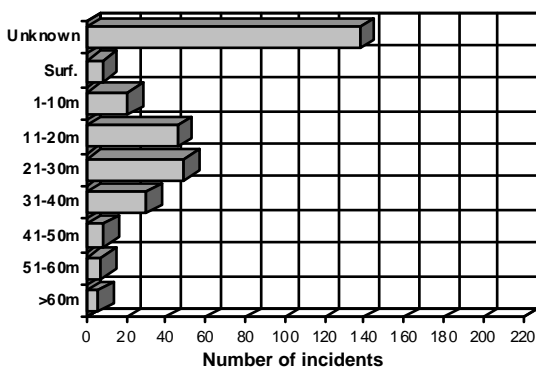
More analysis on these key incident categories is given later in the report.

At this point it is important to remember the conclusion that less diving has taken place this year. Less diving will mean fewer incidents, so lower numbers in all categories are to be expected. So a lower number does not automatically imply improved safety.

Incident depths

The following chart shows the maximum depth of the dives during which incidents took place, categorised into depth range groupings.

Maximum depth of dive involving an incident



The pattern of depths in the 0m to 50m range is very similar to that normally seen and reflects the amount of diving that takes place in these depth ranges.

The number of incidents reported in the greater than 50m ranges is 13, very similar to previous years. However it is worth noting that 3 of these 13 incidents involved fatalities; although, in one of these 3 cases, depth was not a relevant factor.

BSAC advises that no air dive should be deeper than 50m, and that dives to 50m should only be conducted by divers who are appropriately trained and qualified.

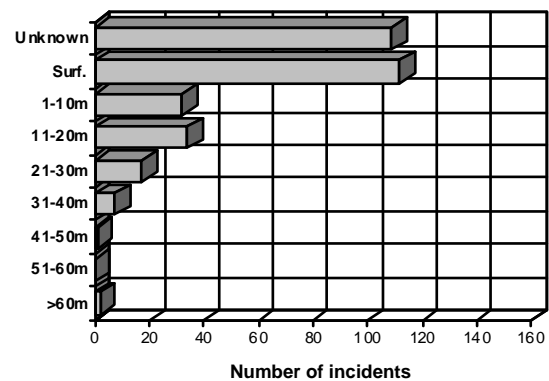
The recommended limit for divers trained to Sports Diver standard is 35m and then only when they have received appropriate training for diving at this depth.

BSAC recommends that helium mixtures are used for depths deeper than 40m and that mixed gas diving should be to a maximum depth of 80m. Mixed gas dives should only be conducted when the diver holds a recognized qualification to conduct such dives.

See the BSAC website for more details of these and other diving depth limit recommendations.

The next chart shows the depths at which incidents started.

Depth at which an incident started



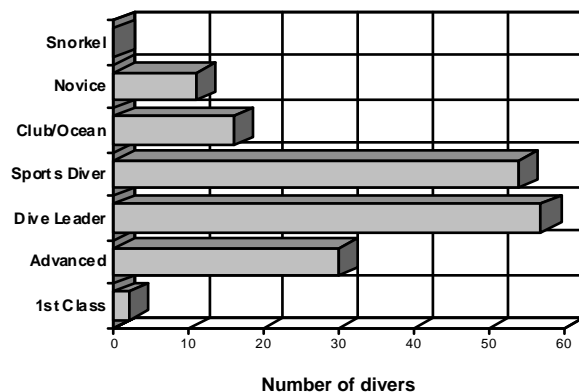
Inevitably the data are biased towards the shallower depths since many incidents happen during the ascent or at the surface. Critical among these are the DCI cases where almost always the casualty is out of the water before any problems are noted. This partially explains the large occurrence of 'Surface' cases as this includes divers with DCI who have left the water. Other surface incidents involve boats and boating incidents and divers who are lost but on the surface.

The depth profiles are consistent with previous years.

Diver qualifications

The next two charts show the qualification of those BSAC members who were involved in reported incidents. The first looks at the diver qualification.

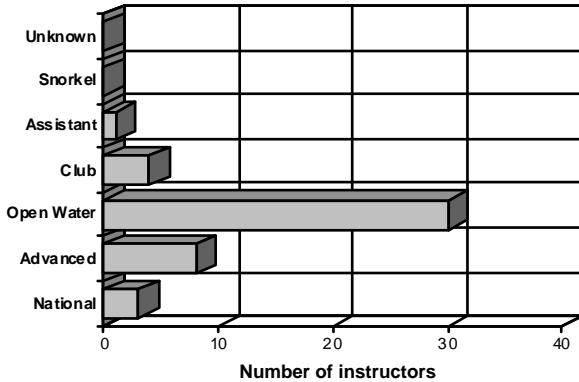
Qualification of the divers involved in incidents



These data are in line with the normal pattern of previous years and are thought to reflect the number of divers in these qualification grades.

The next chart shows an analysis of incident by instructor qualification and again it is consistent with previous years.

Qualification of instructors involved in incidents



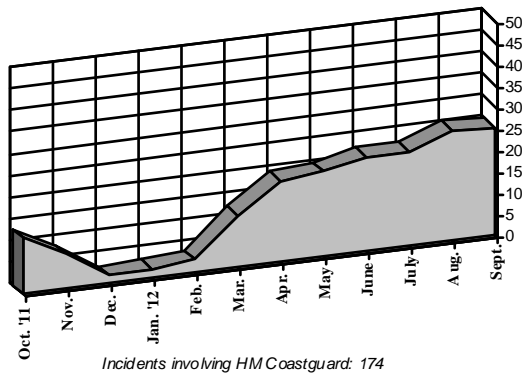
The low number for 'Club' instructor almost certainly reflects the fact that this qualification is no longer part of the instructor development programme.

Divers' use of the Emergency Services

Divers' use of the emergency services shows a monthly distribution aligned to the distribution of all incidents, and is clearly correlated with the number of dives that are taking place. These charts reflect the April to August 'plateau' that was highlighted earlier in the report.

174 incidents were reported to us by the Coastguard. The average number of incidents reported by the Coastguard in recent years is just over 200. This picture supports the conclusion that there was less diving than normal in the summer months this year.

Incidents involving the UK Coastguard Agency - Monthly breakdown

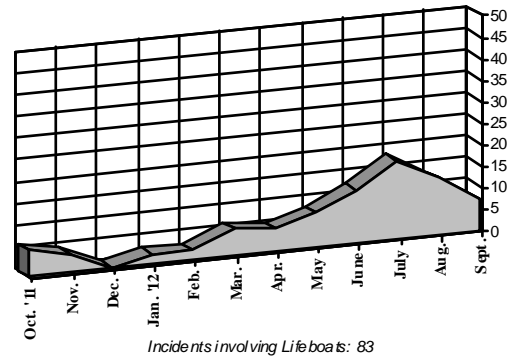


There were 83 incidents reported that involved the RNLI. Earlier years had seen a steady decline in divers' need for lifeboat assistance. However the previous three years saw that trend reversed. This year's total is in line with the earlier downward trend.

The RNLI's main support to divers involves assistance with disabled boats, searching for missing divers and the recovery of divers with DCI.

These data also reflect the dip in the early summer months.

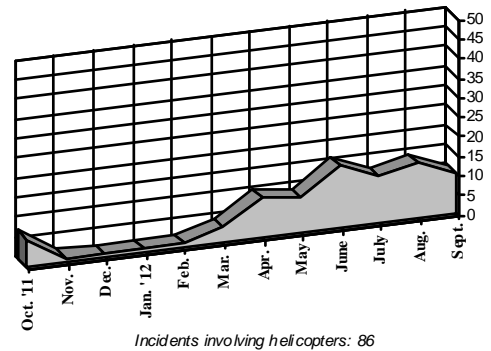
Divers' use of RNLI facilities by month



In 2012 86 incidents involved the use of helicopters. This is lower than normal and again reflects the reduced number of dives that have taken place.

In diving related incidents helicopters are mainly tasked to support searches for missing divers and to transport divers with DCI to recompression facilities.

Divers' use of SAR helicopters by month



Fatalities

17 fatal incidents occurred in the UK during the 2012 incident year. This is above the average of 14.7 fatalities per year over the previous ten years. However, given the small numbers involved, this is not thought to be a significant increase.

10 of these people were BSAC members. The previous ten year average for BSAC fatalities in the UK is 5.6 fatalities per year, so this represents a substantial increase. It is necessary to go back to 1988 to find a previous year that matches this number.

7 of the year's fatalities were non-BSAC members. The previous ten year average for this group is 9.1. So this year's total is normal.

Key factors associated with these fatalities can be summarised as follows:-

- Four cases involved divers who suffered a 'non-diving' related medical incident whilst in the water. Additionally there are seven other cases where it seems very likely that the diver suffered a 'medical event' whilst underwater, although evidence to substantiate this assumption is not currently available.
- Five cases involved a separation of some kind. Three of these cases involved divers who made a conscious decision to separate during the dive. The other two cases involved separation that occurred as a result of some other developing problem. Separation in itself is not a cause of death but death might have been avoided if the casualties' buddies had been with them and thus potentially able to help resolve any subsequent problems.
- Four cases involved divers who were using rebreathers. In two cases the use of the rebreather does not appear to be a relevant factor. In the other two cases the divers were lost, so no conclusions are currently possible.
- Three cases involved divers who were diving alone. In two cases the divers elected to conduct the dive alone; in one of these cases the diver was lost and in the other the diver was recovered unconscious from underwater. In the third case a diver chose to abort a dive during the descent and ascended alone. In this case it seems unlikely that the diver would have survived even if he had been accompanied.
- Three cases involved divers diving in a group of three or more. In one case the number of divers present was probably not a relevant factor in the fatality; in the other two cases it probably was.
- Three cases involved dives to greater than 50m. The depths involved were 55m, 65m and 70m. Only thirteen incidents were reported involving dives to greater than 50m; three of these were fatalities. However, the 70m incident involved a diver who (unknowingly) suffered a serious physical trauma immediately before the dive, so the depth is not particularly relevant in this case.
- Two incidents involved divers running out of gas, or divers who thought that they had run out of gas.

Often multiple causes were involved in an incident and with many of these fatal incidents there is currently insufficient information available to be clear about the exact chain of events and specific root causes. Often new information comes to light (from coroners' inquests for example) after the publication of the annual report. Such information is added to the incident database for future research purposes.

Diver age has been highlighted in recent years as a feature of note in the year's fatal incidents, with a disproportionate rate of fatalities amongst older divers. This year sees a strong continuation of this trend; 11 (65%) of the 2012 fatalities involved divers over the age of 50 (and 2 were actually 50). This is against a background of only 16% of the diving population being over 50 (from a BSAC UK site survey). The natural tendency is for health and fitness to decline with increasing age and the above numbers seem to indicate that divers need to pay more attention to these aspects as they grow older.

A natural and obvious response to this is to consider mandatory medicals. However, expert diving medical opinion is that it is not possible to screen for latent medical problems. Accurate and honest reporting in the medical declaration form and subsequent follow-up, if necessary, is the correct approach. This is the current policy advocated by BSAC and others.

Decompression incidents

The BSAC database contains 83 reports of 'DCI' incidents in the 2012 incident year, some of which involved more than one casualty. When these multiple cases are counted the result is 91 cases of DCI.

An analysis of the causal factors associated with the 83 incidents reported in 2012 indicates the following major features:-

- 20 involved repeat diving
- 18 involved rapid ascents
- 18 involved diving to deeper than 30m
- 9 involved missed decompression stops

Some cases involved more than one of these factors.

The content and order of this list is virtually identical to previous years.

As stated earlier, some of the 'Injury and Illness' incidents are also thought to be DCI related.

Boating and Surface incidents

This category of incident has dropped back to earlier levels with a total of 73 incidents reported. The factors associated with these incidents are as follows:-

- 29 involved lost diver(s)
- 22 involved engine problems
- 14 involved boat problems
- 8 involved bad seamanship

Some cases involved more than one of these factors.

Ascent related incidents

Ascent related incidents have been falling in recent years and this year sees that trend continuing with 45 cases reported. As in previous years the majority of these were 'rapid ascents'.

An analysis of these 'rapid ascents' (where the detail is known) is as follows:-

- 41% Simply poor buoyancy control
- 26% Panic / anxiety / rush for surface
- 21% Drysuit control malfunction/mis-use
- 15% Out of air / gas
- 10% Regulator free flows
- 10% Weighting or weight related problems
- 5% Delayed SMB problems

These causal factors are very similar to those seen in abnormal ascents for many previous years.

It is certain that many other such cases have gone un-reported but it is anticipated that these root causes will apply to all uncontrolled ascents.

Many DCI cases have their roots in these problems; they have been recorded under the 'DCI' heading but the causal factors are the same, so the actual number of abnormal ascents will be significantly higher than 45 cases.

This year's DCI cases included 18 incidents where rapid ascents had taken place.

Conclusions

Key conclusions are:-

- The number of incidents reported this year is about 15% lower than the level of recent years. This reduction is due to a lower number of incidents reported in the period April to August. It is believed that this is due to the very poor weather conditions in the UK during this period resulting in a reduced amount of diving taking place.
- The number of fatalities of BSAC members is substantially higher than the average of the previous 10 years.
- The number of fatalities of non-BSAC members is 2.1 lower than the average of the previous 10 years.
- The causal factors associated with these fatalities and other incidents are very similar to those seen over a number of years; no new causal factors have been identified.
- Diver age and related health and fitness issues are still featuring as critical factors in this and recent years' fatalities. The average age of the subjects of this year's diving fatalities was 52.4 years (in line with recent years); the average age of the background diving population is 38. However, a number of the fatalities of 'older divers' had no apparent age related cause.
- Incidents of DCI continue to fall.
- Ascent related incidents continue to reduce.
- Incidents relating to 'Boating & Surface' events have dropped back to earlier levels.
- The above conclusions need to be viewed in the light of a probable overall reduction in the amount of UK diving that has taken place in this period.

As has been stated many times before, most of the incidents reported within this document could have been avoided had those involved followed a few basic principles of safe diving practice. The BSAC publishes a booklet called 'Safe Diving' (latest edition published in June 2011), which summarises all the key elements of safe diving and is available to all, free of charge, from the BSAC website or through BSAC HQ.

Remember you can never have too much practice and the further you stay away from the limits of your own personal capabilities the more likely you are to continue to enjoy your diving.

Please browse through the details in this report and use them to learn from others' mistakes. They have had the courage and generosity to record their experiences for publication, the least that we can do is to use this information to avoid similar problems.

Finally, if you must have an incident please report it using our Incident Report form, available free via the BSAC website or from BSAC HQ.

As always, your anonymity is assured – great care is taken to preserve the confidentiality of any personal information recorded in BSAC Incident Reports.

Fatalities

October 2011

12/122

Three divers entered the water and descended to a wreck in a depth of 49m. They explored the wreck together for a while and then one of the three left the others to dive alone. After about 40 min the two divers agreed to terminate the dive and both divers deployed a DSMB. These two divers were using rebreathers with trimix. One of these divers had planned to make his first stop at 18m however when they got to 36m he indicated, with an out-stretched hand, that they should level off. His buddy noticed that he seemed to be having problems with buoyancy control; when he put air into his drysuit it appeared to come straight out of the shoulder dump. They ascended to 30m where the diver who had had buoyancy problems was seen to be adjusting his mouthpiece; he did not indicate any problems. The other diver looked away from wind in his DSMB line and when he looked back his buddy was not there. He looked around, could see no signs of his missing buddy and made a normal ascent to the surface with 34 min of decompression. The missing diver had gone straight to the surface. At the surface he called for help and got back on the boat. He was placed on oxygen and the Coastguard was alerted. He was airlifted to a recompression facility but he suffered a heart attack and died while undergoing recompression treatment.

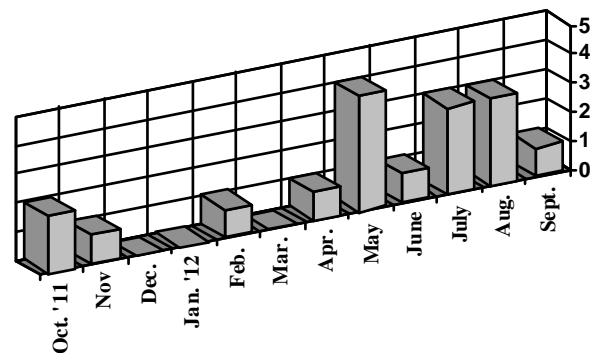
death was due to natural causes and that there were underlying medical issues.

February 2012

12/008

A diver commenced a dive with his buddy and shortly into the dive indicated that he didn't feel well. His buddy raised him up to the surface where the diver was unresponsive. The emergency services were alerted and the diver was airlifted to hospital where he was declared dead. It was reported that the diver had suffered a heart attack.

UK Fatalities - Monthly breakdown from October 2011 to September 2012 incl.



October 2011

12/002

A diver was seen to descend rapidly past the rest of the group, using the line for reference, and contact was lost with him. The rest of the group reached the bottom in low visibility. After a short period of time they discovered one of the lone diver's fins, and assumed he had ascended. Upon returning to the surface it became clear he had not. The dive vessel requested assistance from the Coastguard when the diver was 15 min overdue. Two divers returned to depth and located his body. He was brought to the surface. The casualty's weightbelt was on, and his cylinder mostly full, although his drysuit inflator was found not to have been connected. Shetland MRCC requested the immediate launch of Stromness lifeboat and helicopter R-137. Kirkwall coast rescue team awaited helicopter arrival at Kirkwall airport, the casualty was recovered and transferred to the ALB from where he was winched aboard R-137 and evacuated to the HLS. An ambulance transferred the casualty to Balfour hospital in Kirkwall. The casualty was declared dead. It was reported at the inquest that the diver had suffered a heart attack as a result of a blocked artery. The diver was described at the inquest as a very fit person.

April 2012

12/011

A diver was accompanied on a depth experience dive by an instructor at an inland site. Following an exploratory dive to a maximum depth of 35m the pair were following a guideline back up an underwater roadway. As they approached 30m the diver signalled and then took the instructor's alternate source. The pair started to follow the guideline. The diver seemed to allow the regulator to twist in his mouth and the instructor tried to replace it but the diver was less responsive. The instructor decided to initiate an ascent but the diver became unresponsive and gripped the line tightly. The instructor attempted to inflate the diver's BCD and then his own but the response was too slow and so he jettisoned weights and the pair ascended to the surface where the alarm was raised. The instructor commenced rescue breaths until the rescue boat came alongside. The diver was recovered and returned him to shore where CPR was conducted until the arrival of paramedics and an ambulance. The diver did not recover.

November 2011

12/003

Two divers were the last pair to enter the water from a charter boat. They entered the water and drifted towards the shotline. The lead diver allowed time for his buddy to acclimatise and catch his breath and then signalled to descend and received an OK signal. The buddy struggled a bit to get down; the dive leader maintained eye contact and saw no sign of distress. After failing to descend, the pair surfaced and the dive leader noticed that the buddy was having difficulty breathing. The dive leader made the diver buoyant and removed his weight pouches. He signalled distress to the boat then began towing clear of the site to allow the boat room for pick-up. The casualty was subsequently found to have stopped breathing and rescue breaths were commenced whilst a rope was thrown from the boat. The diver was recovered into the boat and CPR started. An RNLI lifeboat had been on exercise nearby and arrived shortly after a 'Mayday' call was made. The casualty was transferred to the lifeboat which brought him back to shore. The diver did not survive. A subsequent Coroner's inquest found

May 2012

12/012

The divers carried out kit set up and full dive planning. They planned a no stop dive with simulated deco stops using nitrox 50. The group consisted of three student divers and one instructor plus one safety/assistant diver. After a briefing, the group swam to the descent point and everyone signalled 'OK'. They dropped to 4m to carry out a bubble check, then continued their descent to 31m. At 31m one of the students turned to the

assistant diver for help as he had a free flow. He was able to switch to his pony cylinder whilst the assistant diver shut down his back gas. The student remained on the pony because the ascent was about to begin, and they would be switching to a 7 lt nitrox 50 cylinder at 18m. The two divers swam closer to the rest of the group, and at this point the instructor signalled to the group to deploy their SMBs. The instructor was helping a student who was having a slight buoyancy control issue with their SMB deployment. The assistant diver deployed his and locked the reel in ratchet mode. He then saw the student who had had the free flow racing upwards in front of him. The assistant diver swam after him, grabbed him by a fin and dumped air from his BCD to arrested his ascent. He brought him back down to the bottom but the student was distressed and panicking. The student was tangled in his SMB line and the assistant diver need to use both hands to untangle him as his line was wrapped around his waist and around his cylinder and his movements were making it worse. Once the line was cut free the student looked panicked and made frantic out-of-air signals using the cut throat signal. He was given the assistant diver's primary second stage and the assistant switched to his back-up. They made the decision to escort him directly to the surface and signalled an ascent. The troubled student immediately grabbed the assistant and started finning upwards very rapidly. The only means they had to slow the ascent were pulling down on the inflator hose dump valve and not finning. At all times during the ascent to the surface the troubled student had a primary second stage in his mouth. Upon surfacing, the student appeared to move and was floating on his back with his BCD fully inflated. The assistant turned towards the shore and signalled for help. The emergency response team arrived and the student was helped out of his equipment and into the boat. The boat took the student to the quayside where they began performing CPR. There were no obvious injuries to the casualty's face, but blood was originating from the nose and mouth. The majority of his drysuit was removed and there was bruising to the top of his arms. Resuscitation efforts continued along with help from the paramedics, however he did not respond and was pronounced dead after 45 min.

May 2012 **12/013**

A group of three divers were exploring a wreck in a maximum depth of 24m. About 40 min into the dive they attempted to pass through a hole in a bulkhead between two of the ship's holds. In the process silt became stirred up and one of the divers became separated. The other two waited for him and then began to search. On two occasions they saw his torch light in the wreck but they were unable to get to him. Disturbed silt made their search much more difficult. They continued to search for a further 10 min before starting their ascent. The two divers surfaced expecting to find their buddy and, when he didn't surface, they took additional gas supplies and re-entered the water to search for him. They could find no trace of the missing diver and so left a line marking his last known position and surfaced. The Coastguard was alerted and surface searches were conducted by a helicopter and lifeboat as well as other surface craft, along with further underwater searches but no sign was found of the missing diver. The diver's body was discovered in the vicinity of the wreck two days later by Royal Navy and police divers and it was recovered.

May 2012 **12/014**

Three divers entered the water for a dive on a wreck at 55m. During the descent one of the divers, who was second on the line, had problems with his ears and so paused and ascended slightly. He was passed by the third diver who continued his descent. The diver with ear problems managed to clear them and continued his descent. On the way he was passed by a diver ascending who he assumed was the third diver in the group but was unsure due to poor visibility. As the two divers reached the wreck they found that the visibility was very poor

and decided to abort the dive and ascend. On regaining the boat they discovered that the diver who had passed them was not their buddy but another diver who had also decided to abort due to the poor underwater visibility. The pair de-kitted and waited for their buddy to surface. After a time they became concerned as no DSMB was evident but they could see bubbles away from the shotline. One of the divers was preparing to kit up in order to look for the missing third diver when a DSMB surfaced but was not fully inflated. The kitted diver was still concerned and so entered the water and descended the DSMB line. He found the missing buddy but was concerned that the DSMB line was not taut and that his main cylinder was down to 15 bar, although his decompression cylinder had not been used. The diver decided to assist the buddy to the surface and on regaining the boat it was discovered that the missing diver had not completed his safety stops. The diver complained of feeling unwell and asked to lie down. Shortly after the diver's condition deteriorated; CPR was commenced and the Coastguard was alerted. CPR continued until the arrival of a rescue helicopter which airlifted the unconscious diver to hospital but he did not survive. (Coastguard report).

May 2012 **12/015**

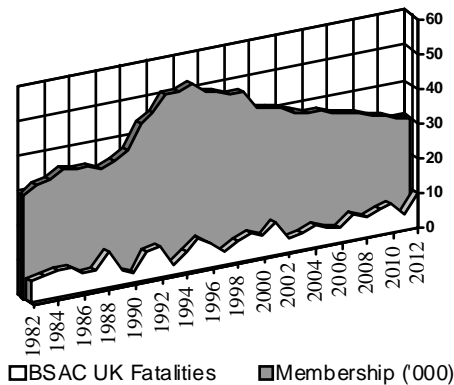
A pair of rebreather divers were the first pair of a group of divers to enter the water for a wreck dive to a maximum depth of 37m. The other divers were on open circuit and conducted a shorter dive than the rebreather divers. Following an uneventful dive the pair of rebreather divers returned to the shotline. One of the divers prepared to release the grapnel and noted his buddy clipping off his torch. After releasing the grapnel the diver turned but could not see his buddy. He conducted a search of the area and then, when he could not find him, assumed that he had ascended the shotline to start his decompression. The diver ascended and completed his own decompression requirements but did not see his buddy again and surfaced on the shotline. Around the time of the separation, the missing buddy's DSMB had surfaced and was monitored by the charter boat skipper. As the buddy became overdue one of the divers on the boat re-entered the water and followed the DSMB line down to 30m to find the reel but no sign of the diver. The Coastguard had been alerted to the overdue diver and a surface search was conducted involving two lifeboats, a warship, a rescue helicopter and other surface craft. The current had started running and so an immediate underwater search was not possible. Three divers entered the water on the next slack and conducted a search in very poor visibility; they did not find the missing diver. Over subsequent days searches were conducted by police divers but no sign of the missing diver was found.

June 2012 **12/016**

A group of divers had been diving from the shore in windy conditions. They were diving from a sheltered gully to a maximum depth of 12m and all had completed a dive from the site in the morning without problems. A few of the group had completed a second dive also without incident and a couple had left the site to start the journey home but several divers were still available to act as shore cover. Underwater conditions were of good visibility, 3-4m, and whilst there was a small amount of surge there was no current underwater. A pair of divers entered the water for their second dive and were seen to surface in the mouth of the gully 18 min later and they signalled for help. One diver drifted out of the gully whilst the other swam to some rocks and clambered onto them. He was subsequently swept off the rock by a wave and was then seen face down on the surface and appeared unresponsive. Two members of the group entered the water and recovered the unconscious diver back to shore. The Coastguard was alerted at the same time. Once on shore CPR was commenced with oxygen enriched rescue breaths. CPR continued until a rescue helicopter airlifted the diver to hospital in Edinburgh. The diver did not recover. The diver's buddy managed to swim to and climb out onto rocks

where he was subsequently recovered by a lifeboat crew and returned to shore without injury but suffering from shock.

BSAC Fatalities against membership 1982-2012
(UK fatalities only)



July 2012

12/107

A pair of divers completed a 27 min dive to a maximum depth of 24m and made a 1 min stop at 9m and a 3 min stop at 6m on their ascent. They ascended the boat's anchor line and arrived at the surface normally. One of the pair moved to the ladder towards the rear of the boat while her buddy stayed on the anchor line submerged to avoid surface conditions and to prevent congestion at the ladder. The first diver stood on the ladder but did not climb it. She said words that suggested she was caught on something and it is thought that it was her reel line caught on the ladder. Her mouthpiece was replaced and she sank back into the water. She was not seen again. The buddy was recovered and a search conducted in the area down wind and tide. The Coastguard was alerted. A helicopter, three lifeboats and other craft carried out a search but the missing diver was not found. The diver's body was recovered from the shoreline twenty four days later.

July 2012

12/111

Three divers entered the water and descended to a wreck in a maximum depth of 65m. One of the three was using a rebreather. This diver conducted his dive solo, once underwater. The other two divers report seeing him towards the end of the dive in the vicinity of the shotline. They say that he looked confused and one of the pair pointed towards the shotline. The two divers ascended safely but the solo diver failed to surface. The Coastguard was alerted and a search was initiated involving two lifeboats, a helicopter and other surface craft. Later divers conducted a search of the wreck and the immediate area but the missing diver was not found.

July 2012

12/112

A diver and his buddy prepared to enter the water to dive a wreck. One of the pair stated that he felt a bit sick but would be fine once in the water. This diver entered the water first and his buddy followed. Initially the buddy went towards the wrong shot buoy and, realising the error, moved towards the correct buoy. As the buddy swam towards the diver who had felt sick he noticed that the diver did not have his regulator in his mouth and that his mask was displaced. The buddy shouted for help. The troubled diver then started to sink. The buddy was able to

grab the sinking diver's BCD hose. The buddy tried to put his octopus regulator into the diver's mouth but he was unresponsive. The buddy tried to inflate the diver's BCD and he managed to drop his weights. The boat's skipper, alerted to the problem, sent two other divers in to help. They got the diver onto the boat's lift and he was recovered into the boat. Resuscitation techniques were applied and the Coastguard was alerted. The diver was airlifted to hospital but he failed to recover. Examination of the casualty's equipment showed that his regulators were functioning normally and that his BCD was partially inflated. The Coastguard report states that this was the diver's first sea dive for twelve years. He had done two recent fresh water dives and was wearing an additional weightbelt to compensate for the increased water density. He still had one weightbelt on when recovered. It is thought that the diver had suffered a heart attack.

August 2012

12/113

Two divers entered the water from the shore after a thorough buddy check. One of the pair was diving with a relatively new twin-set and he wanted to use the dive to increase his familiarity with the equipment. They swam on the surface and then descended to a depth of 2m. They continued the dive for 10 to 15 min to a maximum depth of 5m. Visibility was very poor and they surfaced to check their bearings, dived again but surfaced soon afterwards as the visibility was so poor. They started a surface swim to the shore. On the way the diver with the new equipment suggested that they dive again as he wasn't comfortable with his kit. On the seabed, at 3m, the diver adjusted his harnesses, indicated that he was happy and that they should ascend. At the surface the other diver noticed that the diver had no regulator in his mouth. He grabbed hold of him and tried to support him. He tried to give the troubled diver his octopus regulator but he would not take it. The rescuing diver inflated his own BCD and suit. He tried to inflate the casualty's BCD but the hose was not connected. He tried to reconnect it but couldn't. He tried giving the casualty his own main regulator but this was not accepted. He dropped the casualty's weightbelt but he was still sinking. He struggled to remove his twin-set. The set got caught in a number of places and caused the casualty to invert. Once free, the casualty floated to the surface and the rescuing diver quickly righted him. He attempted rescue breaths but could not support the casualty at the surface to do so. He signalled distress and pulled the casualty onto his chest to support him. He then commenced towing him to some nearby rocks while using his octopus regulator to try to get some air into the casualty. The Coastguard was alerted. Other divers arrived and the casualty was lifted onto the rocks. Resuscitation techniques were applied. Oxygen was used and the casualty was taken by lifeboat and ambulance to hospital where he was pronounced dead on arrival.

August 2012

12/114

A diver was preparing to dive on a wreck in a depth of 100m using a rebreather. As he moved towards the entry point he slipped and fell to the deck. He was assisted to a bench to recover and the boat was repositioned. Meanwhile his buddy, who had already entered the water, commenced his dive alone. The diver who had fallen then entered the water with another pair and began his descent. At 70m this diver decided to abort the dive and made his way back up the shotline. He passed a pair who were decompressing at 50m. They reported that he looked distressed and was breathing heavily. A little later they looked up and saw the diver motionless above them with his mouthpiece out of his mouth. They moved up to him and attempted, unsuccessfully, to replace his mouthpiece. They inflated his BCD and sent him to the surface. The diver was recovered into the boat and resuscitation techniques were applied. The Coastguard was alerted and the diver was airlifted to hospital where he was declared dead. It is reported that

cause of death was drowning as a result of the effects of serious internal injuries caused by the earlier fall.

August 2012

12/115

A diver was conducting a dive to a wreck in a maximum depth of 48m. The diver and his buddy were using air in independent 12 lt twin cylinders and nitrox 80 as decompression gas for accelerated decompression. The diver had changed his configuration and had attached his 7 lt decompression cylinder to his twin-set as a back-mount. This required his cylinder to be switched on before the dive. The regulator and contents gauge were each marked with tape and were routed down the diver's right hand side, which was the same side as his primary regulators. The pair entered the water and the diver's buddy waited for him at 6m. When the pair were together they switched on their torches and descended. The buddy descended the shotline ahead of the diver who did not follow as quickly as normal. On arrival at the wreck the diver tied off his marker strobe alongside the 3 others on the shotline. There was a slight current on the wreck and the pair began to explore the wreck. After exploring the stern they started to make their way back against the current towards the shotline. The buddy stopped at a prominent feature to observe the overall scene. The diver approached his buddy and placed his hand on his shoulder whilst he changed regulators. The diver then pointed to the shotline and swam off. The buddy then found the diver on the shotline without his regulator and not breathing. The buddy tried to get the diver's attention and get him to accept a regulator but despite assistance from another diver there was

no response. By this time the buddy had 30 min of mandatory decompression to conduct and, as there were no signs of life, he sent the casualty to the surface where he was recovered onto the charter boat. The Coastguard was alerted and resuscitation techniques were applied. The diver was airlifted to hospital where he later died.

September 2012

12/162

Two divers made their descent onto a wreck site at 36m, then continued around the wreck. After 14min one of the pair began to get too much air in his drysuit feet and rose about 5m. He righted himself and descended to his buddy at 30m but he seemed a bit panicked, signalling he wanted to go up. He had 110 bar of air, so his buddy led him to the shotline. The troubled diver ascended the line hand over hand pulling himself up, getting faster on ascent; the buddy tried to dump air and slow it down. He wouldn't make a safety stop and rapidly went to the surface, inflated his BCD and waved to the boat in distress. As the boat approached him he became unconscious so his buddy administered rescue breaths until he was lifted onto the boat. The Coastguard was alerted and resuscitation techniques were applied. A medical link call was established. The casualty did not respond to treatment and did not regain consciousness. It is reported that this diver had finished a drysuit training course the day before and was diving with the course instructor. It was suggested that he suffered a heart attack.

Decompression Incidents

October 2011

12/004

A diver conducted two dives in a day both to a maximum depth of 35m each for a total duration of 28 min with a surface interval between the two dives of 47 min. Following the second dive the diver reported to the on site dive centre complaining of pains in his right shoulder and 'pins and needles' in his arm and right wrist. The diver was given oxygen and regained normal sensation in his wrist after 5 min but no change in his shoulder pain after 25 min. The diver was given advice and fluids and the contact details for the local recompression chamber.

October 2011

12/017

A rebreather diver was preparing to enter the water with an open circuit diver for a planned dive to 42m for 25 min bottom time and a total dive time planned using the open circuit diver's air and nitrox 50 deco gas. The rebreather only started with one controller and so the dive was aborted before entering the water. The rebreather diver then borrowed a twin-set with two 12 lt cylinders of nitrox 32 which were bled down and then topped up to produce a mix suitable for the planned depth (nitrox 27). The wing and harness from the rebreather were used to support the twin cylinders and provide buoyancy. During the dive the setup was not well supported and moved from side to side. At the end of the dive, the diver started his ascent and deployed a DSMB then reached for the wing dump valve but could not locate it due to unfamiliarity, the dump being behind him. A buoyant ascent was started but the diver was able to initially maintain contact with his buddy by swimming against the increasing buoyancy and with his buddy corrected his attitude in the water. On ascending to 21m the diver was unable to control his buoyancy any more and he made a direct ascent to the surface switching to nitrox 60 on the way up. On the surface the diver signalled the boat and continued to breathe from the nitrox 60 until picked up by the boat. On return to the boat the diver was placed on 100% oxygen, laid down and given fluids. The Coastguard was contacted and a link call made with a diving doctor who recommended recompression. A helicopter was tasked and airlifted the diver to a recompression chamber where a skin DCI was diagnosed. The diver was given a 6 hour treatment with complete resolution of symptoms. The diver was advised not to dive again for six weeks.

October 2011

12/235

Brixham Coastguard tasked RN rescue helicopter R-193, to airlift a diver with suspected DCI sickness to DDRC in Plymouth for treatment. The diver was from a dive boat who noticed that when he surfaced he was showing signs of DCI. Diving at Whitsand Bay, Plymouth. Plymouth inshore lifeboat and other vessels including MCA Falcon assisted from sea and Tamar Coastguards assisted from shore. (Coastguard & RNLI reports).

October 2011

12/238

Shetland Coastguard was alerted by a dive vessel of a male diver suffering from severe abdominal pain which was believed to be dive related, the vessel was met by an ambulance and the casualty transferred to the chamber for treatment. (Coastguard report).

October 2011

12/020

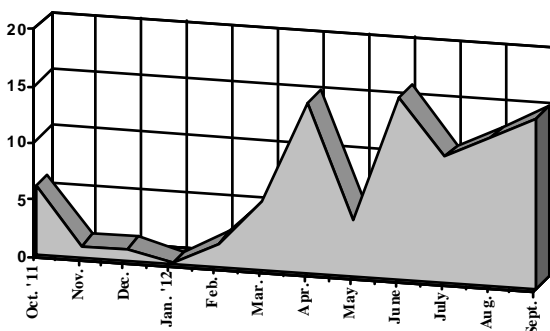
A diver prepared to dive for the first time with a new set of twin 10 lt cylinders. He conducted a weight check beside the pier before getting onto the boat but neglected to take account of the cylinders being full. The diver was buddied with a rebreather diver for a dive on a wreck at a maximum depth of 29m. After 31 min bottom time the diver had accumulated 7 min of stops and signalled his buddy he wanted to ascend. The buddy had previously said that he may split the pair as he was able to stay down longer with his rebreather. The open circuit diver then deployed his DSMB as instructed by the skipper and started his ascent. The diver was unable to maintain control of his buoyancy due to the reduced air content of his cylinders and, despite dumping all buoyancy and trying to swim down, ascended direct to the surface missing 6 min of required stops. The diver gave a distress signal to the boat and on being picked up advised them of the missed stops. The diver was advised that as no symptoms were evident that he should sit down and drink some water. The boat recovered the remaining divers and returned to harbour. The diver then consulted the trip organiser and was advised to continue to monitor for symptoms. When the time came to return home no symptoms were apparent and a check for arm strength was given but seemed fine. The diver was given an oxygen cylinder and regulator for the journey home just in case. The diver was driven home by a friend with no indication of symptoms. Once at home the diver took a cool shower and then became dizzy, lost his balance and experienced a headache. He got out of the shower and decided to use the oxygen. The diver then attended A&E, was diagnosed with DCI and transferred to a recompression chamber for treatment. The diver received a 6 hour treatment and was discharged the next day following a complete resolution of symptoms.

October 2011

12/030

A diver had conducted two training dives the previous day involving a number of ascents. The following day the diver, with an instructor and two buddies, conducted a first dive to repeat the controlled buoyant lift drills from the previous day. He had difficulty with these and made a number of unsuccessful attempts at ascents from 18m with a total dive duration of 14 min. Following the dive, during the swim back to the shore, the diver undertook a 50m rescue tow. After the dive it was identified that the diver and his buddy were both carrying too much weight. The diver decided he would not do the next dive because he was exhausted and wanted a rest. After a surface interval of 2 hours 44 min the diver joined the group again for a dive to a maximum depth of 16m for 11 min. The diver was acting as an observer on this dive whilst others in the group

Decompression incidents by month



practised ascents. During the swim back on the surface the diver was asked by the instructor if he wanted to drop down to 10m to practise the ascent again because he had seemed annoyed he had not succeeded previously. The divers descended to a maximum depth of 13m for a 3 min duration and the ascent was conducted successfully. The diver had not noticed that his computer had activated an alarm due to the short surface interval and was locked out. Following the dive the group packed up and went for a debrief where the diver had a coffee. The diver did not feel brilliant and had an aching arm. The diver then went to work for a couple of hours and then returned home. The pain in his arm was increasing and he tried looking for signs of bruising but did not recollect banging the arm. Later in the evening the diver contacted a member of his club and was advised to call a diver helpline. On contacting the helpline the details were taken and the diver was advised to attend a recompression chamber where he received a 6 hours 30 min treatment followed by a 2 hours 30 min treatment the following day with a significant reduction in symptoms.

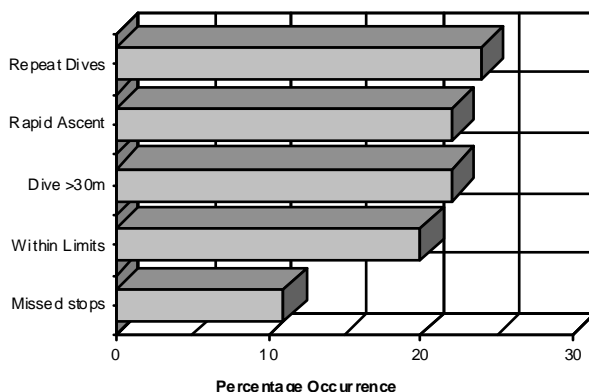
November 2011 12/247

Brixham Coastguard was informed by Plymouth Longroom port control that a dive boat had requested permission to head back to Queen Ann Battery marina at speed with a diver with possible DCI. Dive boat skipper had made own arrangements to get casualty to Diving Diseases Research Centre at Derriford. (Coastguard report).

December 2011 12/180

Holyhead Coastguard was alerted to a diver who had suffered serious DCI following a dive in a freshwater quarry. The diver was unconscious, face down, for few minutes on the surface. The dive was for 5 min in the water to a depth of 56m. Holyhead Coastguard tasked rescue helicopter R-122 to fly the casualty direct to a recompression chamber for treatment. (Coastguard report).

Percentage analysis of factors involved in cases of DCI



February 2012 12/362

An instructor and 4 students were engaged in a training course at a maximum depth of 6m. During alternative source practice, the casualty accidentally knocked his own regulator out of his mouth and went from surprise to panic and made for the surface. The instructor tried without success to replace the casualty's regulator while slowing their ascent to the top. At the surface, casualty stated he was alright so the instructor left him with a passing instructor for a few minutes while descending again and taking two other students through the skill. When

back at the surface, the instructor asked the casualty if he wanted to try the skill again, the casualty initially said yes then started having chest pain so he was taken to shore and put on oxygen. The emergency services were called and, out of precaution, they took casualty to hospital. Further tests revealed possibility of an air bubble behind casualty's heart.

February 2012 12/041

A diver conducted two dives a day over a weekend with dives on day one no deeper than 10m. On day two she dived to 18m and then, after a surface interval of 2 hours 15 min, she dived to a maximum depth of 20m. During both dives on the second day the diver experienced buoyancy problems with her drysuit, feeling that air had become trapped. She had difficulty maintaining a 6m safety stop on the first dive rising to 2m and then fighting to get back to 6m. On the second dive she could not control the stop at all and ascended direct to the surface and remained there. After a surface interval of around 5 hours the diver began a car journey home. An hour later she began to feel unwell with a headache and fatigue which both gradually increased until she fell asleep. On returning home the diver took pain relief and went to bed but had a restless night. The following morning the diver noticed a purple rash in clusters on her chest, neck and back; she still had the headache and felt tired and lightheaded. The diver discussed it with her husband but felt uncomfortable phoning a recompression chamber. The diver was eventually persuaded to call the chamber and after describing her symptoms was advised to attend straight away. The diver attended a recompression chamber and was recompressed on a royal navy table 62 with extensions and received a follow up treatment the next day

March 2012 12/253

Diver in difficulties, A dive vessel called to advise MRCC Brixham that they had a diver onboard who was possibly suffering from a decompression problem after diving the wreck Abelard, at the end of Plymouth Breakwater. Diver taken to the DDRC for assessment (Coastguard report).

March 2012 12/050

An instructor conducted two training dives involving a number of ascents. The first dive was to a maximum depth of 20m for a total dive time of 20 min and involved two ascents from 20m to 6m and both were controlled and within the limits of dive computers. A 3 min safety stop was conducted at a depth of 6m before a controlled ascent to the surface. After a surface interval of 2 hours 30 min a dive was conducted to a maximum depth of 15m and involved two more ascents with the instructor was acting as a 'casualty'. The first ascent was uncontrolled from 10m to 3m before the ascent was halted and the pair descended to repeat the ascent. The second ascent was controlled, stopping at 6m and a 3 min safety stop was completed before a controlled ascent to the surface. Three days later the instructor noticed an unusual throbbing pain in her arms which came and went rather than being continuous. The arm also felt weak and was described as a dead weight. The following day she contacted a diving doctor and was advised to report to a recompression chamber where she received recompression treatment resulting in full resolution of symptoms.

March 2012 12/365

The casualty completed a deep dive in the morning, then went on a fun dive after a surface interval of 1 hour 46 min. The dive profile was 12m for 20 min, there were no issues except for a rapid ascent computer warning. No symptoms appeared until a few hours later when casualty felt numbness and weakness in right arm. Casualty was treated in chamber for DCI.

March 2012 12/257

Clyde Coastguard received a call from ambulance control requesting assistance to transfer a diver suffering from DCI to the recompression chamber at Millport, Isle of Cumbrae. Largs RNLI inshore lifeboat was tasked to meet the ambulance and transfer the casualty to the Isle of Cumbrae. (Coastguard report).

March 2012 12/184

Milford Haven Coastguard was alerted by a dive support vessel to a 40 year old male suffering from DCI, RAF helicopter R-169 evacuated the casualty to the hyperbaric chamber in Derriford on the duty diving medical officer's advice. Dale Coastguard rescue team provided initial first aid and prepared the landing site. Two other divers who had surfaced quickly but with no symptoms were assessed by both RAF and ambulance paramedics before being released. (Coastguard report).

March 2012 12/058

A diver and his buddy conducted a dive to a maximum depth of 26m for a maximum duration of 35 min including 9 min at a depth of 6m checking their buoyancy and carrying out safety stops. Both divers were using dive computers, with the diver using a new computer. After returning to the RHIB with no problems they stowed their kit and started to have lunch. After a period of 10 min or so the diver complained of pain in the right side of his chest and of having no feeling in one of his legs. The diver was laid down with legs raised and given oxygen. The Coastguard was informed and after consultation with a diving doctor the RHIB was advised to return to harbour to be met by an ambulance. On returning to shore the diver was transferred by ambulance to a recompression chamber where he received a 5 hour treatment. The diver was reported to have suffered DCI due to dehydration.

April 2012 12/259

Clyde Coastguard received a call from a dive vessel advising that a female diver aboard was suffering from DCI following a dive on the Tapti off Coll. Rescue helicopter 177 airlifted her from the vessel to Lorne and the Isles hospital in Oban where she was kept for observation. Oban Coastguard rescue team manned the landing site. (Coastguard report).

April 2012 12/064

An instructor and student were diving on a wreck at a maximum depth of 18m. A gas check around 20 min into the dive indicated that the instructor had 135 bar and the student had 110 bar remaining. Around 22 min, after some previous buoyancy issues, and at a depth of 13m the student's weightbelt came undone and fell off. The student and instructor managed to swim down and grab the belt. The student held onto a rock whilst the instructor struggled to refit the belt for approximately 6 min. After successfully refitting the belt the instructor checked the student's gas and found he had only 10 bar remaining and so she gave him her alternate source. They started to ascend after 28 min. The instructor had 30 bar remaining. During the ascent the student became inverted and the pair made an uncontrolled ascent to the surface. The instructor ensured both their BCDs were fully inflated on the surface and signalled distress to the cover RHIB. The boat came alongside and requested the divers swim around and away from the rocks to allow the boat access. On recovery into the boat the student was placed on oxygen and then the instructor was recovered and both divers shared the oxygen supply. Whilst the second diver was being recovered a lone diver surfaced and signalled distress (Incident no. 12/063) and was subsequently recovered; that she had also had a fast ascent. The oxygen equipment was then shared between the three divers who were breathing from it for one minute each

whilst waiting for the remaining divers to surface. As the oxygen began to run low the skipper contacted a charter boat in the area which provided an additional oxygen set which the three divers then shared between them. Attempts to contact the shore by VHF radio were unsuccessful and so the boat returned to shore after recovering the remaining divers. On approaching the shore the boat signalled distress to the shore party and by the time the boat arrived several additional oxygen sets were available. All divers were placed on oxygen and the Coastguard was alerted. The Coastguard tasked a rescue helicopter, which was being refuelled at the time. The three were monitored and given fluids and none displayed any symptoms of DCI. At the recompression chamber the student and the diver from the second incident were assessed and found not to require recompression treatment. The instructor started to display symptoms of visual disturbances, memory loss, aches in various joints and felt generally exhausted. She received two recompression treatments over the next two days, appearing to make a full recovery and was released. After several days the instructor complained of slight memory loss and occasional trouble finding words when speaking and joint weakness. The instructor represented to the chamber and was given two further treatments over two days before being discharged again. Some speech and memory symptoms persisted.

April 2012 12/061

A diver conducted a drift dive to a maximum depth of 21m for a bottom time of 42 min. On leaving the bottom the diver had 9 min bottom time remaining on his computer. The diver made a controlled ascent to a depth of 10m where he lost control of his buoyancy and made a fast ascent to the surface. His buddy asked if he was alright and he responded "not sure" and said he felt disorientated. On exiting the water and boarding the charter boat his condition deteriorated and he felt unsteady and sick. The diver started to vomit and was offered anti-seasickness medication by others on the boat but he declined. Whilst this was happening the boat skipper pulled into a sheltered cove for the surface interval. Meanwhile the diver's condition deteriorated further. The diver was still dressed in his drysuit and so was assisted to remove it by others and he went to lie down in a bunk whilst the dive boat moved to the second dive site. Another diver reported his condition to the skipper and said he would not do the second dive in order to look after him. At that point the diver was placed on oxygen. Shortly after all dives were completed and the boat returned to shore. On returning to shore the skipper contacted the Coastguard. The Coastguard contacted the duty diving doctor and the diver was referred to a recompression chamber for treatment of a vestibular DCI. (Coastguard report only)

April 2012 12/065

A diver was on a training trip as part of a group. Prior to the trip she had experienced a short lived cold/flu following a flight from New Zealand to the UK. The diver was still feeling run down as a result, had limited her diving in the preceding days and had not dived at all the day before the incident. On the day of the incident the diver conducted three shore dives. On all dives during the trip the diver was wearing a neoprene drysuit that she was using for the first time, she was also wearing a 100gsm undersuit because she felt the cold. As a result the diver required 16 kg of weight which she distributed with 4 kg in the BCD pockets and the remainder on a weightbelt with traditional airline-style release buckle. The first dive was to a maximum depth of 12m for a total duration of 40 min including a 3 min safety stop at 5m. During this dive the diver experienced some problems with her BCD and the dive was aborted but safety stops were still completed. Following a surface interval of 2 hours 15 min the diver conducted a training dive where controlled buoyant lift and other rescue skills were practiced. The dive was to a maximum depth of 6m but involved 4 or 5 ascents and an approximate duration of 30 min. The dive

culminated in a full controlled buoyant lift ascent followed by a surface tow and recovery onto shore with simulated CPR; this required a lot of effort. Following a surface interval of 3 hours and 30 min the diver entered the water for a non-training recreational dive with a recently qualified diver; this dive was planned for a maximum depth of 10m and a duration of 30 min. The pair descended to a maximum depth of 11m and then made their way slowly back to shallower depths. The diver had a couple of buoyancy problems but managed to rectify them and continue the dive. After approximately 25 min, while at a depth of 7m, the diver's weightbelt came undone and fell off. The diver managed to catch the weightbelt by the buckle, however, despite being advised to the previous day, she had not fitted a weight retainer and so three of the six 2 kg weights slipped off the belt. The diver then made a fast ascent to the surface. Her buddy had been looking in the opposite direction at the time and had not noticed and, on finding the diver missing, made a normal ascent to look for her. The pair were reunited on the surface and swam to shore where they alerted the shore cover to the fast ascent. The diver initially showed no symptoms of DCI, however, after an hour on the surface, the diver reported feeling generally unwell and was monitored closely. Later that evening the diver complained of nausea and started to vomit intermittently. The diver was assessed by two people but no symptoms other than nausea could be identified, although one thought they may have detected a slight weakness in one arm. A recompression chamber was contacted and they advised the divers to continue to monitor overnight and contact again in the morning. The diver continued to feel nauseous and vomited approximately every hour with no change in symptoms. On contacting the chamber again they advised that a neurological examination should be made at the local hospital. The examination was inconclusive and the diver was advised to transfer to the recompression chamber for further assessment. At the chamber the diver was diagnosed with a vestibular (inner ear) DCI and was given three recompression treatments over the next three days. After treatment the diver continued to experience slight bouts of nausea gradually receding in intensity and duration. Subsequent investigation by an ENT specialist identified some ear damage but no effect on hearing. The diver has planned further investigation for a PFO.

April 2012 **12/057**

A diver aborted his first dive of the day to a maximum depth of 5m after 90 secs due to poor visibility. After a surface interval of 3 hours the diver conducted a dive to a maximum depth of 19m for a total duration of 25 min including a 3 min safety stop at 6m. Later that evening the diver contacted his diving officer to report that he had rashes on his body, 'pins and needles' in his legs and arms and a very bad headache. The diver was advised to phone the emergency services to alert them of his condition and of the potential implications of a PFO. The diver was placed on oxygen in the ambulance and contact with the duty naval medical officer was made. The diver was taken to a recompression chamber for treatment.

April 2012 **12/066**

A group of three divers were on the fifth day of a week long training trip. The previous day two of the divers had conducted dives of 9m for 30 min and 13m for 33 min whilst the third diver had completed dives of 9m for 19 min and 9m for 32 min. Adverse weather conditions had caused the group to move to a coastal quarry dive site to give experience of wall diving. Access to the site involved a steep and long walk from the car park and equipment was transferred in two to three trips. Entry to the water involved a scramble over rocks. One diver entered the water by climbing over rocks and she fitted her equipment in the water. A second diver entered the water in his equipment but fitted his weights once in the water and the instructor entered the water in full kit. The group then conducted a buddy

check and swam to their descent point on the surface. The group reached a maximum depth of 16m and maintained a planned depth of 12-15m. After 20 min the group had reached an area where the wall had been knocked through to the sea and they were at a depth of 13m. One of the divers lost control of her buoyancy at this point and headed upwards. The other two followed her and control was re-established at around 9m at which point visual contact with the wall had been lost. The instructor then took control and started to head east towards the exit point. He then realised this would take them over the deepest point of the site and so he turned to face the other two and signalled them to stop. He intended to deploy his DSMB from mid-water to provide a fixed reference for the group. Before he could remove his DSMB from his pocket the first diver again had a problem with her buoyancy and headed upwards. The instructor was unable to keep both divers in view and so opted to stay with the second diver. The first diver gained control of her buoyancy and started to look for the other two including descending again to a depth of 11m and then ascending to the surface without conducting a safety stop. The other pair stayed together and the instructor deployed his DSMB; during the deployment their depth varied between 6m and 9m. The pair then made a faster than normal ascent fearing that the first diver had made an uncontrolled ascent and may require assistance on the surface. As the pair approached a depth of 2m the first diver could see them from the surface and signalled that she was OK and the pair continued direct to the surface. The first diver had a total dive time of 25 min and the other pair had completed 28 min. The three then swam back to the exit point on the surface. Out of concern that she may have had a fast ascent, the first diver was checked out, after getting changed out of her wetsuit; she was very cold but she reported feeling absolutely fine. Other divers in the group subsequently planned to enter the water for a second dive. However, as they prepared to kit up, the instructor reported he was feeling some abnormal muscle aches and requested they didn't go in immediately whilst he saw how the aches developed. After approximately 10 min he said they could go in, however, before they descended, he changed his mind and asked them to return to shore. The instructor then went onto oxygen and the RN advice line was contacted, which required going part way back to the car park to obtain a mobile phone signal. The instructor carried the oxygen cylinder in one hand and the mobile phone in the other whilst talking to the doctor as he was walking back to the car park. The diver was advised to attend A&E for further checks to rule out other causes for the aches. The doctor then called back and advised all three divers to go to hospital. Other divers in the group recovered the equipment to the cars and the group departed the site approximately 1 hour after the instructor went onto oxygen. The oxygen ran out just before arrival at hospital 45 min later. At A&E all three divers were put on oxygen and were transferred to the nearest recompression chamber by helicopter. After assessment the instructor and the second diver were recompressed. The two divers were released from hospital the following day but the instructor received three further 2 hour treatments before being discharged home with the ache in his arm still persisting, although it had alleviated temporarily when in the chamber. The conclusion was that the ache was probably not due to DCI and may have been aggravated by carrying equipment including the oxygen cylinder.

April 2012 **12/062**

A diver conducted a dive to a maximum depth of 27m for a total duration of 43 min. On returning to the dive RHIB the diver began to exhibit signs of DCI and the Coastguard was contacted. The Coastguard tasked a rescue helicopter and the diver was subsequently airlifted to a recompression chamber where he received treatment. (Coastguard report).

April 2012**12/263**

Solent Coastguard received a VHF radio call from a dive boat requesting the evacuation of a diver with suspected DCI after missing 15 min of stops and complaining of a pain in his right shoulder. The skipper was immediately put in a medi-link call with the duty dive doctor, who recommended that the diver be airlifted to the nearest recompression facility. This was due to the nature of the diver's symptoms and the vessel being 20 miles from the nearest harbour at Poole and waiting to recover further divers. Maximum depth of dive 50m with bottom time of 25 min. Casualty wearing a rebreather and separated from his buddy at 24m. Buddy then sighted the casualty at 9m when he appeared to be unable to control his buoyancy and missed a planned stop at 6m. The buddy surfaced normally. The casualty's computer stated 15 min of missed stops. Shortly after surfacing he complained of pain in his right shoulder for which he was given oxygen. Location of incident: 18 nautical miles SSE of Durlston Head. (Coastguard report).

April 2012**12/266**

Portland Coastguard tasked Coastguard rescue helicopter R-106 to Dale Pembrokeshire to evacuate a diver showing symptoms of DCI. The 19 year old lady was flown to Poole where the landing site was manned by Poole coast rescue officers before being transferred to the recompression chamber by ambulance. (Coastguard report).

April 2012**12/229**

An instructor attended a club warm-up weekend. She carried out two shallow training dives on the first day of 4m for 24 min and 2 hours 30 min later to 3m for 18 min although more time was spent in the water doing weight checks and buoyancy adjustment than the total dive times. At the end of the first dive her student lost a fin and the instructor submerged briefly to recover it. On the next day the instructor was preparing to dive from a charter boat when her buddy's inflator hose failed and he decided not to dive and so the instructor joined another pair. Prior to the dive the instructor bent down to get her weightbelt when the boat moved in the swell and she hit her head on the bench. Although a little painful, the diver experienced no loss of consciousness or disorientation and continued to kit up. The instructor and her two buddies conducted an uneventful dive to 13m for a total of 30 min including a 3 min safety stop, although the diver did feel colder than the previous day. Following the dive the instructor decided not to do a further dive as she felt tired and wished to return home sooner. On returning home she felt exhausted and had to go to sleep immediately on getting home and slept for at least 1 hour. Over subsequent days the instructor felt increasingly worse with symptoms of disorientation, lack of concentration and blurred vision but put this down to the effects of concussion. She then started to feel facial numbness, predominantly on the right side of her face and tingling on her cheeks and lip. She attended her GP who suggested mild concussion and mask squeeze, although the diver discounted mask squeeze as there was no bruising and she hadn't felt any squeeze whilst diving. She also reported that she had experienced similar symptoms previously following diving and flying, which had resolved within a day or two. The following day there was no improvement and she attended a recompression chamber where she was assessed by a diving doctor and was diagnosed with static neurological DCI. As this was now three weeks after the onset of symptoms there was concern about the effectiveness of treatment but the diver was given recompression treatment for 4 hours 45 min with some resolution of symptoms. Three further treatments achieved some further small improvements. During treatment the instructor noticed her ears were sore and felt 'fluid' running down inside her right ear and was advised to consult an ENT specialist and have other tests. ENT tests showed no problems with ear clearing or hearing and she advised to make contact again should there be a reoccurrence. A subsequent dive

resulted in facial numbness symptoms again and further tests have been inconclusive as to cause.

April 2012**12/269**

Diver in difficulties, he came up too fast, pains and tingling. Breathing laboured. No divers in the water. No dive profile. Male, 47, no previous difficulties. 3 other divers onboard, 2 crew. Buddy is fine, same profile. Laboured breathing, dizziness and headache and pain in his extremities and tingling, he is sat down - no oxygen. (Coastguard report).

April 2012**12/082**

A diver conducted a series of dives over two days using air. Day 1; 18m for 45 min then 22m for 37 min after a 3 hour 49 min surface interval, then 9m for 31 min after a surface interval of 8 hours 18 min. Day 2; 31m for 28 min then 8m for 37 min after a 7 hour 59 min surface interval. Appropriate stops were made on all dives. During the last dive the diver felt tired and momentarily dizzy. After the last dive, back on shore, he again felt dizzy; his peripheral vision became blurred and he developed a pain behind his eyes. The diver had suffered migraine in the past (last attack two years earlier) and he thought that this was the cause. He consulted a doctor and took Ibuprofen. The following day he had reduced pain. He took more Ibuprofen, the pain was resolved but he did not feel fully fit. Later the following day the pain returned and the following day he attended a recompression facility. He received two sessions of recompression treatment. The diver's buddy suffered no ill effects. It remained unclear if this was DCI or not.

April 2012**12/270**

Clyde Coastguard was informed of a diver feeling unwell following a dive to 30m. The dive boat was met by an ambulance for onward transportation to a recompression chamber for treatment. (Coastguard report).

April 2012**12/073**

A student arrived at an inland dive site early in the morning. The weather was cold and it was raining on arrival and persisted throughout the day. The student waited almost 4 hours, standing in the rain, before entering the water. By this time the diver had become very cold. An assistant instructor demonstrated a stride entry. The student was seen to become distressed and she started to cry. But, on being asked by the supervising instructor, agreed she was well enough to continue. On entering the water, in a borrowed wetsuit, the diver felt shocked by the cold but confirmed again she wanted to continue and the groups descended and proceeded with the planned training exercises including a controlled buoyant lift and mask clearing. After the exercises, which had included one ascent to the surface, the lead instructor checked that the student group was comfortable. They all said that they were getting cold but agreed that they should continue with a swim to explore the quarry. The student reported that everything seemed normal even though it was exceptionally cold as she swam around. After a dive time of 23 min the student suddenly spotted what appeared to be her instructor sinking below her into the depths; she felt confused and worried but then suddenly arrived on the surface and realised that she had been ascending rather than the instructor descending. On surfacing the student felt shaken, dizzy and nauseous. She made her way back to shore and tried to exit the water but could not raise her foot onto the step. She told the instructors on the shore that she needed a minute or two to catch her breath and was subsequently able to get a grip on the steps and pull herself up. On getting out of the water the student removed her equipment and felt an urgent need to relieve herself. She made her way to the toilets and experienced a very painful bladder. In the toilet

she was unable to remove her wetsuit as she did not have the strength and she asked another person to help her remove it. Despite the pain she was initially unable to pass urine; a while later she was able to but with some pain. The student then rushed to the changing room to put on warm clothes as she was shaking with the cold. She experienced aches in her muscles and joints and her head was spinning. On returning to the group the student explained her symptoms and was advised to have a warm drink. The student became increasingly panicked, agitated and angry with people who tried to talk to her, which was uncharacteristic. She subsequently went to get a hot coffee but felt nauseous and went to be sick, vomiting for around 5 min. On returning to the group she was again checked and advised to take warm drinks. The student slowly improved and by the time the group left for home she had a headache and was still dizzy but the nausea and shakes had ceased. On the drive home the student told her driver how she was feeling and was advised to take a warm bath on returning home. On returning to the club equipment store the student carried her cylinder and equipment back into the basement whilst struggling to stand upright. Her head was spinning again and her eyes ached. She described her symptoms to an experienced diver in the group and was reassured that it was the effects of the cold and he was sure she would be alright and she went home. At home she took a hot bath and had some hot food and no longer felt nauseous but the dizziness was worsening especially after the bath. She went to bed and fell straight asleep but woke several times during the night with pounding headaches. The next morning she contacted a diving helpline and, after describing her symptoms, was advised to attend a hyperbaric unit for assessment. At the recompression chamber the student was assessed and found to have problems with the nerves of her left hand and right leg. She received a 4 hour 45 min recompression treatment after which her symptoms improved considerably. The diver received four further treatments of 1 hour 40 min over the next four days. A computer dive profile provided indicates that the diver dived to 4m for about 3 min and then surfaced. 1 min later the diver dived to 4m for about 14 min and then surfaced. 5 min later to a maximum depth of 14m with a rapid ascent back to the surface after a duration of 9 min.

May 2012 **12/178**
 The Coastguard was alerted to a female diver reported to be feeling unwell. The diver was transported to a recompression chamber where she received treatment (Media report only)

May 2012 **12/278**
 Stornoway Coastguard received a call from member of the public reporting diver with suspected DCI en route to Broadford hospital from Kyle of Lochalsh. Casualty subsequently transferred by Coastguard rescue helicopter R-100 to Dunstaffnage recompression facility. Oban Coastguard rescue team manned HLS at Dunstaffnage. (Coastguard report).

May 2012 **12/280**
 Clyde Coastguard received a call from ambulance control reporting a vessel with a diver with DCI coming into Crinan harbour. Contact was made with the vessel and advice was taken with the duty hyperbaric doctor at Aberdeen Royal Infirmary. The diver was to be transferred by ambulance to Lochgilphead landing site and then onto Lorne & the Islands hospital, Oban by Royal Navy helicopter R-177. Crinan, Tarbert and Oban Coastguard rescue teams prepared the landing sites and assisted with the casualty. (Coastguard report).

May 2012 **12/183**
 A diver was airlifted by helicopter from a charter boat after suffering from symptoms of DCI following a dive to 60m. After airlifting the diver the helicopter suffered mechanical problems and landed at its base. A second helicopter was tasked and the helicopter transferred the diver to a recompression chamber where he received treatment.

May 2012 **12/182**
 A diver was airlifted by helicopter from a charter boat after suffering from symptoms of DCI after a dive to 60m. The diver was flown to a recompression chamber where she received treatment.

June 2012 **12/281**
 Solent Coastguard coordinated the recovery of a diver from the Isle of Wight by Coastguard rescue helicopter R-104 to a recompression facility at Chichester for treatment, the diver had felt unwell at home following a dive to 35m and self admitted to A&E on the Island. (Coastguard report).

June 2012 **12/091**
 Two divers conducted a dive to a maximum depth of 27m. With 3 min of no stop time remaining one of the divers started to deploy a DSMB but the line became tangled on the reel. The other diver then deployed his DSMB. He set the reel to allow the line to run freely but then dropped the reel, which fell into the wreck. The diver pulled on the reel to recover it and wound up the line as they ascended. The delays caused them to require decompression stops. The diver who had dropped the reel was a little light on the ascent so the other diver gave him 1 kg of lead at 18m. Both divers began to experience problems with buoyancy control and they were carried directly to the surface missing 6 min of stops. Once out of the water they were placed on oxygen and the Coastguard was alerted. The divers were airlifted to a recompression facility where one was given recompression treatment because she exhibited an abnormal reaction to nerve stimulation.

June 2012 **12/105**
 A pair of divers conducted a wreck dive to a maximum depth of 40m using air. They made a controlled ascent with the following stops: 1 min at 22m, 1 min at 18m, 1 min at 15m, 1 min at 12m, 1 min at 9m, 4 min at 6m and 1 min at 4m. One of the pair switched to nitrox 36 for the 9m and 6m stops and then back to air before finally surfacing. 10 min later the diver who had used nitrox experienced a pain to his right side, under his rib cage. At first he thought this was a muscular strain but it persisted and he began to feel light-headed. He was offered oxygen but as the shore was close they continued back to land. He was assisted ashore, placed on oxygen and the Coastguard was alerted. An ambulance crew attended and the diver was airlifted to a recompression facility. He was diagnosed with a vestibular DCI and received a series of treatments over the following days. His condition continued to improve.

June 2012 **12/093**
 A diver conducted a series of dives over a three day period. On day two she dived to 17m for 38 min. 2 hours later she dived to 23m for 38 min. On the third day, after a 20 hour surface interval, she dived to 30m using nitrox 32. During this dive her minimum remaining no stop time was 2 min. She arrived back at 6m, with her buddy, after a dive duration of 36 min. They conducted a 5 min safety stop and then surfaced. At the surface they had to wait for about 10 min to be picked up because their boat was busy with other divers. Once back in the boat she got cramp in her leg whilst removing her drysuit. Some time later the diver developed short-term memory loss.

She was placed on oxygen, the Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. There was a suggestion that the diver may have suffered a mild stroke.

June 2012 **12/094**

A group of five divers undertook a 'dry dive' in a recompression chamber. They were taken to a simulated depth of 41m. Problems with ear clearing resulted in less time than planned at this depth. During the decompression phase, they breathed 100% oxygen for 9 min at 9m. Their total dive duration was 31 min. After the dive one of the party experienced a dull ache in his elbow but did not think it was related to the dive. The following morning he had a swelling in his neck and felt unwell. He contacted the hyperbaric facility and went to them for examination. He was diagnosed with a possible skin DCI and given recompression treatment. During an air break he began to fit. He was stabilized and returned to surface pressure. He was referred for a PFO test which proved positive. He was advised not to dive again.

June 2012 **12/287**

A 'Pan Pan' alert was received from a dive support vessel reporting they had a diver who had surfaced with symptoms of DCI, a medi-link call with the dive doctor was carried out and evacuation was recommended to a hyperbaric chamber. R-131 was tasked and because of the poor visibility at Hull the pilot decided he would be going to Aberdeen. The casualty refused any medical assistance or evacuation despite recommendation from the vessel skipper, dive doctor and the helicopter paramedic. (Coastguard report).

June 2012 **12/171**

The day after a dive using nitrox 32 without incident to a maximum depth of 30m for a total duration of 40 min including stops of 1 min at 13m and 3 min at 5m a diver reported feeling unwell and had a headache. The diver rang a diving doctor and she was advised to have recompression treatment as a precaution. The diver was recompressed for a total of 4 hours 45 min with relief of all symptoms.

June 2012 **12/181**

Two divers were airlifted by helicopter to a recompression chamber following a dive in a disused quarry. (Media report only).

June 2012 **12/104**

A pair of divers descended a reef to a depth of 35m. One of the pair was wearing a new drysuit. He familiarised himself with the drysuit controls during the descent and put air into his BCD once on the seabed. This diver was breathing air from a 12 lt cylinder and carried a 3 lt pony cylinder. After 25 min he signalled that he had 100 bar and, at a depth of 33m, they agreed to terminate the dive. Both divers deployed DSMBs and began their ascent. At this point the diver with the new drysuit had 12 min of stops indicated and 80 bar in his cylinder. He was a little buoyant and ascended quickly to 15m where he was able to regain control and his buddy caught up with him. At 6m his computer indicated 9 min of stops. He experienced difficulty controlling his buoyancy and his depth fluctuated between 4m and 8m. He became tangled in his DSMB line and his breathing rate increased as he and his buddy tried to free him. He grew agitated and was breathing heavily. With 6 min of decompression remaining his main cylinder was down to 20 bar; he changed to his pony cylinder. He started to float to the surface but managed to get back down to 6m. His pony cylinder was quickly consumed and he indicated to his buddy that he would need his buddy's alternative source. The buddy was using nitrox 28 and had completed his stops, but he only

had 40 bar remaining and the troubled diver still had 3 min of mandatory stops remaining. The buddy realised that they did not have enough gas and, not wanting to run out completely, indicated that they should surface. They made a slow controlled ascent to the surface. Once back in the boat the diver was placed on oxygen and the Coastguard was alerted. After about 15 min the diver developed a pain in his right elbow and right knee joints. Both divers were taken by lifeboat and ambulance to a recompression facility where the subject diver received recompression treatment.

June 2012 **12/127**

A diver was on his seventh dive of a week's diving. His previous two dives, the day before, were 14m for 33 min and then 5m for 15 min with a surface interval of 3 hours 8 min. The plan for the seventh dive was 20m for 30 min; the actual dive was 25m for 24 min. All dives were conducted using BSAC88 tables. After the dive, the diver felt cold and developed a headache. Later he declined a second dive and mentioned his headache. The diver was a little unresponsive and unsteady so he was placed on oxygen and taken to a medical facility. Diving medical advice was sought and the diver was airlifted to a recompression facility where he received two sessions of recompression therapy. He made a full recovery.

June 2012 **12/232**

Two divers made a rapid ascent and on surfacing made an emergency signal to their charter boat. The charter boat recovered the divers and placed both on oxygen and then made an emergency call for assistance to the Coastguard. The call was heard by divers in a RHIB nearby which had divers in the water and had witnessed the original distress signal. One of the crew onboard was a diving doctor and she offered her professional skills which were gratefully accepted and so she swam over the charter boat leaving her coxswain to recover their remaining divers. The doctor checked the two divers and found that one was very unwell whilst the other complained of severe leg/calf pain. The doctor provided medical care whilst the charter boat returned to harbour, leaving a last remaining pair to be recovered by the RHIB. The RHIB recovered its own divers and when the charter boat divers surfaced they recovered them as well, although initially the divers swam away from the RHIB until the situation was explained. At the harbour the ill divers were airlifted by helicopter tasked by the Coastguard and transferred to a recompression chamber for treatment. One of the divers required extensive recompression treatment for neurological DCI.

June 2012 **12/358**

A diver suffering from DCI was airlifted to a hyperbaric facility for treatment. (Media report only).

June 2012 **12/176**

A diver conducted two dives during a day acting as an assistant to an instructor conducting training. The first dive was to a maximum depth of 8m and 29 min duration and, after a surface interval of 22 min, the second to a maximum of 11m and 40 min duration. The diver used nitrox 26 for both dives and his dive computer was set for air. Early during the second dive the diver made an ascent from around 2m to the surface whilst staying close to one of the students. After the student had stabilised the dive proceeded under control to an area close to the first dive where a search was conducted for cue cards lost during the first dive. Although the diver had felt he was physically exerted the search continued to a maximum depth of 11m without finding the missing cards and the diver and his buddy made a slow ascent following the quarry bed back to the entry point and they conducted a safety stop at 5m for 3 min. After surfacing and a debrief the group left the site to return home. During the drive

home the diver began to experience stiff joints and aches in his upper body and the symptoms became progressively worse during the drive home. Once at home the diver contacted a recompression chamber and he was advised to attend for assessment as a precaution. Following examination the diver was diagnosed as suffering from DCI and was recompressed.

June 2012 12/291

The Yorkshire air ambulance transferred a male suffering a diving sickness related illness to the Hull hyperbaric unit after being landed by a dive boat. Units and resources had been tasked without MRCC Humber involvement. (Coastguard report).

July 2012 12/206

Two divers were paired with two experienced divers for a depth progression dive to a maximum depth of 35m. Towards the end of the dive, the dive leader realised that the group had overrun their time due to poor visibility and had started to go into required decompression stops. One of the divers was identified as not having sufficient gas to allow the planned return along the shore to their start point. The dive leader deployed a DSMB to enable a controlled ascent. The diver who had insufficient gas now indicated he was getting low and his buddy offered him his alternate source; this was declined and the diver started to ascend the DSMB line. At a depth of 22m the diver's contents was down to 30 bar and the diver panicked and started to ascend too quickly and lost sight of his buddy. The diver surfaced without completing any stops and made his way to shore. When the other three divers surfaced the diver was already being attended to by the on site staff and was being given oxygen. The diver attended a recompression chamber the following day and received a precautionary recompression treatment. The diver has since had a check up and been cleared to dive.

July 2012 12/143

A pair of divers conducted a 42 min dive to 21m with a 3 min stop at 6m. 2 hours later they dived to 21m for 36 min with a 3 min stop at 6m. Once out of the water one of the pair developed an abnormal feeling in his legs, 'pins and needles' and a pain in his stomach. He felt very unsteady. This diver suffered from arthritis in his right hip joint but had never had 'pins and needles' before. He was placed on oxygen and diving medical advice was sought. The 'pins and needles' subsided. The diver was taken to a recompression facility for assessment.

July 2012 12/108

Stornoway Coastguard received a call from a dive support vessel requesting assistance for diver displaying symptoms of DCI. R-100, Muck CRT and Oban CRT were tasked to assist. R-100 airlifted casualty to Oban hospital. (Coastguard report).

July 2012 12/141

A diver completed a 37 min dive to a maximum depth of 32m. After the dive he started feeling dizzy and then he fell over. He developed a pain in his left arm, which started to subside when he was placed on oxygen. He was taken by ambulance to hospital.

July 2012 12/295

Swansea Coastguard tasked Coastguard rescue helicopter R-106 to transfer a diver with suspected DCI from the National Dive and Activity Centre in Chepstow to Poole general hospital for treatment. Cardiff sector manager and Chepstow Coastguard rescue team were also tasked to secure the helicopter landing site. (Coastguard report).

July 2012 12/227

A diver and his buddy completed a dive without incident to a maximum depth of 25m and a total duration of 46 min with a 1 min stop at 6m. Approximately 4 hours after the dive the diver went to work and then started to experience a slight pain in his knees and a tingling sensation around his face. The diver contacted his buddy for advice regarding the symptoms and was advised to call a duty doctor at a recompression chamber who suggested that he attend for further examination. The examination was inconclusive but the diver was advised to undergo a precautionary recompression treatment for 4 hours. The diver had this recompression treatment and was discharged home the following day. His buddy did not experience any symptoms. The diver had suffered a serious head injury some months previously that had resulted in being unconscious for approximately 4 hours but had been advised at A&E that it should not prevent him diving. The diver has sought further medical advice and been advised not to dive for nine months.

July 2012 12/192

Swansea Coastguard tasked Coastguard rescue helicopter R-104 to transport two divers from Chepstow to Derriford DDRCC, Plymouth. (Coastguard report).

July 2012 12/301

Portland Coastguard arranged for medical advice to be given by Poole recompression chamber to a diver who was reporting possible DCI symptoms having dived off Weymouth the previous day. At the request of the dive chamber the diver was taken by friends to the dive chamber for further investigation. (Coastguard report).

July 2012 12/305

Holyhead Coastguard received a call from Dorothea quarry North Wales reporting a diver who was experiencing possible signs of DCI following a dive to 105m. The diver was on 100% oxygen, had completed all stops and had been out water 30min, after 22min he was given fluids, the pain was relieving. Holyhead Coastguard arranged the evacuation of the casualty using RAF Valley rescue helicopter R-122; the aircraft was met at Murrayfield hospital. The aircraft flew low level and was met by Hoylelake mobile at the landing site. (Coastguard report).

July 2012 12/308

Humber Coastguard tasked rescue helicopter R-128 to transfer a male who was showing signs of DCI from Whitby to Hull hyperbaric chamber. Coastguards were tasked to attend and also ambulance. The casualty had treatment in hyperbaric chamber and was kept in overnight. (Coastguard report).

August 2012 12/135

Two divers conducted a dive to a wreck at a maximum depth of 42m using nitrox 28. During the dive, one of the pair became uneasy and they ascended the shotline early. At 12m they switched to their decompression gases; one using nitrox 50 and the other nitrox 72. The diver on nitrox 72 was about 2m above his buddy when he became aware of an abnormal amount of bubbles coming from his buddy. He was preparing to switch back to his dive gas to go to the buddy's assistance when the buddy rushed past him, pulling himself up the shotline. The buddy went directly to the surface while the diver on nitrox 72 completed his 5 min stop. The troubled diver was recovered into the boat and placed on oxygen. He said that he felt unwell and complained of stomach pain. The Coastguard was alerted and a lifeboat launched to assist. The troubled diver was taken by lifeboat, ambulance and helicopter to a recompression facility where he was treated for DCI.

August 2012 12/137

Following an air dive to a maximum depth of 30m, two divers ascended to 15m where a 1 min stop was planned. At this point one of the pair lost control of his buoyancy and despite he and his buddy attempting to dump air from his drysuit and his BCD, they were both carried to the surface. Their dive duration was 24 min and they missed 3 min of stops at 6m. Both divers were placed on oxygen. The buoyant diver then developed 'pins and needles' in his left hand and the Coastguard was alerted. The other diver had no symptoms and switched to nitrox 50. They were taken by ambulance and helicopter to a recompression facility where they both received treatment and were then discharged later that day.

August 2012 12/311

Following a 21m dive with duration of 42 min the diver did not go into deco during the dive and completed a 3 min 6m stop, as a precaution, diving on air. The dive seemed to go to plan only, once on deck, approx 15min later, the diver started getting symptoms. The casualty was transferred to St Richards's hospital Chichester by Coastguard rescue helicopter R-106. (Coastguard report).

August 2012 12/146

Two divers were at a depth of 18m when one of the pair panicked and rushed for the surface. His buddy attempted to slow the ascent. The panicked diver spat out his regulator at 16m. The buddy replaced and purged the regulator. On surfacing the alarm was raised and a number of divers at the site responded and recovered the diver from the water. On examination the diver was found to have no signs of breathing and his airway was obstructed with water and frothy mucus. The diver was recovered from the water and turned on his side to drain the fluid. He was found to be unresponsive to voice and pain but had a strong carotid pulse. Following further efforts to clear the airway the diver started breathing again and as the onsite rescue team arrived the diver was placed on oxygen. He was unresponsive for about 6 min. He was breathing and had a strong pulse but he was very grey. He slowly recovered after 20 min on oxygen. An air ambulance attended and the diver was taken by ambulance to hospital. He received hyperbaric treatment the following day.

August 2012 12/224

A diver conducted a dive to a maximum depth of 37m for a total duration of 36 min including stops at 6m for 6 min, using nitrox 26 for the dive and nitrox 29 for the stops. Approximately 45 min after surfacing the diver noticed an itching sensation across the top of his back and a red rash extending down his right arm. Suspecting a skin DCI the diver started breathing oxygen whilst lying down and taking fluids. After approximately 40 min on oxygen the rash cleared noticeably and no other symptoms became apparent. An ambulance attended the scene approximately 1 hour after starting oxygen but the crew were unfamiliar with DCI and conducted basic checks and gave the all clear.

August 2012 12/149

Two divers were at a depth of 25m when one of them became low on air and panicked. His buddy offered his octopus regulator. They made a rapid ascent to the surface. Their dive duration was 25 min. Once back in the boat the divers exhibited symptoms of DCI and the Coastguard was alerted. The divers were airlifted to a recompression facility for treatment.

August 2012 12/195

A diver was pulled rapidly to the surface when his SMB line was

snagged by a boat. The diver was recovered by his dive boat and then transferred to a lifeboat which had been launched. He was taken back to shore where he was transferred by ambulance to a recompression chamber. (Media report only).

August 2012 12/160

A diver conducted a series of four no stop dives over a two day period. On the first day his dives were: 25m for 41 min and 21m for 42 min with a 1 hour 53 min surface interval. On the second day his dives were 23m for 42 min and 24m for 37 min after a 2 hour surface interval. He was diving with air. On the third dive an issue with his buddy's buoyancy caused him to miss a safety stop. Once back in the boat the diver noticed a pain in his right bicep. Initially he thought that this was due to a muscle strain which occurred whilst using the diver lift. Some hours later the pain moved to the diver's shoulder. He was placed on oxygen, diving medical advice was sought and he attended a hospital. Various tests were conducted and advice was given for the diver to attend a recompression chamber. On the way the pain in his bicep became intense. He was given recompression treatment and this dramatically reduced the pain. After the treatment the pain had gone. He subsequently experienced 'pins and needles' across his chest but this condition resolved after a few days.

August 2012 12/196

Holyhead Coastguard received a call requesting assistance for a diver with suspected DCI at Dorothea quarry. His dive buddy had become nauseous and started to vomit approximately 1.5 hours after they had surfaced from a 61m dive. North Wales police were alerted to the incident by MRCC Holyhead as this location is classed as inland water; it was agreed that MRCC Holyhead would co-ordinate this incident for the rescue of the diver. North Wales ambulance service was contacted for the request of the air ambulance but this unit was tasked to a separate incident and was not able to assist. ARCC were contacted to request the use of rescue helicopter R-122 from RAF Valley, this was tasked with immediate effect with an ETA on scene of 10 min. Llandwrog Coastguard rescue team were tasked to assist with on scene communications at the quarry and to monitor the helicopter landing site. The casualty was assessed on scene by the helicopter crew and airlifted to Murrayfield hospital hyperbaric chamber. Hoylake Coastguard rescue team were tasked to Murrayfield hospital to assist the helicopter crew with the casualty and to monitor the helicopter landing site. The casualty arrived at Murrayfield hospital for treatment.

August 2012 12/325

Shetland Coastguard was alerted to a dive support vessel coming into Stromness with a diver suffering from suspected DCI, the skipper felt that it would be quickest to just run them to the chamber in own car, Shetland Coastguard arranged for the chamber to be alerted. (Coastguard report).

August 2012 12/169

Three divers conducted a dive to a maximum depth of 15m. After 85 min they reached a depth of 6m. After 94 min they ascended to 4m and then surfaced very slowly. Their total dive duration was 101 min. During the dive their computers indicated that their minimum remaining no stop time was 35 min. One of the divers then felt lethargic for the next two days but put this down to exercise and participation in another energetic sport. On the third day his condition had deteriorated and he had difficulty focusing his eyes and his concentration was lacking. He sought diving medical advice and was advised to attend a recompression facility. DCI was diagnosed and the diver was given two sessions of recompression treatment. Fatigue and dehydration were cited as exacerbating factors

although the divers had taken care to drink what they felt to be adequate fluids.

August 2012 12/326

A dive vessel contacted MRCC Solent on VHF ch 67 stating that one male diver had reported 'pins & needles' in his hands after making a routine drift dive to 14m and successful completion of decompression stops before surfacing. A medi-link call was arranged between the duty dive medical officer and the dive vessel, after extensive questioning the duty dive doctor deciding that the casualty needed to be airlifted to the nearest hyperbaric chamber. The dive buddy was not required this time. Coastguard rescue helicopter R-104 was tasked. St Richards, which was the nearest chamber, landing site was manned by Selsey Coastguard and Portsmouth sector manager, who was in the area, was diverted and manned the landing site. South east coast ambulance service was tasked to the landing site. (Coastguard report).

September 2012 12/151

A diver completed a 37 min dive to a maximum depth of 22m with a 3 min stop at 6m. Shortly after surfacing he developed an ache in his shoulder, 'pins and needles' and started to feel dizzy. He was placed on oxygen and his condition improved. The Coastguard was alerted and the diver was airlifted to a recompression facility. He was diagnosed with a severe spinal DCI and needed several sessions of recompression. This diver normally dived using nitrox but, on this occasion, he used air. During the dive he had been swimming hard against a current. The diver had had a DCI two years earlier, again using air.

September 2012 12/329

Belfast Coastguard was informed of a diver with suspected skin DCI, information only call to inform us of a diver being transported to Craigavon dive chamber with a case of suspected skin DCI. No assistance required from Coastguards. (Coastguard report).

September 2012 12/197

A diver became unwell after a dive to 65m. The diver was taken to a recompression chamber for treatment. (Media report only).

September 2012 12/330

Solent Coastguard received a 'Pan Pan' alert from a dive vessel on VHF ch16 stating that one male diver had just completed a dive to 56m and was showing signs of DCI. The casualty had a pain on his left side, initially thought it could have been caused by his diving cylinder hitting his side during his dive. His condition deteriorated and he was put on pure oxygen by the dive boat skipper. Throughout the dive nothing untoward had happened and all stops had been undertaken, his dive buddy with the same dive profile was fit and well. A medi-link call was arranged between the duty dive medical officer and the dive boat; after extensive questioning the duty dive doctor decided that the casualty needed to be airlifted to the nearest hyperbaric chamber. The dive buddy was not required this time. Rescue helicopter R-104 was tasked to take the casualty to St Richards, which was the nearest chamber, landing site was manned by Selsey Coastguard and south east coast ambulance service were tasked to the landing site, evacuation was undertaken with the casualty. (Coastguard report).

September 2012 12/331

A dive support vessel called Shetland Coastguard reporting they had a diver aboard suffering from suspected DCI. The diver was taken to Balfour hospital for treatment. (Coastguard report).

September 2012 12/231

A diver had conducted two dives to 25m and 15m both within computer limits. During the dives the diver's buddy had experienced some problems with his buoyancy which resulted in some 'up and down' during the ascents. Following the first dive the diver noticed that he was dehydrated and drank lots of water. Following the second dive, after 1 hour 30 min, the diver felt a tingling in his hands and numbness in his fingers. The diver helpline was contacted and oxygen was administered. By the time an ambulance arrived the diver felt fine but was advised not to drive and was taken by ambulance to a recompression chamber where he received recompression treatment for suspected DCI.

September 2012 12/164

Three divers conducted a 31 min dive to 31m. After a surface interval of 2 hours 45 min they dived to 20m for 57 min with a 6 min stop at 6m. The following day they dived to 25m for 40 min with a 6 min stop at 6m. Some time later, back on shore, one of the divers noticed 'pins and needles' in his left thigh. This sensation then spread down to his knee and calf muscle. He was placed on oxygen and given fluids to drink. Diving medical advice was sought, the Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. A second diver also experienced 'pins and needles' and a feeling of coldness in his left foot and ankle, but these symptoms receded and he took no action. The third diver experienced 'pins and needles' in his left leg whilst driving home, but put this down to the drive. The following day the symptoms had returned and increased in both divers. They both sought diving medical advice and received recompression treatment. The 'pins and needles' remained for one of the three but resolved five days later.

September 2012 12/337

Brixham and Portland Coastguard assisted in a medical transfer by R-193 of two divers from Frenchay Bristol to DDRC for treatment. No further details of where incident occurred are available. (Coastguard report).

September 2012 12/200

Shetland Coastguard was alerted by a dive support vessel of a diver suffering from suspected DCI, symptoms included numbness in both legs. The diver was conscious. Shetland Coastguard tasked Kirkwall lifeboat which recovered the diver and was met by an ambulance. The casualty was taken, by ambulance, to Balfour hospital for treatment. (Coastguard report).

September 2012 12/338

Shetland Coastguard was made aware of two divers being transferred to hyperbaric chamber for treatment. (Coastguard report).

September 2012 12/377

A diver completed a 58 min dive to a maximum depth of 34m. She completed all necessary stops plus a 3 min safety stop at 6m. She switched from nitrox 30 to nitrox 44 at 21m during the ascent. After the dive she noticed an itchiness across her stomach and right breast. She put this down to irritation from her undersuit and took an antihistamine tablet. After a 2 hour 40 min surface interval she conducted a dive to 25m for 48 min including a 3 min safety stop at 6m. After this dive her abdomen and right breast became very painful; it felt like bruising. She began to feel unwell and was placed on oxygen; this alleviated the pain. The Coastguard was alerted and the diver was returned to shore. She was taken by ambulance to a recompression facility. The affected areas were now exhibiting

a dark purple rash and swelling. She was diagnosed with a skin and mild lymphatic DCI and given recompression therapy. The following day the symptoms had reappeared and she received further recompression treatment. The condition slowly resolved over the next few days. She was advised to seek examination for a PFO. Her buddy was unaffected.

September 2012

12/342

Clyde Coastguard received a call from a dive support vessel reporting a diver onboard having made a rapid ascent following a dive on the wreck of the Shuna 5 miles N/W Lochaline, the diver was showing signs and symptoms of DCI, all divers were back onboard and the vessel was heading towards Oban, a medical link call was established with a diving doctor at ARI, the vessel was met by Oban Coastguard and an ambulance, the casualty was transferred to Lorn & the Isles hospital for observation. (Coastguard report).

Injury / Illness

October 2011

12/359

Casualty was at 3m depth for less than a minute practicing partial mask flood before making a controlled ascent with the instructor. After 10 seconds at the surface she lost consciousness. She was towed to shore and regained consciousness 13min after exiting. Given oxygen, two doctors present provided first aid, an ambulance was called and she was taken to Peterborough hospital. Diagnosis unknown.

support vessel reporting one of their divers suffering from a perforated eardrum, the casualty made a normal ascent with assistance from the buddy diver, once the vessel had recovered the remaining divers they returned to its home port of Mylor near Falmouth where it was met by an ambulance, the casualty was assessed by a paramedic and taken to Royal Cornwall Hospital Treリスケ for treatment. (Coastguard report).

October 2011

12/237

Stornoway Coastguard received a 'Mayday' from a dive RHIB reporting a diver in difficulty after ascent from the wreck of the Port Napier, Kyle of Lochalsh. Coastguard helicopter rescue 100, Kyle of Lochalsh RNLI lifeboat and Kyle Coastguard rescue team tasked. Casualty taken from RHIB by Kyle lifeboat and transferred to ambulance for transfer to hospital on advice from Aberdeen Royal Infirmary. (Coastguard & RNLI reports).

January 2012

12/048

A diver was entering the water using a giant stride entry when his cylinder caught on the side causing the regulator first stage to strike the diver on the back of the head. The diver was recovered from the water and checked over for signs of concussion and monitored over time.

October 2011

12/241

Shetland Coastguard was alerted to a diver who had suffered a broken wrist having fallen on deck, the vessel was heading into Houton to meet an ambulance for onward transportation to Balfour for treatment. (Coastguard report).

February 2012

12/040

A diver conducted a dive to a maximum depth of 21m for a total duration of 36 min. During his ascent at the end of the dive the diver lost control of his buoyancy at a depth of 9m and made an ascent direct to the surface. The diver's computer did not show any alarms and initially the diver did not display any signs or symptoms of DCI. After de-kitting the diver said that he did not feel well and then he collapsed. The diver was caught by others and laid down as he was barely conscious; the alarm was raised. The on site safety team attended and oxygen was administered as a precaution. After a few minutes the diver came round and remained on oxygen for 15 min. The diver was subsequently found to have been wearing an additional undersuit but had not adjusted his weights. The diver was also found to have worked 12 hour shifts for the preceding three weeks and had finished work at 3am the night before, had had two hours sleep and then driven 200 miles to the dive site.

October 2011

12/360

Casualty was practicing snorkel regulator exchange at the surface when she aspirated water and went into panic. She was towed to shore and given oxygen and her inhaler. Her asthma had been declared on her medical and she had been cleared as fit to dive by a doctor.

February 2012

12/044

A trainee diver had previously conducted a try dive. On the evening of the incident he had completed a swimming test without difficulty and was being instructed in equipment assembly when he complained of feeling breathless and asked to sit down. The trainee began to feel faint and was attended by a doctor who was a club member and the pool lifeguard was requested to get him a drink from the vending machine whilst the doctor took a history. The trainee recovered quickly as he started to drink, his colour improved and the doctor decided he had felt faint due to lack of food taken during the day. The trainee was not allowed to train further that day and he was advised on the importance of eating properly before exercise.

October 2011

12/024

A diver on a training course with a rebreather had conducted a dive the previous day to a maximum depth of 10m for a total duration of 31 min. On the second day the diver and his instructor were conducting a dive to a maximum depth of 32m and had been in the water for 82 min when the diver became unresponsive at a depth of 12m. The diver was raised to the surface and the alarm raised. A rescue boat came alongside to find the diver was not breathing and had his head underwater. The diver was de-kitted and landed into the rescue boat, his airway cleared and CPR was started. Two people administered CPR with oxygen enriched rescue breaths and the diver began breathing again after 5 to 6 min. Air ambulance crew took over after 8 min and the diver was airlifted to hospital. The diver was reported to be diabetic requiring to monitor his blood sugar levels.

March 2012

12/043

A pair of divers were walking with their equipment to the water's edge at an inland site when one of them spotted a diver in the water who did not look well. He asked the diver if he was alright but got no response; the diver then slumped in the water. The diver dropped his own equipment and jumped into the water and tried to support the now unconscious diver and struggled to remove the diver's rebreather harness and had to use his line cutter to cut him out. Another diver entered the water and tried to give rescue breaths but was unable to and said there must be a blockage. The diver was recovered from the water and CPR was started. The unconscious diver had yellow froth around his mouth and nose that was being pumped out with each compression. An oxygen kit was provided and one of the rescuers took the pocket mask from the kit and started giving rescue breaths but had difficulty confirming that the chest was rising. After a period of time the diver appeared to be making

November 2011

12/246

Stornoway Coastguard was informed by a dive support vessel of a diver who had completed two dives and was complaining of headaches and had blood stained sputum. The vessel was alongside and the casualty was being administered oxygen. A medical link call was established, the doctor advised it was most likely to be trauma rather than dive related, a friend of the casualty took the diver by car to Uist and Barra hospital to be examined. Stornoway Coastguard tasked both an ambulance and Benbecula CRT to obtain details and check that the casualty had got to hospital safely. (Coastguard report).

December 2011

12/249

MRCC Falmouth were contacted on VHF channel 16 by a dive

efforts to breathe and so chest compressions and rescue breaths were halted and the diver was given oxygen from a demand mask which was purged to assist breathing effort. The diver's suit was cut open from the neck to the navel to reduce restrictions. An ambulance arrived and transported the diver to hospital where he was kept in over the next two nights and was due for further tests on the third day. The diver was reported to have been pulled out of the water at the same site with breathing difficulties some five months previously.

March 2012**12/215**

Three divers entered the water for a shore dive from a shallow beach. The three swam out on the surface using snorkels and found the visibility to be poor at around 1.5m and so swam out further on the surface until the visibility improved to around 2m approximately 100m from shore. The group descended and stayed at a depth of 5m for a few minutes before one of the divers noticed a slight swell. As the diver was susceptible to seasickness she began to feel queasy. After 15 min the group changed direction and reached a maximum depth of 11m. Approximately 19 min into the dive the group decided that the visibility was too poor and thus they would return to shore. As they turned the diver who felt seasick knew she was going to be sick and signalled to ascend. The three started to ascend and, at around 6m, one of the others in the group ascended quicker than the other two. On surfacing they asked if the diver who had ascended quickly was alright but she was already heading back to shore and said she was fine. As they were swimming back the seasick diver was sick, which she attributed to the effect of the swell and the salami sandwich she had for lunch. Total dive time was 23 min.

March 2012**12/069**

An instructor and two students entered a swimming pool for a training dive with both students using new equipment. One of the students was of a very slight frame and had previously been using a child size BCD with a 7 lt cylinder. She was using a wing style BCD that had been bought second hand and had a 10 lt cylinder fitted. The group checked their weighting and descended to the bottom of the pool at a depth of 4m. All signalled OK and then the instructor demonstrated a fin pivot and asked the student to mimic this. The student indicated that she wasn't happy and pointed to her forehead. The instructor presumed this was a sinus problem and led the group up to a depth of around 2m and settled there. On checking, the student appeared uncomfortable in her BCD and had risen slightly. She then flipped forward forcefully to try and adjust the BCD and to descend to the other pair. The student's cylinder flew up her back and the regulator first stage struck the student on the back of her head knocking her unconscious. The instructor responded immediately and raised the diver up to the surface using a controlled buoyant lift and the second student followed them up. The student was recovered to the side of the pool and lifted from the water. Her equipment was removed whilst the instructor secured the second student on the surface. The student recovered consciousness shortly after being recovered from the water and was placed in the recovery position by the pool lifeguards. The student was upset and embarrassed and suffering slight vision problems. An ambulance was called and the student was taken to hospital where she was checked out and discharged a few hours later. Inspection of the BCD confirmed a fair degree of movement between the tank and jacket and the jacket was a little large for the student. The problem has since been rectified by wearing additional clothes and adding releasable crotch straps.

March 2012**12/074**

A group of three divers conducted an uneventful dive to a maximum depth of 17m and a total duration of 43 min including a safety stop of 3 min at 6m. After exiting the water one of the

divers complained of feeling unwell, lightheaded and nauseous. The diver was laid down and given oxygen via a non-rebreather mask. The diver experienced an improvement in symptoms although admitting to not feeling 100%. Planned further dives that day were aborted.

April 2012**12/234**

Ten days after the incident in report 12/233 an instructor conducted an uneventful dive to a maximum depth of 23m for a total of 22 min. The instructor had deployed a DSMB after 10 min and the pair had planned practice safety stops at 12m for 1 min, 9m for 1 min and completed a 3 min safety stop at 6m. After agreeing to ascend the pair started to swim upwards but, after two turns of the reel the instructor became disorientated, felt nauseous and suffered spinning vertigo. She began retching through her regulator and vomited a small amount of phlegm. The instructor managed to surface slowly and then vomited once on the surface. Her buddy asked what the problem was and once she explained he took hold of her and turned her to face the approaching RHIB. The diver was assisted to de-kit and recovered into the boat and, although the diver felt sick, the boat handler seemed only concerned with handing over control of the boat so he could go diving. The instructor reluctantly took the helm and deployed divers. The instructor's buddy took over the boat for practice whilst divers were in the water then the instructor took control again for the diver recovery. On returning to shore the instructor declined to go out on the boat again and went to her car and slept for around an hour. She continued to feel nauseous and off balance for approximately 2 hours 30 min before the symptoms subsided. Oxygen was not provided. The next day on the return journey home crossing a high moor the instructor cleared her ears and again became dizzy and off balance with symptoms lasting around 30 min. Two days later the instructor became dizzy and off balance on getting out of bed in the morning and visited her GP the next day who referred her to an ENT specialist. Whilst waiting for an appointment the instructor continued to experience episodes of dizziness and nausea every three to four days for an eight week period. She was diagnosed with a traumatic perilymphatic fistula of the right ear almost certainly caused by the ascent in 12/233. The instructor was referred for an operation to close the fistula in order to allow her to fly and dive again. She had the operation and was awaiting a three month post surgery final test for clearance to resume diving.

April 2012**12/068**

A pair of divers entered the water for a planned dive to a maximum depth of 25m. The pair descended and one of the divers' mask kept flooding and he had to keep clearing it. The pair reached a depth of 26m and the diver continued to clear his mask; the buddy swam towards a gully taking photographs. After around 15 min the diver felt himself ascending so he dumped gas and settled onto some rocks and managed to clear his mask. He checked his computer which showed a depth of 23m. The diver felt he couldn't breathe, could not see his buddy and felt disorientated, visibility was reported to be around 6m. His buddy reappeared and asked if he was OK to which the diver indicated he wasn't and signalled his difficulty breathing. The buddy held onto the diver and the pair continued the dive. After 22 min the pair decided to ascend and the diver assisted his buddy to deploy a DSMB. The pair ascended to 6m and completed a safety stop for 3 min although the diver was still having difficulty breathing. Once the pair surfaced the diver removed his regulator but still found he could not breathe easily. The cover RHIB came alongside and at that point the diver swallowed some seawater. The diver managed to climb into the RHIB, drank some fresh water and was sick almost straight away. Other divers surfaced and were recovered and two of them began to assemble the oxygen kit but discovered it was empty. The diver was returned to shore and given nitrox 40 to breathe from one of the divers on the shore. The diver was

advised to go to hospital to be checked over. On route to hospital the diver lost some use of his legs. On arrival at hospital the diver was admitted and given oxygen and given a series of tests including ECG, blood tests and a chest x-ray. The diver was then transferred to another hospital for observation and further tests. The diver was discharged the following day and felt lethargic and had no energy for the following week.

April 2012

12/202

A student diver on a training dive experienced pain in both ears at 3m during descent and again at 6m whilst static on a platform; he was able to equalise on both occasions. The student conducted a number of skills. The dive was terminated after maximum dive time of 15 min due to buoyancy problems. On ascent the student could hear his ears 'bubbling' but experienced no further pain. On the surface the student noticed his hearing had been affected, he could hear others clearly but his own voice sounded dull and muffled. The student had planned two further dives that day but decided not to. He visited his doctor the following day who diagnosed ear barotrauma.

April 2012

12/092

A trainee was involved in alternative source training at a maximum depth of 8m. She completed three controlled ascents. During the dive her mask kept flooding and she had to continually clear it. During the final ascent the trainee was the recipient and she became breathless and panicked a little at the start. After the third ascent they descended once more to continue with the dive. At the bottom the trainee felt pain in her ears and then began to feel dizzy and to experience visual disturbances. She then felt nauseous and had a strong pain in her head. She began shaking and breathing rapidly. She signalled to abort the dive. The diver was wearing a semi-dry suit and was cold. Once back in the boat she was given a warm drink and then stated that she felt dizzy and unwell. She was placed on oxygen. She was taken to the shore, the Coastguard was alerted and diving medical advice was sought. She felt 'pins and needles' in her feet and fingers and felt very tired. The diver was moved into a sheltered area and changed into dry clothing. The diver was airlifted to a recompression facility but no treatment was needed.

April 2012

12/075

A pair of divers conducted four dives in a day of 29m for 47 min, 23m for 44 min, 21m for 39 min & 8m for 29 min with around 2 hours surface interval between dives and all safety stops advised by computers followed. Approximately 3 min after surfacing from the final dive, one of the divers experienced numbness and tingling in his right calf muscle and mild aches in the joints of his fingers in both hands. During the final dive the diver had experienced cramp in the same right calf muscle, which had been relieved by stretching. The diver also had a history of juvenile rheumatoid arthritis, which he had not received treatment for in around 12 years but which infrequently caused him to experience mild joint pain without any clear trigger. After explaining his symptoms the diver was placed on oxygen and a diving doctor was called for advice which was to attend the nearest A&E to be checked out by a physician. The diver remained on oxygen during transport to hospital and after assessment the diver was discharged after 90 min. The diver was advised to seek screening for a PFO.

April 2012

12/218

A group of three divers, a dive leader, a trainee and a sports diver, entered the water from the shore for an evening dive with no training involved. The group descended to a maximum depth of 15m. After 10 min the dive leader became disorientated and was unable to focus on his compass. As the silt was becoming disturbed the leader signalled for the group to surface to regain

their bearings and the three made a controlled ascent to the surface. On the surface the trainee had a small amount of blood coming from his nose and the leader remarked on this but was told it was normal. He asked both divers if they were happy to continue and they agreed. During the descent the trainee experienced a sharp uncomfortable pain in his ear. At this point the trainee was seen to dump all his air from his BCD and sink rapidly. At the same time he managed to clear his ears and the pain disappeared. The party regrouped on the bottom, exchanged OK signals and continued with the dive. They surfaced after a total dive time of 30 min. After surfacing the trainee noticed a 'squelching' in his right ear and there was a muffled ringing noise. The trainee held his ear and when the dive leader noticed this he asked what the problem was and, after establishing what the trainee was experiencing, advised him to contact his own doctor and a diving doctor.

May 2012

12/367

An instructor and an assistant took two students on the deep dive. The casualty first needed extra weight to descend, then felt discomfort during the descent but managed to equalise down to the bottom. During the ascent, the instructor helped the casualty to adjust his buoyancy at which time both dropped by 4m before resuming ascent. The casualty tried to equalise his ears during the ascent, the instructor signalled him not to. At the surface, the casualty reported that his ears 'felt funny'. Over the next 2 hours there was some improvement. Suspected burst ear drum.

May 2012

12/213

A diver on an instructor training course was entering the water down a series of steps constructed from gravel retained behind railway sleepers. On one of the steps the gravel had been washed out leaving a large hole in the step. The diver's right foot and complete fin went into the hole and she fell and bruised her lower right leg. The dive was aborted and first aid was provided but no hospital treatment was required. The entry point was closed and remedial work was undertaken.

May 2012

12/344

Diver experiencing medical problem, second diver missing. (Coastguard report).

May 2012

12/368

The instructor sent a buddy pair away to complete a navigation skill. One of the buddy pair returned alone looking concerned. The diver signalled that he had lost his buddy who had ascended on his own. The instructor ended the dive and began an ascent with the group. At 15m they could see the missing diver on the shotline. They joined the missing diver and asked if he was alright. He signalled that he had a problem with his wrist and a free flow had left him low on air. They made a 3 min safety stop and following this the diver still had a problem with his wrist. The instructor provided an alternate source and extended the safety stop for a further number of minutes. (19 min total). Their maximum depth was 35m. On the surface the diver explained that he had had a free flow and thought that he had ascended too quickly. He complained of a tingling wrist so first aid and oxygen was administered. They used a full cylinder of oxygen but the diver still experienced tingling and was shivering so they called the emergency services. The diver was taken to the hospital for further assessment but did not require treatment.

June 2012

12/283

Dive vessel brought an injured diver ashore after a twin air set had toppled onto his foot possibly breaking a metatarsal. The vessel arranged an ambulance for the casualty, no Coastguard involvement. (Coastguard report).

June 2012**12/126**

Two instructors and two trainees were engaged in an exercise to practice ascents using alternative sources from a depth of 6m. The first ascent involved one of the trainees as the recipient. After this they descended again. Once back on the seabed this trainee felt dizzy and had spinning sensations. She felt sleepy and disorientated and was unresponsive to signals. One of the instructors brought her to the surface and she was towed to the shore. Once ashore she quickly recovered. No subsequent ill effects were experienced. Underwater visibility had been low and there had been water movement as a result of swell.

June 2012**12/369**

The casualty was the instructor on an open water course with one student. He had his student complete a mask skill during which the student panicked and made for the surface. The instructor slowed his ascent but still exceeded the recommended limit. After this ascent, they dropped down again for a couple more skills, then the student exited the water and instructor helped out another instructor with their student for underwater skills. When the instructor exited the water, he felt dizzy and later vomited. Oxygen was provided, he was taken to hospital by car, where they put him on oxygen for 6 hours.

June 2012**12/216**

A diver entered the water for a solo dive by descending pier steps and then walking backwards across the shore with fins fitted. The shoreline was made up of rocks and stones covered in seaweed and very slippery. The diver slipped on a large stone and suffered a sprain/strain of the muscle on his left leg. On entering the water the diver finned on the surface to deeper water and then descended to a maximum depth of 3m for a dive lasting a total of 27 min. On surfacing the diver retraced his surface swim back to the uneven beach and walked with difficulty back to the pier steps. The diver requested assistance from a passer-by to climb the steps and returned to his car to de-kit. His left calf muscle swelled up and the diver sought medical attention the following day at hospital.

June 2012**12/128**

A diver completed a 33 min dive to a depth of 14m, then, after a surface interval of 5 hours 37 min, to 14m for 30 min. The following day he dived to 18m for 30 min. Following this dive he complained of a pain in his right side when breathing. Diving medical advice was sought and the problem was not thought to be diving related. He had a chest X-ray but no abnormality was found.

June 2012**12/370**

The casualty tagged along on a drysuit course to test his new drysuit. He experienced buoyancy problems and stated that he perforated his ear drum during a depth fluctuation during the ascent. Doctor's examination revealed redness on the ear drum and possibly a small hole.

June 2012**12/106**

Two divers conducted a 25 min dive to a maximum depth of 33m. The divers descended a shotline to the seabed and followed a line that had been laid a few metres to a wreck. Following an uneventful dive the pair relocated the bottom line to regain the shot. One of the divers found she was unable to ascend the shotline because her fin had become entangled in the bottom line. As she tried to free her foot she kicked up the silt reducing visibility. She tried to signal the problem to her buddy but this was misunderstood and so she reached for the knife on her leg to cut herself free. In doing so she dislodged the regulator from her mouth and took the primary regulator from her buddy's mouth; he switched to his pony regulator. The buddy

attempted to lift the diver using a controlled buoyant lift but was unable to lift her. The diver's own main regulator was free flowing also reducing visibility and her buddy was unable to stop it. The diver was becoming very agitated and the buddy checked around the diver's body, found the line entangling the fin and cut it. During this manoeuvre the diver was without a regulator for a short period but signalled OK and the pair started their ascent. During the ascent the diver had a high breathing rate and on a number of occasions took the regulator from the buddy's mouth. Towards the end of the ascent the diver lost consciousness and her buddy brought her to the surface. Both divers were recovered onto their RHIBs, one on to each boat. Resuscitation techniques were applied to the unconscious diver and she quickly responded. Both divers were placed on oxygen and the Coastguard was alerted. A lifeboat and a helicopter were tasked to assist. The RHIB headed back to harbour but ran into fog. They stopped at this point to allow the lifeboat to locate them. Both divers were taken by lifeboat and then helicopter to a recompression chamber for treatment. The rescuing diver was discharged later that day and the other diver was kept in hospital for observation due to inhaled water in her lungs and was discharged the following afternoon.

June 2012**12/172**

An instructor and 2 student divers were practicing controlled buoyant lift drills from a depth of 12m when one of the divers experienced a leak in his drysuit and took on water. Total dive time was 9 min and, on surfacing, one of the students experienced ear pain, chest discomfort/pain and coughed up blood. The student was given oxygen, an ambulance was called and advice sought from a recompression chamber. The diver was taken to hospital by ambulance and remained in hospital for observation for thirteen days. The diver was diagnosed as having suffered from previously undiagnosed medical problems, not diving related.

July 2012**12/371**

A group of young divers aged 14 to 16 were at an event where they could try scuba diving in a swimming pool. A group of students were briefed then entered the water and put on their kit. On the surface they had a further briefing and then they descended in the shallow end and continued to dive around the swimming pool playing games with a ball. The casualty didn't realise he was nearly out of air, and when he ran out he swam directly to the surface for help. The instructor came and helped him to the side of the pool. When he was changed the casualty complained of chest pain. He was monitored and the emergency services were called for advice. They sent a paramedic who decided that the casualty did not need further medical treatment. He was advised to rest and have a further check-up if the pain persisted.

July 2012**12/173**

A student and an instructor conducted controlled buoyant lift training drills at a maximum depth of 7m on a platform. After a surface interval of 15 min they descended for an exploratory dive. The student reported subsequently that he had felt anxious and breathless following the first dive but had not reported this to the instructor. After reaching a maximum depth of 18m the pair were at a depth of 16m; the student moved behind the instructor and when the instructor turned she saw the student heading upwards. The instructor took hold of the student who then indicated that all was not well and that he wished to surface; he started to make an ascent. The student was above the instructor who was then unable to reach any of the student's dump valves to prevent a fast ascent. On surfacing the instructor towed the student to shore and assisted him from the water and to de-kit. The student reported shortness of breath and a tight chest. The student was put on oxygen and laid down and the incident reported to the dive centre staff who monitored the student for

30 min before releasing him. The student suffered no long term effects and has resumed his training.

July 2012

12/208

A group of five divers and a coxswain left harbour in a RHIB. Two of the divers had brought air with them whilst the other three had purchased air from a local dive centre. On the first dive one diver complained of a bad taste from his mouthpiece but attributed this to it having been in the boat's bilge water. Another diver thought his air had an unusual taste but his buddy checked it and did not think it did. Following the dive nothing unusual was reported and the RHIB moved to the second site. 30 min after the second dive one of the divers started to vomit and complained of a headache but this was attributed to seasickness and the effects of a late night and an early start with no breakfast. All other divers reported no problems although one had conducted 11 min of stops and opted not to conduct the planned third dive. The diver with seasickness considered he was well enough to dive and hoped that the dive would improve his sickness but it did not. On return to shore one of the group felt unusually tired and developed a cough. Another in the group found it hard to motivate himself to leave for dinner, an unusual occurrence. All three attributed the symptoms to a long day's diving and, for one diver, residual seasickness. The following morning the seasick diver felt only slightly better, another had nausea and diarrhoea despite limiting his alcohol intake the night before. The third diver now had a headache despite he and the seasick diver not having taken alcohol. Only the two divers who had brought their own air felt fine and it was decided to miss the first planned dive of the day and to start diving in the afternoon. Whilst loading the boat for the afternoon dive the group noticed a local charter boat returning early. The divers onboard indicated that they had received bad gas fills from the local dive centre. On checking the cylinders on the dive RHIB all were found to have a significant odour. The divers who had been feeling unwell now went on oxygen, drank water and contacted a diver helpline who advised attending A&E. After tests all were discharged from hospital, although still feeling unwell. The dive centre closed the filling station, cleaned the system, apologised to the divers and agreed to oxygen clean and refill the affected cylinders at no cost.

July 2012

12/155

A diver conducted a number of dives over several days. Her last dive was to 25m for 30 min with a 3 min safety stop at 6m. During this stop she began to feel breathless. She had 60 bar remaining but switched to her pony regulator as she knew that this was easier to breathe from. She indicated the problem to her buddy. At the surface she felt very weak and her buddy helped her onto the diver lift. A crew member helped her to a seat and she was helped to de-kit. She was struggling to breathe and going blue so she was placed on oxygen. She developed a 'rattling' noise as she breathed. The boat returned to the shore and medical advice was sought. She was diagnosed with fluid on her lungs and she was transferred on oxygen, by ambulance, to hospital. Tests verified that she had fluid on her lungs and salt water aspiration syndrome was diagnosed. Her condition progressively improved.

August 2012

12/220

During pool training a student developed a skin irritation which was itchy on his wrists and ankles. The diver conducted two open water dives on day three of his course and noticed that the irritations were becoming a little worse. A duty doctor was contacted and the student advised to change his diving suit and continue diving. Following a dive on day four to 18m for 27 min the diver reported worsening conditions with severe rashes spreading up his arms and his hands were swollen. On advice from the duty doctor the student was placed on oxygen, given fluids and driven to a recompression chamber for assessment.

The student was diagnosed as having a strong dermatological reaction to something, possibly neoprene, and was given medication and discharged.

August 2012

12/372

While getting into the water, the casualty slipped on a rock and broke his ankle. He was helped out of his drysuit by training staff and taken to hospital by ambulance.

August 2012

12/356

Two lifeboats launched to assist injured diver. (RNLI report).

August 2012

12/168

An instructor, two trainees and an assisting instructor were engaged in a series of training exercises. They descended to a depth of 2m and practiced buoyancy control and mask clearing. They resurfaced and were planning to surface swim to a location where they could dive to 6m. One of the trainees said that he felt over-weighted and he swam to the entry point. He complained that he could not get his buoyancy under control. It was found that his BCD direct feed did not work even though it had when he practiced buoyancy control. The problem could not be resolved and they agreed that the trainee would conduct the next exercise using his drysuit buoyancy alone. They dived to 6m and again, successfully, conducted buoyancy control practice. They then commenced an exercise to practice ascent using an alternative source. The diver who had had the BCD problem acted as the donor and the other trainee as the recipient. The ascent progressed well and air was seen coming from the shoulder dump of the donor diver. At the surface the donor diver was unable to make himself buoyant and he became stressed. The instructor tried to inflate the troubled diver's drysuit but could not. The diver panicked; he was just below the surface and he took his regulator out of his mouth. The instructor tried to give him her octopus regulator but he resisted. The other trainee then successfully put his octopus regulator into the troubled diver's mouth and held it there. They then towed the diver to the shore. Once ashore the diver was unresponsive, he was very pale, hyperventilating and his pupils were dilated. He was removed from the water and placed on oxygen. The diver was very lethargic and seemed slow to recover. The emergency services were alerted and an ambulance and helicopter attended. The diver was airlifted to a recompression facility but was not recompressed. He was released later that day, fully recovered. It was later concluded that the problem was due to the diver's drysuit dump valve being fully open, making it impossible for him to gain positive buoyancy at the surface.

August 2012

12/188

The previous night students had been involved in rescue skills training in a pool with all students acting as both rescuers and simulated casualties. The following morning one of the students complained of a painful neck. The student thought this may have been due to the strain of being extended too frequently during training. During training it had not hurt and she had not indicated there had been a problem until the following day. Expecting the pain would pass with time the diver did nothing but the pain increased over the weekend and she consulted her doctor the following Monday. The doctor determined that some of the discs in her neck had been displaced and advised that she should not continue to dive until the pain had gone. The diver had to wear a soft collar and was referred to a physiotherapist.

August 2012

12/153

Two divers were sitting on the side of a large dive boat ready to enter the water. One diver was about 1.5m forward of the other. The skipper indicated that the divers should enter but this was only heard by the forward diver. This diver rolled backwards into the water. The instruction was repeated and the second diver

started to roll backwards. The boat had moved forwards in the water placing the first diver directly under the second. A warning was shouted but it was too late and second diver's twin cylinders struck the top of the first diver's head. The boat had significant freeboard resulting in a serious impact. The diver received two large and one small cuts to his head, abrasions to his left cheek, a black eye, bruising and a whiplash injury to his neck. It was reported that a similar incident had occurred previously.

August 2012 **12/174**

Following a dive earlier in the day on a wreck to a maximum depth of 28m for an unknown duration but including stops of 1 min at 6m and 6 min at 3m a pair of divers conducted a second dive after a 3 hour surface interval. After reaching a maximum depth of 32m the pair were at a depth of 28m when one of the diver's regulator stopped working. The diver switched to his buddy's alternate source and the pair started to ascend. At a depth of 20m, during the ascent, the buddy's cylinder had been fully depleted. The buddy inflated his suit and the pair made a buoyant ascent direct to the surface without completing any safety stops. On returning to the boat the buddy told others of the situation and to be aware of any problems that might develop. The buddy had a slight pain in his right ear but no other symptoms developed. The following day the diver with the faulty regulator was advised not to dive until the regulator was checked. The buddy joined another pair for a wreck dive but after descending to 2-3m his ear started to throb and he terminated his dive and returned to the boat and returned home later that day. The following day the diver awoke to find blood and mucus coming from his right ear and he experienced a headache, nausea and dizziness. The diver contacted the Coastguard who dispatched an ambulance, which took the diver to hospital where he was diagnosed with a ruptured eardrum with water ingress that had caused an infection. The diver received treatment for his ear infection. The faulty regulator had previously been converted by the manufacturer for left hand delivery and had been used on three previous dives without problem. The regulator has been returned to the manufacturer for assessment.

August 2012 **12/147**

A 12 year old diver was trying to help when a trailer was being positioned to recover an RHIB. He slipped and fell under the wheel of the unloaded trailer. The trailer ran over his left shin causing him serious pain. He was taken to the nearby RNLI boathouse and then to the local A&E. No fracture was found, just some bruising. After a while he was able to put weight on this leg normally.

August 2012 **12/319**

Solent Coastguard received a 'Mayday' from a dive support vessel on ch16 reporting an unconscious diver. The casualty had surfaced from a 50m dive having missed no stops, boarded the dive boat, had a cup of tea, and then collapsed unconscious. This was his first dive of the day and he was not accompanied by a buddy. Last dive 19th August. The dive boat skipper immediately administered oxygen and the diver came round very quickly. The diver was responsive and not suffering from any aches or pains but did have a nose bleed. Coastguard rescue helicopter R-104 was tasked. The Duty Dive Medical Officer was contacted and alerted St. Richards hospital Chichester, Casualty airlifted and taken to St. Richards hospital. (Coastguard report).

September 2012 **12/373**

As an instructor walked down a set of uneven step towards the water with a cylinder on his back, he fell, trapped his ankle and twisted it as he slipped down the steps. He was taken to hospital.

September 2012 **12/327**

Brixham Coastguard tasked Plymouth RNLI all weather lifeboat and rescue helicopter from RMB Chivenor R-169 proceeded to a dive boat after they called for assistance for a diver with head injuries, The casualty was losing consciousness but became distressed upon the arrival of the helicopter. The casualty was taken by lifeboat to Millbay, Plymouth where he was transferred by a waiting ambulance to Derriford hospital. (Coastguard report).

September 2012 **12/152**

A diver conducted a dive to 35m for 40 min with a 12 min stop at 3m. 2 hours later he dived to 42m for 37 min with a 10 min stop at 3m. On surfacing he felt dizzy and nauseous. He had a pressure imbalance and a ringing in his right ear. He suffered from sickness throughout the return boat trip. Once ashore diving medical advice was sought; an ear problem was diagnosed and the diver was advised to attend a recompression facility. The conclusion was that the diver had suffered a barotrauma to his ear and he was taken by ambulance to hospital for overnight observation. The symptoms slowly resolved and it was thought possible that the onset of a cold may have contributed to the incident.

September 2012 **12/374**

During a swimming pool training session, at a maximum depth of 2m, a trainee was struggling with snorkel regulator exchange and regulator recovery so one of the instructors took him on a one to one basis. The trainee and the instructor practiced alternate source use with the instructor being donor. 20 seconds into the skill, the trainee lost consciousness but kept the regulator in his mouth. The instructor took him to the surface, he was lifted from the water, at which point he regained consciousness. Care of the trainee was taken over by the pool's teaching staff.

September 2012 **12/228**

Prior to a day's diving a diver explained to others in his group that he normally used nitrox because he regularly suffered from headaches following a dive. A discussion took place regarding skip breathing and how CO2 build up may be a problem. The diver conducted a dive to a maximum depth of 18m for 36 min and then 3 hours 25 min later conducted a dive to a maximum depth of 20m for a total of 37 min. The diver was seen after the dive to have removed his kit and partially taken off his drysuit and looked a little pale. On checking, the diver reported that he had a headache that had started during the dive and that he was feeling nauseous. Others in the group went to assist recovery of his equipment to a site transport bus. The diver appeared very unwell and was not engaging with others but the group's oxygen set was in the car park at the top of the slope. In reassuring the diver that oxygen was available at the car park another diver, not associated with the group, overheard and offered his own oxygen equipment which the diver breathed. Shortly after this another diver, who was a doctor approached, and offered to conduct a neurological examination which he did and found no evidence suggesting DCI. After 15 min on oxygen there was some improvement and the diver agreed to travel to the car park on the bus. The diver remained on oxygen for a further 30 min and the symptoms improved and then got worse in waves and so an ambulance was called. The diver was taken to hospital by ambulance.

September 2012 **12/167**

A group of divers were engaged in a training day with the local RNLI. Four divers entered the water and were covered by their RHIB. The divers dived to the seabed at a depth of about 8m and then surfaced after about 9 min. They then floated at the surface to allow two lifeboats to practice a search and rescue

scenario. All the divers were recovered and returned to the larger lifeboat. Sea conditions were worsening so they moved closer to the shore to transfer the divers back to their RHIB. During the return journey one of the divers complained of 'pins and needles' in his arm and hand and was placed on oxygen. The Coastguard was alerted and the diver was airlifted to a

recompression facility. It was determined that he was not suffering from DCI, but that hyperventilation may have been the cause. No subsequent ill effects were experienced.

Boating & Surface Incidents

October 2011**12/239**

Belfast Coastguard received a 999 call reporting persons in the water at the entrance to the river Bann. Portrush RNLI all weather and inshore lifeboats were tasked, Irish Coastguard rescue helicopter 118 scrambled from Sligo and Coleraine Coastguard rescue team tasked. Six persons recovered from water and upturned vessel by lifeboats. Persons and dive RHIB recovered to Portrush Harbour where Coleraine Coastguard team met them on arrival. Coastguard helicopter R118 stood down. (Coastguard & RNLI reports).

October 2011**12/240**

Liverpool Coastguard was alerted to a broken down dive vessel that had suffered gearbox failure, Liverpool immediately tasked Douglas IOM lifeboat to assist, the lifeboat towed the stricken vessel to shore and safety. (Coastguard & RNLI reports).

October 2011**12/242**

Solent Coastguard was alerted to a broken down dive vessel with divers in the water and due to ascend in approx 20min, there were four divers in the water who had gone down on a shotline and were due to come up on DSMB. Solent Coastguard tasked Newhaven lifeboat, which arrived on scene and recovered the divers, then towed the vessel to Newhaven. (Coastguard & RNLI reports).

November 2011**12/244**

Clyde Coastguard received a 999 call from a diving official that a vessel was possibly going to collide with two divers in the water off Connell. Clyde Coastguard immediately identified the vessel and called the vessel on the radio. The vessel responded but was unable stop before it went over the position of the divers. Fearing for the safety of the divers, Clyde Coastguard requested the pilot launch to alter course to investigate and tasked Oban RNLI lifeboat and Oban Coastguard rescue unit. Units arrived on scene quickly and located the divers who thankfully were uninjured. This incident highlights the need for all divers to show the appropriate warnings signals, and that vessels know that there are divers under the water. (Coastguard & RNLI reports).

November 2011**12/245**

Aberdeen Coastguard received a 999 call reporting a diver overdue or missing, at Cove Harbour 3.5 miles south of Aberdeen. The diver was found safe and well ashore by other divers, no medical attention required. (Coastguard report).

November 2011**12/026**

A club boat with seven people onboard, six divers and a non-diving cox, deployed two pairs of divers in the vicinity of two offshore rocks. The two pairs were deployed approximately 5 min and 30m apart. Both pairs were using fixed SMBs with rigid A flags on them. One pair remained approximately in the same location as dropped whilst the other pair drifted in the expected direction to the east. The wind was steadily increasing but the boat managed to keep both SMBs in sight until the first pair surfaced and were recovered. The third pair of divers were then deployed and, at that point, sight of the second buoy was lost. An attempt was made to calculate their anticipated drift pattern and the boat moved in that direction but was unable to locate the missing SMB and after 10-15 min the Coastguard was notified of the missing divers. The Coastguard issued a 'Mayday' call and tasked two lifeboats and a fixed wing fisheries

spotter plane along with other craft. The dive boat requested the Coastguard use their SARYS software to calculate the likely drift of the divers and requested another boat in the area monitor their third pair of divers. The Coastguard provided a predicted direction for the first pair's drift. The dive boat began searching in the predicted direction and located the SMB within 3 min of starting the search. The divers were recovered with no ill effects.

November 2011**12/025**

A pair of divers entered the water from a charter vessel for a drift dive using a DSMB as a marker which had been inflated on the boat before entering the water. The divers then dived to a maximum depth of 22m for a total dive duration of 38 min including stops at 12m for 1 min and 6m for 3 min. On surfacing the divers could see the charter boat at a distance of around half a mile. Sea conditions were rough and the boat was only visible from the top of the waves. The divers waved their DSMB and deployed a flag as well. After approximately 20 min the pair lost sight of the charter boat. The divers looked towards the shore for a suitable point to swim towards and land but the shoreline was mostly rocky and unsuitable. Then they saw a strip that looked like a beach and could be suitable to land and they started to swim towards it. After swimming for approximately 10 min the divers discovered that they had already drifted past the beach. At this point the sea was getting rougher and the waves were starting to break behind them. One wave was so strong it took the pair underwater and one of the divers lost his mask and flag. Both divers had spare masks but the diver took 5 to 10 min to settle his breathing down sufficiently to fit his spare mask. The pair decided to ride out the waves and a short time later spotted a rescue helicopter that was apparently searching for them but it was a distance away. At one point the helicopter flew near their vicinity but despite their waving of the DSMB, arms and signalling with their torches they were not spotted. Around 15 min later the divers drifted out of a tidal race and the helicopter approached again and this time sighted them. A winchman was lowered and advised them a lifeboat was on its way and asked if they wanted to await recovery by boat. The divers indicated they wanted to be recovered by the helicopter and were airlifted, followed by their equipment and returned back to shore. Neither diver suffered any ill effects.

December 2011**12/033**

A pair of divers planned to do a scenic shore-based night dive on a shelving site at dusk with clear weather and calm sea. They were part of a small group of four divers plus four as shore cover. The pair got separated on descent and after a short search for the respective buddy, both ascended to the surface at normal rates. One of the divers returned immediately to shore and on not locating his buddy alerted the shore cover to the fact that the other buddy was missing. A dark indistinct object at the surface could be seen and was believed to be the missing diver but it was too dark to confirm the identity visually and there was no light signal reply from this position. The object seemed to be drifting away from shore. The dive manager assumed the role of rescue manager and delegated getting more torches and the oxygen kit closer to the shore. Another dive party was on site having their Christmas bonfire and BBQ. This group had many more divers entering and exiting the water while enjoying the party on shore but they did not seem to have a dive manager immediately available who was able to say how many divers the other party had in the water. A couple of divers were sent to surface swim to the position of the object singled out previously and they confirmed that it was the missing diver. The diver had

been searching at the surface for the buddy and had been pointing their torch away from shore while being unaware of drifting in a slight current. Neither diver suffered any ill effects and the manager concluded that next time their small dive party would move to a less busy site.

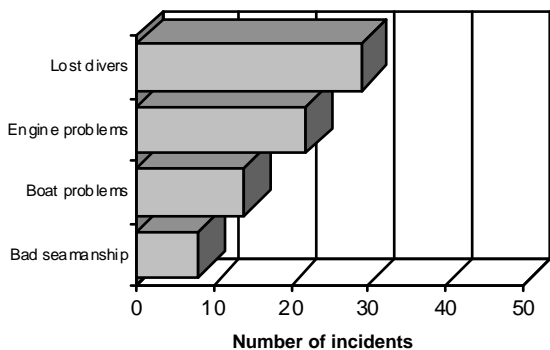
January 2012 12/034

Two pairs of divers entered the water for a drift dive on a scallop bed and possible wreckage site. The starting point of the dive was marked by the dive RHIB as a waypoint on the GPS. One pair of divers deployed a DSMB part way through the dive to mark the wreckage site and then deployed and ascended a second DSMB after 30 min dive time. The other pair had not deployed a DSMB by this stage and so a search for them was initiated. By this time the tide had turned and had started to run NE at 1-2 knots. After several searches down-tide and cross-tide a squall blew in with driving rain and causing a 1m swell. A call was made to the Coastguard for assistance. The Coastguard tasked two lifeboats and when they came alongside one of the divers transferred to one of the lifeboats with the dive slate and starting waypoint to provide information. The dive boat remained on station at the starting waypoint whilst the lifeboats conducted searches down-tide. The divers were located approximately 25 min later 2 miles from the original location. The divers were recovered by lifeboat and returned to shore whilst the dive boat returned to port. The divers had become engrossed in the dive and lost track of time and the distance they had travelled. On surfacing under a DSMB they had been out of sight of the RHIB. The divers had deployed two DSMBs and a flag and had dumped weights to ensure surface buoyancy. When the lifeboats came into sight they had used torches to attract attention and had been recovered shaken but with no ill effects.

January 2012 12/250

Clyde Coastguard received a report of a missing diver last seen entering the water at 14:45 hours, the diver was wearing a black diving suit and had an orange inflatable surface marker. Caledonian Macbrayn ferry, Rassay and Tobermory lifeboat were tasked to search, also R 100 was tasked, Clyde put out a broadcast 'Mayday' for the missing diver, he was found and recovered to the helicopter, after examination it was found he did not require any medical treatment. (Coastguard report).

Analysis of boating & surface incidents



February 2012 12/251

Shetland Coastguard received a report from a dive support vessel of a missing diver last seen at 18:00 Local in position 59 00 N 002 49.49 W. This position is east side of Haco's Ness Shapinsay Orkney. The diver was recovered safe. (Coastguard & RNLI reports).

February 2012 12/252

Two inshore lifeboats were launched to assist a disabled dive boat which was unable to recover its divers. (Coastguard & RNLI reports).

March 2012 12/055

A group of nine divers had completed diving from a club RHIB with a non-diving coxswain. Shortly after recovering the divers the engine began misfiring and became progressively worse until the it finally stopped. All possible checks were made and it was identified that no fuel was reaching the cylinders. Whilst conducting checks the Coastguard was notified. Once it became apparent that it was not possible to fix the engine the Coastguard was notified again and they instituted a 'Pan Pan' call which was responded to by a small fishing boat. The fishing boat took the RHIB under tow and returned them to harbour. The fault was found to be due to a fuel pump failure that could not have been repaired at sea. The boat engine had been regularly professionally serviced from new at designated intervals.

March 2012 12/186

15 miles offshore in a busy shipping channel a diver was spotted in the water by a passing vessel which reported the diver to the Coastguard. 20 min afterwards a dive support vessel reported a missing diver. The diver had been diving alone and had surfaced and been carried away by the tide. Two lifeboats and a rescue helicopter were tasked and, 50 min after the alert, one of the lifeboats located the diver aided by directions provided by a container ship in the area. The diver was recovered by the lifeboat and, 10 min later, the lifeboat located his dive boat, which was 2 miles away from where the diver was recovered. The diver was transferred to the second lifeboat for return to harbour and checked over and found to be alright. The dive boat was escorted back to harbour and the diver was again checked over by paramedics and found to have no lasting effects.

March 2012 12/255

Solent Coastguard tasked Bembridge RNLI all weather lifeboat to a dive RHIB which had suffered engine failure off Bembridge Ledge, Isle of Wight, and was unable to recover divers who were drifting on the surface. After recovering the divers to the lifeboat, the RHIB was towed to her home port of Portsmouth harbour where she received safety advice from Portsmouth Coastguard rescue officers. (Coastguard & RNLI reports).

March 2012 12/256

Portland Coastguard rescue helicopter 106 was scrambled following a report of two divers who had been observed to be drifting out to sea west of Portland Bill by Portland Bill Coastguard rescue officers who were training on the cliffs at the time. The divers were from a local dive boat which had suffered a temporary VHF radio failure and had been unable to alert the Coastguard. Communications were finally established and the Coastguard rescue officers guided the dive boat to the drifting divers. They were recovered to the vessel safe and well. The rescue helicopter was stood down. (Coastguard report).

March 2012 12/187

A pair of divers were reported missing by a member of the public who stated that they had failed to return by the planned time. The Coastguard tasked two lifeboats to search and they were joined by a fishing vessel that was in the area. As the lifeboats began searching the Coastguard was informed that the divers had been located ashore safe and well. The search was called off and all units stood down.

March 2012 12/347

Lifeboat launched to assist divers. Two persons recovered. (RNLI report).

April 2012 12/258

A 999 call was received from a member of a sub-aqua group reporting three of their divers struggling to get back ashore at Thornwick Bay. Bridlington CRT was tasked from exercise along with Flamborough ILB. The divers were recovered by the ILB and brought back to the boathouse where an ambulance was waiting to treat them. (Coastguard report).

April 2012 12/260

Holyhead Coastguard received a call from a member of the public reporting seeing a dive boat with three POB aground. One person was walking around the boat completely high and dry at Fryas Bay, the vessel eventually refloated. (Coastguard report).

April 2012 12/070

A group of divers had been deployed in a number of waves from two RHIBs. Following the first wave of dives, one of the divers switched boats and took over the role of dive manager. The group had been using a shotline deployed by a charter boat as it had not been safe to deploy their own shotline due to the number of divers already on the site. One of the RHIBs had recovered all of its divers and returned to harbour. The second RHIB remained on station until they recovered four of their divers and then returned to harbour forgetting that they still had two divers still in the water. The two divers subsequently surfaced under a DSMB and could not see their cover boat so they inflated their BCDs and waited for recovery. The divers were spoken to by another club RHIB in the vicinity asking if their boat could be seen and were told that it had departed the site. The RHIB went to deploy its own divers on the wreck and then returned to check if the divers wanted recovering. They declined and opted to stay in the water to await recovery but requested that a VHF radio call be made to their boat to return. Shortly afterwards a large RHIB was seen coming around the headland at speed and the club RHIB signalled it because they had drifted quite a distance from the wreck site. The divers were recovered after being on the surface for approximately 15 min with no ill effects.

April 2012 12/348

Lifeboat launched to assist stranded or grounded dive boat. (RNLI report).

April 2012 12/265

Falmouth Coastguard received a call from a dive boat reporting that two divers were overdue by 10 min 0.5 nm south of Pendennis Point. Falmouth ALB and Royal Navy helo R-193 were on exercise in the area and were tasked. R-193 located both divers on the surface within 2 min of alert, both well, recovered from the water by dive boat. (Coastguard & RNLI reports).

April 2012 12/267

Solent Coastguard received a call from a dive support vessel which had broken down at the entrance to the Hamble river at the south cardinal mark, with six divers onboard, the boat suffered engine failure and was drifting, the dive boat anchored. The vessel was towed back to port by Hamble lifeboat. (Coastguard report).

May 2012 12/087

An RHIB was monitoring the progress of a trio of divers when a large vessel arrived close by and proceeded to drop its anchor. Having dropped the anchor the boat then reversed to lay out the anchor chain. This manoeuvre brought the vessel close to the divers. At this point the divers deployed a DSMB signalling that they were about to surface. One of the divers was then seen at the surface by the shot buoy. Two yachts passed close by and the RHIB was positioned to protect the divers. Those in the RHIB then attempted to pull gently on the SMB to guide the divers, who were still underwater, away from the large vessel. The divers underwater thought that this was the action of surface wind and they let out more line. 2 min before the divers finally surfaced the large vessel stopped its engines. All divers were safely recovered. The divers had previously been granted permission by the local port authority to dive in the area. They were displaying a large 'A' flag. No lookouts were seen on the large vessel and no radio contact was made.

May 2012 12/083

During a boat handling course, on two separate occasions, two individuals fell into the water. In one case the boat hit a wave during a fast turn and a passenger fell out. In the second case, again during high speed turns, the trainee cox got the outboard tiller stuck behind him and he opened the throttle. This caused him to fall over the transom. He was wearing a kill cord and the boat stopped immediately. In both cases the individuals were recovered without ill effects.

May 2012 12/275

A dive RHIB called 'Mayday' after suffering engine failure off the Cherry Stones, Mumbles Head with divers still in the water. A vessel responded to the 'Mayday' and was on scene in 2 min of the 'Mayday' call. The casualty vessel then managed to restart its engines and both divers were recovered uninjured and no further assistance required. (Coastguard report).

May 2012 12/204

A RHIB with six divers onboard was leaving harbour for a second dive of the day when the engine cut out. The symptoms were similar to a kill cord having been pulled out. The coxswain ran through all standard checks but could not restart the engine. An anchor was deployed but before the Coastguard could be informed a local charter boat came alongside and offered a tow back to harbour. The boat was returned to a service agent who identified a blown fuse as the cause of the problem but could not identify any underlying reason for the cause of the blown fuse. This was the same boat as in incident 12/205.

May 2012 12/277

Ministry of Defence police launch Paul Travers went to the aid of a dive vessel with twelve persons who had broken down at the western end of Plymouth breakwater. The police launch took the vessel under tow to commercial wharf Cattedown. (Coastguard report).

May 2012**12/103**

A group of divers travelled to a dive site in rough conditions and found a sheltered site in the lee of a small island. The depth was about 10m. Two pairs of divers entered the water 5 min apart. After about 45 min the second pair surfaced using a DSMB but there was no sign of the first pair. The boat party started a search for the missing divers, extending their search into the rough water area. When the divers were 30 min overdue the Coastguard was alerted. Two lifeboats, and MOD police launch and then a helicopter commenced a search for the missing pair. Within 10 min they were located 1 mile from their start point. The divers were recovered, safe and well, by the lifeboat. The divers had strayed from the lee of the island and their DSMB acted as a sail in the strong winds. They had surfaced about 100m from the boat but rough seas, strong winds and bright sunlight reflecting from the water had prevented them from being seen or heard. The wind drove them further away. They made themselves buoyant, secured themselves together and awaited rescue.

May 2012**12/279**

Humber Coastguard tasked Hornsea rescue; both Bridlington lifeboats were alerted as well as Hornsea Coastguard to a report of a vessel that was taking on water off Hornsea. Hornsea rescue got alongside the vessel and towed back it into Hornsea, where Hornsea Coastguard offered safety advice. (Coastguard report).

May 2012**12/190**

Portland Coastguard received information from a dive vessel in a position south east of Portland reporting two divers whose SMB had disappeared in the fog. Initial details were taken and Weymouth RNLI lifeboat, which was already afloat, was tasked but the divers were recovered, safe and well, a few minutes later. (Coastguard report).

June 2012**12/284**

An all weather lifeboat was launched to assist a broken-down boat with divers in the water (Coastguard & RNLI reports).

June 2012**12/189**

The Coastguard was alerted on VHF by a dive boat reporting two divers missing whilst conducting a drift dive. The Coastguard broadcast a 'Mayday' relay and three lifeboats and a helicopter were tasked to search. Another vessel on scene located and recovered the divers and they were later transferred to one of the lifeboats. They were assessed by a medic from the helicopter who had been winched down to the lifeboat. The divers were taken to hospital where they were found to be fit and well.

June 2012**12/285**

Brixham Coastguard received a call from a dive support vessel reporting an overdue diver. The diver was located by another dive vessel and recovered safe and well. (Coastguard report).

June 2012**12/205**

A dive RHIB with seven divers and a coxswain onboard was travelling out to a dive site. After a journey time of 30 min the engine cut out and would not restart. The Coxswain called the Coastguard and the RHIB was met by a fire and rescue boat, which happened to be in the area, and towed back to harbour. The group had a second boat available and so diving was able to continue. The boat was returned to the dealer and after an exhaustive investigation a 0.5 mm wire in the wiring loom was found to have shorted to the engine casing. This was the same boat as in incident 12/204.

June 2012**12/150**

Two divers conducted a 19m dive for a duration of 37 min with a 1 min stop at 6m. On surfacing they were surprised to see that their boat was much further away than expected. The divers had been carried away by a current. They waved an inflated DSMB and shouted but, due to the sea conditions, they were not seen nor heard. The boat party realised that they were missing, conducted a brief search and then alerted the Coastguard. Three lifeboats and a helicopter were tasked to search and the divers were found quite quickly, by the helicopter, about 2.5 km from their starting point. The divers were recovered by a lifeboat and taken ashore. They were met by an ambulance crew. The divers exhibited no adverse effects and no further action was required.

June 2012**12/349**

Lifeboat launched to assist stranded or grounded dive boat. (RNLI report).

June 2012**12/098**

A newly purchased dive boat was taken on a trip to check its seaworthiness. During this trip the steering failed. The boat was anchored and the failure investigated. The crew concluded that they could not solve the problem at sea and they alerted the Coastguard. A nearby dive boat heard the radio call and offered help. The dive boat towed them back to the harbour. Subsequent examination revealed damaged steering gear and cable which had to be replaced. This boat had been recently refurbished and serviced.

June 2012**12/095**

A group of divers planned a dive down the side of an isolated rock. The sea conditions were rough and they positioned themselves in the lee of the rock. Two divers descended to a maximum depth of 21m. They found themselves in a strong current that was running in the opposite direction to that expected. They tried swimming against it for a while and then turned and went with the current. They remained at 18m for a while, but became concerned that they were being carried away from the planned dive site. They struggled against the current and used ropes on the seabed to pull themselves along. After 28 min, at a depth of 12m they decided to finish the dive. They deployed a DSMB and started their ascent. They were carried upwards; one diver was able to stop at 5m the other was carried to the surface. The diver who had surfaced re-descended and they completed a 4 min safety stop. Once at the surface they spotted a fishing buoy close by and attempted to swim to it. They were unable to make way against the current and they stopped trying. They secured themselves together and ditched their weightbelts. They attempted to attract the attention of their boat but were not seen. The boat party realised that the two were missing and alerted the Coastguard. A search was initiated involving a helicopter, four lifeboats and other local craft. The divers were located by one of the lifeboats after 2 hours, 1.5 miles from the rock. They were taken by ambulance to hospital but neither experienced any ill effects.

June 2012**12/096**

A group of divers were engaged in a training event. One of the attending RHIBs heard a 'Pan Pan' relay message concerning a disabled pleasure cruiser in their vicinity. The RHIB's crew arranged for other boats to tend their divers and they went to assist. They discovered that the boat was being blown ashore and in imminent danger of hitting rocks. They took the boat in tow and moved it to safe water. Heavy radio traffic hindered their attempts to inform the Coastguard of their actions. A lifeboat arrived and took over the rescue. In their rush to assist the RHIB party forgot to lower their 'A' flag and this caused

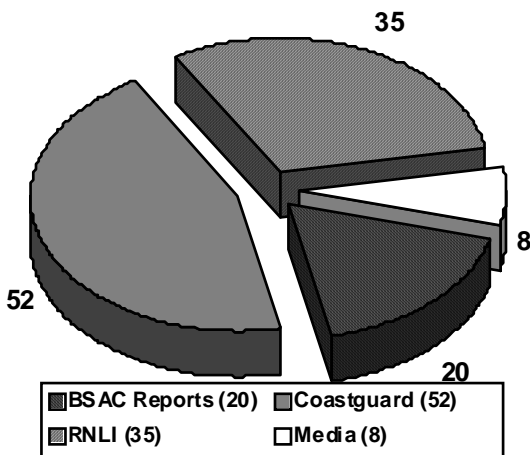
concern with the lifeboat crew when they arrived on the scene as they thought there might be divers in the water.

June 2012 **12/350**
Lifeboat launched to assist dive boat with engine problems. (RNLI report).

June 2012 **12/288**
False alert with good intent. All details were taken when a dive vessel reported that he had lost sight of one of his divers in choppy sea off Peveril Ledge near Swanage. As CG helicopter R-106 was being briefed the diver was located. (Coastguard report).

June 2012 **12/290**
Plymouth RNLI lifeboat towed a dive boat into Sutton Harbour after it broke down near Plymouth breakwater. (Coastguard report).

Boating & surface incident report source analysis



July 2012 **12/292**
Solent Coastguard received a call from a dive support vessel that had lost both engines and had divers in the water, the vessel was drifting away from the shoreline, with two divers still in the water. Solent CG put out a broadcast and tasked R-104, Littlestone lifeboat, and Rye Aby ILB. Also Lide range control boat responding & a dive boat. The divers were recovered and the vessel was towed to shore. (Coastguard & RNLI reports).

July 2012 **12/293**
Clyde Coastguard received a call from a broken down dive support anchored just off the south of the Beagle with engine failure, no divers in the water, safe and well but require tow, Largs lifeboat was tasked and towed the stricken craft to harbour. (Coastguard & RNLI reports).

July 2012 **12/131**
Two divers conducted a dive on a wreck at a depth of 29m. Underwater visibility was low and one of the pair attached a

distance line to the anchor. The divers swam off the wreck onto the seabed. After about 15 min the diver who was not carrying the distance line lost sight of his buddy and the line. He quickly searched the local area but was unable to relocate his buddy. He deployed his DSMB and made a normal ascent including a safety stop at 6m. The other diver made his way back to the anchor, using his distance line. He then ascended the anchor line, making a normal ascent. Once back in the boat he alerted the party to the separation. The DSMB of the other diver had not been noticed by the surface party. Surface conditions were poor making it difficult to spot the missing diver. Eventually he was seen about 400m away. The boat moved to him and he was safely recovered; exhausted but otherwise well.

July 2012 **12/351**
Lifeboat launched to assist dive boat with engine problems. (RNLI report).

July 2012 **12/352**
Lifeboat launched to assist diver in distress in the water. (RNLI report).

July 2012 **12/297**
Lifeboat launched to assist broken down dive boat. (Coastguard & RNLI reports).

July 2012 **12/298**
Milford Haven Coastguard tasked Little Haven RNLI inshore lifeboat to assist a dive RHIB with four POB into St. Bride's Haven after running out of fuel. Communications were relayed via the National Coastwatch Institute Wooltack Point as the MRCC could not hear the call for assistance. Dale Coastguard rescue team obtained details. (Coastguard report).

July 2012 **12/300**
Milford Haven Coastguard tasked St David's Coastguard rescue team to investigate a report from a member of the public of a dive RHIB overdue at Porthclais harbour. St David's lifeboat located the RHIB with five POB, safe and sound but with VHF radio problems. St David's Coastguards met the RHIB to take details and offer safety advice. (Coastguard & RNLI reports).

July 2012 **12/302**
Yarmouth Coastguard tasked Lowestoft lifeboat to investigate a report of a dive boat in difficulties; the dive boat sank east of Littlehampton with one person onboard; the remaining eleven were in the water. The dive boat was recovered from the water by the Vos Earl and taken to Lowestoft. The person remaining onboard the vessel was checked out in hospital for any ill effects. There was a small amount of pollution. (Coastguard report).

July 2012 **12/210**
A lifeboat was returning to station following a training exercise when they saw a diving boat beginning to sink, half a mile from harbour. The boat had eleven people onboard and was seen to be down at the stern and people onboard were bailing. As the boat sank three people onboard were trapped in the wheelhouse and their faces could be seen in the glass. The people in the wheelhouse managed to escape by swimming down and out through an open window. The lifeboat recovered all eleven people from the water and returned them to harbour. All had been dressed in undersuits only and none had time to don lifejackets before the boat sank. Four of the crew were taken to hospital to be treated for ingestion of diesel fuel and shock. The boat remained floating with the bow above water

and continue to drift until it was taken under tow by a recovery vessel, returned to harbour and recovered from the water. (Media report only).

July 2012 12/304

Humber Coastguard tasked Flamborough lifeboat to recover a shore diver reported in difficulty off North Landing Flamborough. Bridlington Coastguard proceeded and met the casualty as he came ashore; no medical aid required, the diver, from a party of five, had just become separated. (Coastguard report).

July 2012 12/203

A dive RHIB had six divers in the water. Two minutes before the divers were due to surface the RHIB propeller became entangled in a submerged pot line and the coxswain was unable to free it. Two pairs of divers surfaced but began to drift away from the RHIB. The coxswain called the Coastguard for assistance and the Coastguard tasked a lifeboat. Before the lifeboat arrived the final pair of divers surfaced approximately 20m away from the boat but rapidly drifted away. The coxswain threw a rope to one of the divers and he was pulled towards the boat whilst finning in. The diver managed to free the prop within the water. The RHIB was then able to recover the divers as the lifeboat arrived.

July 2012 12/355

Lifeboat launched to assist dive boat with engine problems. (RNLI report).

July 2012 12/307

Portland Coastguard tasked Coastguard rescue helicopter R-106, Lulworth Coastguard rescue team, and Weymouth lifeboat to a dive vessel off Lulworth Cove reporting two divers overdue. Whilst units were proceeding, the divers were found safe and well. (Coastguard report).

August 2012 12/309

Portland Coastguard received a call from a yacht reporting seeing five persons in the water approximately 1.2 miles east of Old Harry. Condor Express, MCA Osprey, Swanage lifeboat responded along with other vessels in the local area. On arrival it was found that the persons in the water were divers that had become separated from their boat. On being located the divers were able to be recovered into their dive boat. (Coastguard & RNLI reports).

August 2012 12/312

Brixham Coastguard was alerted to a missing diver. Two RHIBs responded to a report of a shore diver missing off Fort Bovisand. One RHIB located the diver safe and he was taken ashore without further assistance being required. Plymouth RNLI lifeboat was called but stood down prior to launch. (Coastguard report).

August 2012 12/313

Portland Coastguard tasked Swanage RNLI lifeboat to a dive vessel which was taking water in a position about 6.5 nm south of Christchurch Harbour entrance. There was one person onboard and seven divers in the water who were recovered by two other vessels. The boat was accompanied into Poole harbour where it was lifted out of the water and found to have sustained considerable damage to the hull somehow. (Coastguard & RNLI reports).

August 2012 12/139

A group of divers were diving on a wreck which was 100m from the shore. They were diving from a boat and had secured the boat to a visible part of the wreck. They put two pairs of divers into the water. They then noticed other divers swimming, on the surface, towards the wreck from the shore. There was a current running and these divers were being carried down-current. The boat moved to these divers to check that they were alright; they said they were. At this point one pair of the boat's divers became separated and they both surfaced. The boat moved back to pick them up. Having recovered their divers the boat party noticed that a third pair of shore divers seemed to be in difficulties. One of these divers shouted for help and the boat moved towards them. They took hold of the troubled diver and he calmed down. They helped these divers to remove their kit and then got them into the boat. The panicked diver had lost a fin; his buddy said he felt sick. The boat's second pair of divers then surfaced on the shotline. This pair agreed to wait while the boat returned the troubled divers to the shore; two of the boat party assisted them ashore. On their return to the wreck they found another shore diver at the surface; he had lost his buddy. The buddy had remained underwater and swam ashore. Once the buddy was spotted ashore the lone diver also swam back to the beach.

August 2012 12/316

Humber Coastguard tasked Cullercoats lifeboat, Tynemouth lifeboats and Tynemouth volunteer life brigade, rescue R-131 and Longsands lifeguards to a report of a diver missing at Longsands. Broadcast action was initiated, information was gained that the swimmer was ashore and reunited with the other party of five divers. (Coastguard report).

August 2012 12/357

Lifeboat launched to assist dive boat with engine problems. (RNLI report).

August 2012 12/317

A group of divers had been conducting a shore dive when one of the group was caught out by a strong current and taken out to sea. The alarm was raised and a lifeboat was launched and proceeded towards the scene. Resources tasked, D99 police launch, Dover harbour launch, Dover AWLB. The diver was located, before the lifeboat arrived, by a harbour board patrol boat, which returned the diver to the RNLI station. The other divers in the group returned to the beach safely.

August 2012 12/322

Brixham Coastguard was contacted by a dive boat reporting two divers missing; the divers were found by a passing yacht and reunited with their parent vessel safe and well. (Coastguard report).

September 2012 12/170

The Coastguard was alerted when two divers became overdue. Three lifeboats and a helicopter were tasked to search and other vessels, including a warship, assisted. The divers fired two flares which were seen by one of the assisting vessels and this allowed the search area to be narrowed. The divers were safely recovered into their own boat. No subsequent ill effects were reported.

September 2012 12/199

A group of six divers were dropped on an offshore rock by a dive boat with the intention of making their own way back to shore after a 90 min dive. Underwater visibility was poor and some of the divers became separated. Three divers surfaced at

the end of their dive intending to swim to shore on the surface. Conditions were choppy and they were being carried further out. One diver did not have a snorkel and used his regulator until he ran out of gas and then started to panic. He was spotted from the shore by members of the public who raised the alarm with the Coastguard. A teenage boy paddled out to the diver in his kayak and assisted him back to the shore. The other two divers decided to descend and swim back to the shore underwater. The Coastguard initiated a search for the remaining divers involving an inshore lifeboat, Coastguard teams, police and ambulance teams and an inflatable from a warship. All the remaining divers returned to shore without incident. The last diver to return surfaced with a large haul of fish in tow and was surprised by all the attention.

September 2012 12/336

Aberdeen Coastguard was contacted by a dive boat with four POB, they reported on channel 16 to Aberdeen MRCC no power off Rosehearty harbour. A nearby creel vessel towed the vessel into Rosehearty harbour where they were met by Fraserburgh Coastguard team. (Coastguard report).

September 2012 12/339

Swansea Coastguard tasked Porthcawl inshore lifeboat, Mumbles all weather lifeboat and RAF rescue helicopter R-169 to a dive vessel with two POB reporting that it was taking water just south of the Scar Weather sand bank and required immediate assistance. SAR units arriving on scene accounted for all crew and water ingress was controlled by the use of pumps before Mumbles lifeboat towed the vessel back to Swansea marina. Mumbles Coastguard rescue team were also in attendance. (Coastguard report).

September 2012 12/376

Three divers surfaced after an uneventful dive and signalled their boat which was picking up other divers. While waiting for pick up they saw a speedboat approaching them very quickly. They signalled to the speedboat but it continued to approach. The dive boat, having recovered the other divers, was able to position itself between the speedboat and three divers in the water and it sounded its horn. At a distance of only 50m from the divers, the speedboat turned away and slowed. Those on

the dive boat shouted to the speedboat driver to make him aware of the situation. The divers were recovered unharmed.

September 2012 12/340

Dive RHIB suffered grounding with six divers aboard, the vessel suffered propeller damage. Clyde Coastguard kept a communications schedule with the vessel as it made slow progress back to harbour. (Coastguard report).

September 2012 12/175

A dive RHIB had been left on a mooring in a sheltered bay. The weather forecast was for winds to increase overnight from the SE and the mooring was protected from the SE by a natural barrier of a rocky reef. The RHIB was secured to two moorings via three painter lines from two independent strong points on the boat. During the following morning the weather worsened and around midday a large swell was observed breaking over the rocky reef. The vessel was still riding well on the mooring but was beginning to take on some water over the transom and side tubes. As the winds increased the vessel started to be hit broadside by the waves and one of the bow lines appeared to fail. A decision was made to deploy a swimmer to swim out to the boat and either secure another line to the vessel or board the boat and move it to harbour 8-10 miles away. The swimmer tried to reach the boat which was now being hit by large waves but he was unable to reach the boat and was washed back into the surf and was subsequently being dashed onto rocks. The shore party called 999 and an emergency call to the Coastguard was made. A rescue helicopter, cliff rescue team and lifeboat were all tasked to assist. The swimmer was rescued by the helicopter crew and landed nearby. Shortly afterwards the RHIB was seen to be struck by four consecutive very large waves, turned broadside, inverted and it broke away from its moorings and was subsequently smashed onto rocks. Approximately 2 hours later the sea state subsided and a shore party started to make an attempt to recover any wreckage. The RHIB tubes were recovered and small parts of the seat and bottle rack were located and recovered the following day. Extensive underwater and shoreline searches failed to recover any further wreckage.

Ascent Incidents

October 2011

12/084

A diver conducted a dive to a maximum depth of 35m. At a depth of 20m she started a rapid feet first ascent to the surface. At the surface she lost her regulator and swallowed some water. She was recovered into the boat and given oxygen. She was then taken to a recompression facility where she was kept under observation for a brief period before being discharged.

October 2011

12/005

On the first dive of a week long trip a diver had descended to a maximum depth of 26m using nitrox 32 for a no stop dive monitored by a dive computer set to 32% nitrox. After approximately 47 min the diver and his buddy started an ascent up the side of the wreck to approximately 20m. The diver's buddy started to deploy a DSMB but the diver found he was unable to hold his depth and began ascending towards the surface. The diver tried to grab hold of the wreck to prevent his ascent but was unable to and made a slow ascent to the surface in 2 - 3 min but was unable to conduct any safety stops. His buddy was unable to assist in controlling his ascent. The buddy made a normal ascent including safety stops. On surfacing the diver signalled the charter boat that he was OK but was not picked up until after his buddy had surfaced. On recovery into the boat the diver reported what had happened. He was assisted out of his drysuit and taken into the wheelhouse. The diver was given oxygen and fluids and the emergency services were informed. The diver was returned to shore and taken by ambulance to a recompression facility where he was placed on oxygen for 4 hours but not recompressed. No symptoms of DCI were identified and the diver was released. He was advised not to dive the next day and to monitor himself for symptoms that may present themselves. No symptoms were apparent and the diver returned to diving two days after the incident and dived the remainder of the week without incident. On checking his equipment the diver found that his weightbelt was 2 kg under the required amount.

October 2011

12/018

Following a dive at an inland site to 7m for 49 min, three divers entered the water again after a surface interval of 92 min. The divers had planned to conduct a further buoyancy check at 7m but because they had not altered their equipment they decided not to bother. The three spent around 10 min between 7 and 10m and then descended to 22m. They swam to an underwater feature and took some photographs before moving on to another feature and taking some more shots. One diver in the group signalled that he had only 50 bar remaining whilst the other two had 120 bar remaining. The group stayed close and looked for the shotline which they knew was nearby. Shortly after the third diver had virtually no air left and so the group abandoned their search and made a normal ascent to 5m for their safety stop. Around 7m during the ascent the second and third divers started to descend again and dropped below the first diver. She became confused by the exhaust bubbles of the others and made a fast ascent to the surface. On the surface she inflated her BCD and monitored the other divers. The other two divers were seen to ascend and descend a number of times between 8 and 4m. The diver on the surface decided to descend and assisted them to the surface. The second diver orally inflated the third diver's BCD and then all three rested for a minute before making their way back to shore. The third diver was found to have a nose bleed and a cut on the bridge of his nose. The second diver experienced no problems and the first diver felt 'a little achy' and contacted a diver helpline. The third diver began to feel dizzy and was advised to contact a local

chamber.

October 2011

12/243

Liverpool Coastguard was informed of a female diver having made a rapid ascent from 10m, not missed any decompression stops, suffering no other symptoms except a nose bleed, she was being treated for shock and was on oxygen, no need for ambulance she says she is fine, will refuse medical assistance, the boat will keep treating her. (Coastguard report).

November 2011

12/248

Holyhead Coastguard was alerted to a diver who had made a rapid ascent from 3m, the diver had inadvertently used his pony cylinder rather than his main cylinder, when this smaller cylinder became empty he panicked and finned to the surface without breathing out. The dive vessel was met by an ambulance and the diver was taken to Ysbyty Gwynedd for treatment. Murrayfield chamber were in contact with the hospital. (Coastguard report).

February 2012

12/038

A trainee diver and her buddy were conducting the final dive for their entry level qualification under the supervision of an instructor. The group descended a shotline to a wreck at a maximum depth of 17m. The diver's ears took some time to clear and she held onto the shotline during descent and did not adjust her buoyancy as she was concentrating on clearing her ears. Once down the diver adjusted her buoyancy and proceeded with the dive. At times the diver lost some control of her buoyancy and used her hands to try to compensate before realising and adjusting her buoyancy again. After approximately 20 min the pair checked each others gas contents and signalled their agreement to ascend. At this point the diver was swimming down slightly to try and hold station with her buddy, allowing her legs to rise. The diver appeared to realise she was becoming positively buoyant but was slow to react and as she was now horizontal could not dump gas effectively from her drysuit. The diver started to ascend and the instructor grabbed hold of her fins to slow the ascent and to allow control to be regained after rising 3-4m from 12m. The pair descended back to 12m and regained control and checked gauges again. The group then ascended normally to 6m and a safety stop was signalled. Although the diver signalled back to agree to this she was seen to slowly drift up to the surface without stopping. The instructor and the other student made a normal ascent omitting safety stops. At the surface they assisted the buoyant diver who was struggling on the surface because a fin had become dislodged. The fin was recovered, refitted and the group was recovered to the cover boat.

February 2012

12/045

An instructor and student were exploring some wreckage at a depth of 20m 6 min into a dive. There was some confusion that led to a fast ascent by both student and instructor. On surfacing the pair were seen by the staff on site. Both declined oxygen. No injuries were identified although both were apparently shocked.

February 2012

12/047

A pair of divers had conducted a dive to a maximum depth of 36m. On returning to a depth of 20m, after 25 min, one of the divers experienced a free flow from his regulator resulting in a fast ascent to the surface. Oxygen first aid was offered but declined by both divers.

March 2012 12/142

Six divers using air were at a depth of 31m when one of their regulators began to free flow. The diver took the octopus regulator of one of the other divers and this also began to free flow. They made a fast ascent to the surface. Their dive duration was 16 min. The other divers surfaced safely. Oxygen was declined and no ill effects were reported.

March 2012 12/363

During the first open water dive of a drysuit course, at a depth of 13m, the casualty experienced an inversion, rose to the surface and lost her regulator in the process. She was assisted out of the water by three experienced divers who were present in the area and administered oxygen. A doctor present immediately examined her and an ambulance took her to a recompression chamber. Tests concluded that she did not require treatment.

March 2012 12/054

A diver was diving on a wreck at a depth of 32m. This was the diver's first sea dive of the year but he was reported to have dived in freshwater quarries during the winter. The diver was using an open circuit system and he also carried a 7 lt steel stage cylinder with nitrox for accelerated decompression. During the dive the decompression stage became detached and the diver did not notice. The cylinder was subsequently collected by another member of the group, not the diver's buddy. Once the diver started to ascend he was unable to control his buoyancy due to the loss of the steel cylinder and he made an uncontrolled ascent direct to the surface. The diver was recovered onto the charter boat by tail lift. He complained of tingling in his hands and arms. The diver was given oxygen and the Coastguard called. It was decided to take the diver back to shore for transfer to hospital by ambulance. Another RHIB in the area stood by to collect the remaining two rebreather divers. The diver was transferred to a recompression facility to be checked over but was found to be suffering from shock but otherwise alright and no recompression treatment was required.

March 2012 12/364

On the third dive of a deep diving course and first dive of the day. As the group were ascending from 40m, the casualty lost control of the ascent and went up rapidly. Surface cover helped him exit the water, and to remove his BCD and drysuit. He was pale and shaking and mentioned the loss of his weightbelt at 20m. He had made a rapid ascent so he was put on emergency oxygen. The instructor surfaced after his safety stop, then helped surface cover with rescue. The casualty was then transported to a hyperbaric chamber.

March 2012 12/053

An instructor and a student with a third diver entered the water to practise a controlled buoyant lift on the first dive of the day. Visibility in the surface layer was poor due to rain runoff. Following a short surface swim a datum line was deployed and the three started to descend. Due to a slight current the third diver drifted away from the shotline in the poor visibility at a depth of around 2m. The student continued his descent to the seabed without waiting for the instructor. The instructor had resurfaced following the separation and could clearly see the bubbles of the third diver moving away from the shotline at about 20m distance and then turned, moving back towards the shotline. The instructor tugged on the shotline and the student ascended and reported he had been waiting at a depth of 7m. After a further 2 min the third diver surfaced and reported that he had been to a maximum of 15m depth and that the visibility was clearer down there. The group re-descended and settled on the bottom at a depth of 16m. The third diver then acted as a

simulated casualty as planned for the controlled buoyant lift and the student began a rescue. After ascending 3-4m off the seabed the student was unable to control the ascent as he was unable to dump gas quickly enough. At a depth of 11m the instructor noticed the ascent was too fast and managed to grab hold of the student's fin at around 8m to try and control the ascent but it was too late and the student and third diver made a fast ascent direct to the surface. The instructor managed to slow his own ascent slightly but still made a faster than normal ascent. On surfacing the instructor requested the shore party to prepare the oxygen, whilst a standby diver swam out and assisted the student and third diver back to shore. The student and third diver were placed on oxygen and the instructor continued to breathe from his nitrox 37 for 5 min. No ill effects were experienced and the three divers refrained from diving for the rest of the day.

March 2012 12/121

Two divers descended a shotline to a wreck in a maximum depth of 30m. The dive leader reached the deck of the wreck at a depth of 24m and saw the other diver above him. He thought that this diver might be experiencing buoyancy problems and he took hold of the shotline and ascended to take hold of the other diver. He turned to grasp the other diver but she was nowhere to be seen. He looked around for her and then made a normal ascent. The other diver was inexperienced in drysuit use and reported that the dump on her drysuit was obscured by her BCD. She was an experienced diver but with limited experience of UK diving. She struggled to control her buoyancy, became inverted and made a buoyant ascent to the surface. Once at the surface she was recovered by another boat. She was placed on oxygen, the Coastguard was alerted and the diver was airlifted to a recompression facility where she received precautionary recompression treatment. She was asymptomatic throughout.

March 2012 12/060

A diver and his buddy were preparing to dive when his buddy noticed that the diver did not have a drysuit inflator fitted. The diver de-kitted, fitted a hose and then kitted up again. The diver had hurried and had become a little hot and flustered. After allowing him a minute or so to calm down the pair entered the water and after a further couple of minutes on the surface they descended to a maximum depth of 11m. Part-way through the dive the buddy noticed that the diver's alternate source was leaking and indicated this to the diver who sorted it out. The pair then headed back towards their starting point. At this point the diver was down to 70 bar and so began to deploy a DSMB. On deploying, the DSMB pulled the diver up a couple of metres and his buddy grabbed him and pulled him back down from around 7m. The diver had let go of his DSMB and so the buddy deployed his. The pair had no mandatory stops to do but paused at 6m to conduct safety stops. The buddy's computer was jumping between 6 to 3m even though he wasn't moving. The diver suddenly shot up to the surface from a depth of 4-5m. On recovery to the boat the diver was placed on oxygen as he was complaining of tingling to the face and lips. After 20 min on oxygen the tingling had ceased.

April 2012 12/063

Following two dives the previous day a diver conducted a dive using nitrox 32 on a wreck at a maximum depth of 18m. 17 min into the dive she started to experience 'floaty feet' due to gas in her drysuit boots. The diver ascended to 15m before she could regain control. At this point she could not locate her buddy and so started to ascend. Her feet again became buoyant and, whilst attempting to get the air out of her boots and dump air from her BCD, she lost control and made a fast ascent to the surface. The diver signalled the cover RHIB and was picked up and placed on oxygen straight away. Her buddy was

subsequently recovered. Two other divers on the boat had also had a fast ascent (Incident no. 12/064) and so the oxygen equipment was being shared between the three divers who were breathing from it for one minute each whilst waiting for the remaining divers to surface. As the oxygen began to run low the skipper contacted a charter boat in the area which provided an additional oxygen set which the three divers then shared between them. On returning to shore the diver was placed on oxygen from her own club. The Coastguard had been contacted and a helicopter was tasked to airlift the three divers to a recompression chamber. At the recompression chamber the diver was monitored but no symptoms of DCI developed and the diver was released and advised not to dive for 24 hours.

April 2012 **12/081**

Two divers descended a shotline to a depth of 16m and then followed the seabed down to 27m. At this point, one of the divers indicated that he was becoming buoyant. His buddy indicated that they should ascend using a DSMB. The buoyant diver then started an uncontrolled ascent. Despite his efforts to prevent it, he was carried to the surface. He suffered no immediate ill effects but, about five days later, he went to his doctor with ear problems. He was referred to his local hospital and they diagnosed nerve damage due to barotrauma. He attended a recompression facility for further tests. The final conclusion was that the ear problem was not diving related.

April 2012 **12/262**

A diver made a rapid ascent from max depth of 25m. The diver ascended 25 to 9m uncontrolled, went back to 22m then lost control again, the diver felt dizzy, nauseous and lightheaded, was not given oxygen. The dive vessel was met by a paramedic and the casualty taken to hospital.

May 2012 **12/076**

A pair of divers conducted a dive to a maximum depth of 26m. Towards the end of the dive one of the divers deployed his DSMB without tying off the reel and was immediately too buoyant. The diver struggled to press the catch to release the DSMB. His buddy grabbed his BCD to try and pull him back down but lost his grip after being pulled up as well. The buoyant diver dumped all the air from his BCD but was unable to operate his drysuit shoulder dump and so pulled open his neck seal to perform an emergency dump but by this time he had surfaced. His buddy surfaced beside him having forgotten to dump the gas from his BCD. Neither diver suffered any ill effects but decided not to conduct a second dive.

May 2012 **12/086**

Three divers entered the water and descended to the seabed at a depth of 10m. They set off following a compass heading. The dive leader checked on a number of occasions to ensure that they stayed together. Shortly into the dive the dive leader became separated from the others when they encountered a current. The dive leader prepared her DSMB. In the process her regulator began to free flow and she could not stop it. She made a quick ascent to the surface breathing from the free flowing regulator. At the surface she met up with the other two divers. Her 12 lt cylinder was down to 20 bar. The diver was safely recovered from the water and the other two continued their dive. The regulator had been serviced very recently.

May 2012 **12/177**

Following two dives without incident the previous day, two divers conducted a wreck dive to a maximum depth of 15m for a duration of 27 min with one diver using nitrox 32 and the other using air. At a depth of 14m, nearing the end of the dive, the nitrox diver indicated that she had a problem with her regulator and required assistance. The diver had bitten through her

mouthpiece during the dive and it was allowing water to enter her mouth. Her buddy donated his alternate source and the diver purged it before putting it in her mouth but was concerned by the bubbles and thought there was something wrong with it. As a consequence she replaced her own regulator back into her mouth but continued to get water, started to panic, took the regulator from her buddy's mouth and started to ascend quickly to the surface. Her buddy saw the diver's own alternate source dangling and took this to replace his own lost regulator. The pair ascended quickly to the surface although not excessive because the buddy had dumped his buoyancy at the start of the incident. The buddy also noticed that the diver's mask was flooded. On recovery into the boat both divers were placed on oxygen and the emergency services were called by the charter boat skipper. The boat returned to harbour to be met by an ambulance that took both divers to a recompression chamber where they were assessed but found not to be displaying any symptoms of DCI. Both were discharged without treatment.

May 2012 **12/080**

An instructor and a trainee were conducting mask clearing training at a depth of 5m. Suddenly the trainee panicked, pulled her mask off and took the regulator out of her mouth. In the process she dislodged the instructor's mask a little. The instructor offered his alternative source and attempted to adjust his mask. The trainee had her eyes shut and rushed towards the surface. The instructor went with her and continued to offer his regulator, which was refused. At the surface the trainee was distressed, but breathing normally and able to speak. The instructor signalled distress and towed the trainee to the shore. The trainee recovered with no subsequent ill effects.

May 2012 **12/274**

Shetland Coastguard received a call from a dive support vessel reporting they had a diver aboard who had missed stops. The diver showed no sign of symptoms; a diving doctor was requested to meet the vessel when it arrived in harbour. Shetland CG arranged an ambulance and doctor to meet them. The diver had made a rapid ascent from 18m and missed 4 min of decompression stops. The diver was taken to hospital in Stromness. (Coastguard report).

May 2012 **12/089**

An instructor and two trainees dived to a maximum depth of 20m. After 15 min they returned to a depth of 15m and conducted mask and regulator clearing drills. They then conducted alternative source ascents from 10m to 6m. During this practice one of the trainees descended too quickly and experienced pain in his ears. They separated and the other trainee, who had been receiving air, put his own main regulator back into his mouth. However, when he tried to breathe from it he just got water. He took the regulator from his mouth and made a rapid ascent from 8m to the surface, swallowing water on the way. At the surface he shouted for help. The instructor surfaced soon after and guided the troubled diver to a buoy to hold on to. Two other divers entered the water to swim to their assistance and the other trainee towed the troubled diver to the shore. The diver was placed on oxygen and an ambulance was called. The other trainee stated that he too had made a rapid ascent. Both were taken to hospital for examination. No adverse effects were experienced and both were discharged that evening. It was found that the diver who had suffered the initial problem had no air left in his cylinder.

May 2012 **12/276**

Portland Coastguard tasked Coastguard rescue helicopter R-106 to airlift a diver from a dive support boat following a rapid ascent. Three other divers from dive boat should have surfaced 20 min ago while dive boat was off dive position - the diver's

position was initially unknown. All three were recovered safely. (Coastguard & RNLI reports).

May 2012 **12/144**

Two divers were at a depth of 22m when one of them suffered a panic attack and made a fast ascent to the surface. His dive duration was 12 min. He felt that he couldn't gain buoyancy in his drysuit and was struggling to breathe. He was placed on oxygen and given fluids to drink. No symptoms were apparent and no further action was taken.

May 2012 **12/102**

A pair of divers were decompressing on a shotline after a dive to a maximum depth of 32m. One of the pair then surfaced rapidly and arrived at the surface with his computer sounding an alarm. He had missed 7 min of a 10 min stop at 6m. The conditions were calm and the dive manager sent the diver back down to complete his stops. Once back in the boat he was placed on oxygen for 30 min and given fluids. He was monitored for symptoms but none were found. The diver reported that he had been concerned that he was running out of air. The diver was known to become 'anxious and flustered' in stressful situations.

May 2012 **12/099**

A diver conducted a dive to a maximum depth of 23m. During the ascent, at a depth of 10m, the cuff dump on his drysuit jammed closed. The diver made a rapid ascent to the surface. His total dive duration was 30 min. No subsequent ill effects were reported.

June 2012 **12/282**

Brixham Coastguard was contacted by the beach master at Livermead beach who reported one female shore diver had surfaced in a panic. Two others in the party remained unaccounted for. It was established the female diver had ingested water and surfaced quickly, panicked but was otherwise unharmed. Two other divers surfaced safely on completion of the dive. FAGI. (Coastguard report).

June 2012 **12/097**

Two divers entered the water and started their descent. One diver was under-weighted and his buddy returned to the boat for an extra 2 kg weight which the diver put in his BCD pocket. They dived to a maximum depth of 26m and then made their ascent. At about 15m, during their ascent, they both deployed DSMBs. At this point the diver who had been under-weighted lost control of his buoyancy and was carried directly to the surface. His buddy watched from below as the diver was recovered into the boat. The buddy made a normal ascent with a 3 min safety stop. The diver who had made the rapid ascent was monitored for the rest of the day. No symptoms were apparent. It was subsequently found that the diver thought that he had put the extra weight in an inner BCD pocket when in fact it had been in an outer pocket. When he deployed his DSMB the weight was dislodged and fell away; this resulted in the uncontrolled ascent. The diver suffered no subsequent ill effects.

July 2012 **12/133**

A pair of divers conducted a dive to a maximum depth of 28m. During the descent one of the pair noticed that he had air in the legs of his drysuit and this made it harder for him to get down. Their ascent went to plan until they reached 6m. At this point the diver who had had buoyancy problems lost control of his buoyancy and was carried to the surface missing stops. His buddy was unable to stop him. The Coastguard was alerted and the diver was airlifted to a recompression facility for

treatment. No symptoms of DCI were reported.

July 2012 **12/303**

Falmouth Coastguard received a 999 call from a dive boat stating that one of their divers had made a rapid ascent from 22.4m from the wreck of the ALICE just off Penzance harbour. The vessel was connected to DDRRC doctor who recommended evacuation to the hyperbaric unit. Rescue helicopter R-193 was tasked and carried out the evacuation. The dive boat was met by Penzance Coastguard team on arrival back at Penzance and safety advice passed. (Coastguard report).

August 2012 **12/310**

Shetland Coastguard tasked an ambulance to take two divers who had missed stops to Stromness chamber; there were no ambulances or taxis available so they were taken by a private vehicle, the divers were treated at Stromness. (Coastguard report).

August 2012 **12/148**

A diver conducted a series of dives over a number of days. The day before the incident he dived to 21m for 57 min with a 3 min stop at 5m. Then, after a surface interval of 2 hours 43 min, he dived to 21m for 56 min with a 3 min stop at 5m. The following day he dived, with his buddy, to a depth of 19m. His BCD strap was loose and, as he turned, his cylinder and pony cylinder moved to one side unbalancing him. Air migrated to the feet of his drysuit and his legs started to rise. He was not wearing ankle weights. He tried to swim back down and to right himself but he was unable to do so. His regulator came loose and he replaced it correctly. He then made a feet first ascent to the surface. At the surface he was hyperventilating and felt weak and he was unable to keep his face out of the water. He signalled to his boat then inflated his BCD and managed to regain a vertical posture. He was assisted into the boat and placed on oxygen. His dive duration was 8 min. His buddy surfaced normally. The boat was in a location that prevented contact with the Coastguard. Once other divers had been recovered the boat moved and the Coastguard was alerted. The boat returned to the shore and the diver was taken by ambulance and helicopter to a recompression facility. Examination revealed no symptoms of DCI, and no further action was required.

August 2012 **12/138**

Two divers descended to a depth of 21m. One of the pair had some difficulty getting down and her buddy assisted her; once underwater the problem seemed to be resolved. With 4 min no stop time remaining one of the pair deployed a DSMB using her octopus regulator. This regulator began to free flow and the DSMB reel jammed. She held onto some wreckage and sorted out the reel and then used the free flowing regulator to make her ascent. The diver decided to miss out a safety stop because her air supply was getting low. At around 4m the other diver became buoyant again and they made a fast ascent to the surface. The diver with the free flow had just enough gas to inflate her BCD. No computer alarms were activated. The diver with the free flow had a PFO and was using nitrox 40 and air tables. No subsequent ill effects were reported.

August 2012 **12/315**

Solent Coastguard received a report of a diver having missed stops following a dive to 33m for 35 min, there were problems with SMB, and a slow ascent to 6m then missed 20 min of stops, no symptoms had developed, as a precaution the casualty and buddy were transferred to Chichester HLS by R-104, medical advice was obtained. (Coastguard report).

August 2012 12/318

A diver felt unwell the day after a dive. "Had an abnormal ascent on a dive on Saturday. Severe headache and pain stretching round my jaw and has been getting considerably worse. Depth dived 32m. Keep feeling dizzy and falling asleep not taken any pain killers. Have been to see my doctor and he has given me antibiotics and an ear spray to be taken three times a day. Have had blood coming out of my ear, my head feels like it's going to explode!" The casualty was taken from home address to hospital by ambulance. (Coastguard report).

August 2012 12/230

A diver was preparing to dive from a RHIB and whilst kitting he accidentally dropped one of his weight pouches of 7 kg over the side of the boat. He replaced the weight with 5 kg of spare weights from a second RHIB. The diver entered the water with his buddy and did a weight check and was then able to descend easily. Both divers were using nitrox 32 and conducted an uneventful dive on a wreck for a bottom time of 27 min and a maximum depth of 35m. The pair ascended and conducted a deep stop at 17m for 1 min followed by stops required by their computers of 3 min at 9m and 3 min at 6m; these stops were completed without any difficulty. As the pair started to ascend for a safety stop at 5m the diver who had lost his weight was unable to control his buoyancy and made a direct ascent to the surface missing an indicated 1 min of further stops. The diver was recovered into the RHIB and, as his computer was signalling SOS, he was placed on oxygen. His buddy completed his remaining safety stops and surfaced a short time later without incident. After being on oxygen for 11 min there were no symptoms of DCI and oxygen was discontinued. The diver did not dive again that day and experienced no further problems.

August 2012 12/324

Brixham Coastguard tasked Plymouth RNLi lifeboat to meet a dive boat en route to Plymouth from a dive in Bigbury Bay to transfer a diver who had experienced a rapid ascent. The diver was met by west country ambulance and taken to DDRC Plymouth (Coastguard report).

September 2012 12/328

Shetland Coastguard was alerted to two divers that had made rapid ascent from dive, asymptomatic but had missed decompression stops. First diver 8min stops, second diver 14min stops. Shetland Coastguard alerted the duty doctor at Stromness. The vessel was met by Stromness Coastguard team and an ambulance. (Coastguard report).

September 2012 12/166

A pair of divers were diving in the lee of an island. After about 8 min they felt the pull of the current and tried to swim against it back into shelter behind the island. This was hard work so they drifted with the current. A little later one of the divers attempted to attract the attention of the other to signal that they had reached their maximum depth of 30m. This diver was ahead of the other and rather than swim back she took her regulator out and shouted. The other diver swam to her. He found that she was experiencing difficulties replacing and purging her regulator. He saw that she was becoming distressed, took hold of her BCD and gave her his alternative source. They had started to rise and their SMB line was above them and slack; the troubled diver dropped the reel to avoid entanglement. The rescuing diver dumped air from their drysuits to slow their ascent and then realised that they were sinking again. He used the distressed diver's BCD to lift them rapidly to the surface. At the surface he indicated distress and they were quickly recovered into the boat. The troubled diver was placed on oxygen but no symptoms developed and no further action was taken. Their dive duration was 17 min.

September 2012 12/161

A pair of divers were engaged in a drift dive at a maximum depth of 11m. The SMB line became entangled around the cylinder valve of one of the pair. The diver thought that the line had gone taut and he tugged it and let out more line. The action of pulling on the line partially closed the valve. The extra line that he released then became tangled on his fin's quick release clip. Whilst trying to resolve these issues the diver floated quickly to the surface. The diver re-descended to resolve the problem. His buddy assisted and took the SMB line. The partially closed valve caused his cylinder pressure gauge to fluctuate. His buddy gave him his octopus regulator and they made a safe ascent to the surface. No subsequent ill effects were experienced.

September 2012 12/334

Solent Coastguard received a call from a dive support vessel reporting that a diver had made a rapid ascent following a dive to 52m; the diver was placed under observation and administered oxygen, no assistance required at this time. (Coastguard report).

September 2012 12/375

Three divers conducted a dive to a maximum depth of 20m. Approximately 30 min into the dive, one of the three indicated that he wanted to ascend. A DSMB was deployed and they began their ascent. At about 10m the diver who had indicated that he wanted to ascend lost control of his buoyancy. He made a rapid inverted ascent to the surface. He was recovered into the boat. He was cold and then complained of a headache. He was placed on oxygen. Diving medical advice was sought and the diver was taken by ambulance to hospital from where he was discharged 3 hours later.

September 2012 12/209

Following a previous dive to a maximum depth of 21m and a total duration of 31 min three divers conducted a dive to a maximum depth of 21m. 11 min into the dive one of the divers noticed it becoming harder to draw gas from his regulator and, after five or six breaths, he was unable to gain an adequate supply of gas even though his 15 lt cylinder was reading 180 bar contents. The diver switched to his 3 lt pony system, which was charged to 200 bar and informed his buddy that he had a problem and needed to surface. His buddy returned an OK signal and the diver started his ascent from approximately 19m. At 17m the diver noticed that his pony cylinder contents was reading just above zero and believed this was due to his excessive breathing rate. Believing he was now out of gas the diver decided to swim back down to his buddy and take his alternate supply. After taking a few breaths the diver signalled that the pair should surface immediately and all three divers ascended. During the ascent, at 15m, the diver's computer indicated that they were ascending too fast and in dumping gas the pair started to descend again and they sank back to 19m. The diver's buddy tried to inflate the diver's BCD but there was no gas available, however the pair eventually managed to start to ascend again. The pair ascended normally until reaching 9m and then the diver became positively buoyant and surfaced too quickly. On the surface the divers checked each other and found all to be OK. The diver checked his regulator again and found it to be working and that he could now put air into his BCD. Total dive time was 15 min.

Technique Incidents

November 2011**12/031**

A pair of divers descended to a wreck at a maximum depth of 24m. Visibility on the site was described as poor at 2m. The lead diver sent the shotweight to the surface as they would have been unlikely to have found it again and they planned to ascend on a DSMB. There was a slight ground swell on the site but nothing the divers had not experienced previously. The dive went well and despite the poor visibility the pair explored most of the wreck. At 18 min into the dive the less experienced diver showed her buddy her cylinder pressure gauge which was at 100 bar. The pair continued to explore the stern section and at 24 min the gauge was at 70 bar. The pair agreed to ascend at that time and the diver deployed her DSMB using her own gas source even though the lead diver had offered his own alternate source for the purpose. The pair ascended face to face and at 9m the lead diver checked his buddy's gas contents and noted it was around 20 bar. He showed the gauge to his buddy and offered her his alternate source which she took and breathed from. The pair made a controlled ascent to the surface and the low gas diver was able to inflate her own BCD. The divers were recovered into their cover boat and the low gas diver was found to have 10 bar remaining in her cylinder. Her buddy had 70 bar remaining.

January 2012**12/361**

Casualty was on the surface in the swimming pool, using a drysuit for the first time. She had her regulator and mask in place. Her feet floated up as the air had migrated to the drysuit boots and the diver went into a horizontal position. The instructor was holding onto her first stage and allowed the casualty to try to right herself as she thought the casualty could breathe with the regulator in place. The casualty struggled to roll over and then panicked. She dropped her weightbelt and turned upright on the surface. The trainee aspirated water.

April 2012**12/100**

Three divers using open circuit equipment entered the water and started their descent. Separately a rebreather diver also began his dive. Visibility was low and one of the three divers became separated from the other two. The two divers continued. The lone open circuit diver then began to follow the solo rebreather diver. They were diving on a wreck in a maximum depth of 29m. After about 25 min the rebreather diver found the open circuit diver following him and when he checked this diver's air supply he found that he only had 70 bar remaining. The open circuit diver's computer indicated a few minutes of stops. The rebreather diver signalled that the open circuit diver should start his ascent and he moved to the top of the wreck. The open circuit diver followed and the rebreather diver again indicated that he should ascend. The open circuit diver had a DSMB but no reel. The rebreather diver deployed his DSMB and assisted the open circuit diver, who was now struggling with a slipping weightbelt, to ascend. They encountered the shotline and conducted a safety stop at 6m. They surfaced with a total dive time of 40 min and the open circuit diver had just 5 bar remaining in his cylinder. After the dive the open circuit diver stated that this was his first dive in UK waters, all his previous experience had been in warm waters. He had had a reel at the start of the dive but it had become snagged at some point during the dive and lost. His contents gauge hose was also found to be relatively short making it difficult to read the gauge. It is suggested that narcosis may have affected this diver.

May 2012**12/078**

A diver who had previously conducted ten dives in a membrane drysuit with a cuff dump had purchased a new drysuit with a shoulder dump. She was keen to practice with it before joining a planned club trip on a bank holiday weekend. After a thorough pre-dive check and discussion on how to use the valve, the diver entered the water, with an instructor, and descended to a platform at 6m where they practiced a number of drysuit drills. The diver indicated she was comfortable and so the pair continued to a maximum depth of 17m. The diver indicated that she was enjoying the dive and that the suit was good but later, around 15 min into the dive, she felt she was ascending. She then lost confidence and was no longer able to remember how to operate her shoulder dump valve and was at one point seen trying to dump gas from her non-existent cuff dump. The diver held onto some rocks on the bottom and became inverted and was too scared to let go the rocks to signal her distress. Her buddy opened the shoulder dump and then pulled down her legs and assisted her back to the surface. A controlled ascent was conducted and neither diver suffered any ill effects. A subsequent dive later the same day to a maximum depth of 8m involved no significant incidents other than minor buoyancy control issues. The diver has subsequently had a cuff dump fitted to the suit and conducted dives without any buoyancy issues.

June 2012**12/217**

A pair of divers entered the water by stride entry from a pier for a second dive of the day. The pair exchanged OK signals and descended to 7m and again exchanged signals. They repeated this around 11m and one indicated his intention to descend further to which his buddy responded in a positive manner. At a depth of 20m the diver began inspecting an object on the seabed and after circling it he noticed that his buddy was not in his vicinity. The diver switched on his torch and rotated through 360 degrees a number of times including looking and signalling above him but found no sign of his buddy. After 2 min of searching the diver started to ascend and on reaching 3m there was still no sign of his buddy in the water or on the surface and so he surfaced omitting his optional 3 min safety stop after a total dive time of 9 min. On the surface there was no immediate sign of his buddy and the diver waited a further 2 min scanning for bubbles on the surface before exiting the water and de-kitting. The diver climbed to a higher observation point and searched the surface and shoreline for a further 8 min before retrieving his mobile phone from his car and calling the Coastguard. The missing diver surfaced approximately 25 min later after a total dive time of around 47 min to be met by the Coastguard team who had arrived by that point. The Coastguard stood down a lifeboat and rescue helicopter which had been tasked and shortly after the police arrived and took statements.

July 2012**12/132**

A pair of divers conducted a quarry dive to a maximum depth of 18m. For one of the pair it was her first dive after a long lay-off. They carried out some drills in shallow water and then continued the dive. After a while the diver indicated to her instructor that her fin had come loose. The instructor found that the heel strap had slipped and that her foot had ridden up inside the leg of her drysuit. The instructor attempted to resolve the problem and then decided to terminate the dive. They followed a slope upwards. The diver then indicated that her fin had come off completely; they searched but could not find it. They continued to follow the slope; the diver then lost the other fin. At this point the instructor used a controlled buoyant lift to raise

her to the surface. She was assisted from the water and suffered no subsequent ill effects.

August 2012

12/140

An instructor and a trainee completed some training drills. At this point the trainee had 85 bar. They then followed a line down to a depth of 18m. The water was cold and dark and the trainee became a little anxious. The instructor led her to shallower, warmer and lighter water. After 10 min the trainee signalled that she was out of air. She took the instructor's

alternative source. They moved to a shotline and made a controlled ascent to the surface missing a planned safety stop. No subsequent ill effects were experienced.

August 2012

12/323

Brixham Coastguard tasked Berry Head Coastguard to pass safety advice to two divers diving at Oxen Cove Brixham, the divers were in an area of heavy surface traffic with no surface marker buoy. (Coastguard report).

Equipment Incidents

October 2011**12/223**

A pair of divers conducted a dive to a maximum depth of 55m using trimix 18/40 as bottom gas. During ascent, at a depth of around 38m, one of the divers experienced his regulator becoming tight indicating a problem. The diver changed to his second regulator on his manifolded twin-set which did not appear to be delivering gas. The diver then switched to his buddy's spare regulator. The pair then ascended to their first decompression stop at 32m where the diver switched to his nitrox 32 decompression mix. The diver and his buddy completed all decompression stops including an additional 5 min at 4.5m using nitrox 80. After exiting the water the diver checked his equipment and found that his manifold valve was not open enough to allow gas to flow between the cylinders and one cylinder was empty. On opening the valve gas flowed into the open cylinder. The diver tested his spare regulator on a second dive and found it hard to breathe from in the minus position but much easier once in the plus position. The diver concluded that he had not fully switched it to the plus position when changing regulators. Neither diver suffered any ill effects.

October 2011**12/007**

Two trainee divers with their instructor and a supervising diver were conducting a training dive at a depth of 6m. After a duration of 28 min one of the students experienced a free flow from his BCD inflator hose. The supervising diver took him to the surface using a controlled buoyant lift and then they both returned to shore. The instructor surfaced with the second student and also returned to shore. The BCD was changed for a spare one and the group returned to the water to compete a weight check and weightbelt removal. On inspection the low pressure inflator was found to have lost a retainer nut allowing the spigot 'O' ring to fall out causing the free flow.

October 2011**12/046**

A pair of divers were at a depth of 30m during a dive where they had reached a maximum depth of 32m. One of the divers experienced a flooding of the loop of her rebreather. The diver switched to her stage cylinder but during this process her mask was dislodged and she was still taking in water. The diver ascended as slowly as possible. Total dive time was 40 min. The diver was given oxygen by the onsite rescue team, which she breathed for 20 min. No ill effects were reported.

October 2011**12/021**

During training for an advanced decompression course a diver was on the second dive of the day after a 2 hour surface interval. Towards the end of the dive to a maximum depth of 22m the diver prepared to perform a mid-water DSMB deployment as part of the course. Having ascended from 18m to 15m the diver removed her DSMB from stowage and proceeded to deploy it using her octopus. The octopus stuck and started to free flow; attempts to stop it by turning the mouthpiece down and breathing from it did not work. The diver took the instructor's alternate supply and the instructor turned off the diver's cylinder and then turned it back on again. This stopped the free flow and, after checking gas contents, the diver switched back to her main supply and then completed the exercise including simulated decompression stops at 6m.

October 2011**12/116**

A pair of divers were diving on a wreck in a maximum depth of 26m. One of the pair then felt buoyant and realised that her weightbelt had fallen off. She started a buoyant ascent but was

able to stop herself by holding onto the wreck. She was then able to get under a large metal plate. She indicated to her buddy what had happened. The buddy secured a line to the wreck and went to look for the weightbelt. Unable to find it he ran the line back to the shotline and secured it to the wreck along the route. The pair then made their way back to the shotline with the buoyant diver holding on to the line. She was able to use the shotline to control her ascent and they made a safe return to the surface.

December 2011**12/029**

A pair of divers were conducted a training drill for a diving course at a freshwater quarry. The student diver had previously completed a lift and shift exercise without incident. The pair then ascended from their maximum depth of 14m to 10m to practise deploying a DSMB mid-water. The student deployed the DSMB successfully without incident but then, as he went to stow his alternate source, it began to free flow. The student attempted to stem the free flow by breathing off it and pressing the purge button. The free flow would not stop and so the pair made a direct ascent to the surface, with the instructor making his alternate source available if required. At the surface the student inflated his BCD. On surfacing the student had 30 bar remaining in his cylinder and this ran out whilst they swam back to the shore.

December 2011**12/032**

An assistant instructor and student entered the water to conduct training for a simulated decompression dive. Following a dry run on shore the pair descended a shotline to 10m. The instructor then demonstrated the use of a reel for a distance line. During deployment the line became entangled in the reel. The line was untangled without the need to cut the line and the lesson was aborted. The divers continued with an uneventful scenic dive.

January 2012**12/051**

A pair of divers conducted a dive to a maximum depth of 48m. One diver was using a single 15 lt main cylinder with a 3 lt pony both of which were charged to 232 bar. His buddy was using independent 300 bar 10 lt cylinders and carried a 7 lt stage with nitrox 63. After 6 min at their maximum depth, spent taking pictures, the pair started to ascend at an angle up a wall. At a depth of around 45m the first diver's regulator began to free flow, slowly at first but becoming progressively worse. The diver switched to his alternate source from the same first stage and both started to ascend. The diver's buddy released the diver's pony regulator and got him to switch to it. He then turned off the main cylinder and after waiting a short while turned it back on again but it continued to free flow and so it was turned off again. At around 30m the diver switched to his buddy's spare 10 lt regulator. As the pair cleared the wall at a depth of around 25m they swam to a shotline a short distance away. At 18m the buddy indicated to stop to allow him to complete a deep stop required by his computer then both continued to ascend to 5m to conduct a 3 min safety stop. At this stop the buddy handed over his 3 lt stage which the diver switched to. The buddy then switched from his primary cylinder, which was now down to 60 bar, to his secondary that the diver had been using, which had 160 bar remaining. The pair then surfaced and the diver orally inflated his BCD whilst his buddy supported him. Both divers signalled OK and swam back to the shore, neither suffered any ill effects. The affected regulator was swapped and a subsequent dive carried out without incident.

February 2012**12/039**

A pair of divers were at the deepest point of their dive at 19m when one of the divers experienced a free flow. The diver attempted to stop the flow by breathing out and hitting the regulator but neither worked. The diver checked his gas contents at that time which read 150 bar and shortly after this had reduced by 10-20 bar. The diver took his buddy's alternate source and the pair conducted an ascent to the surface. The ascent was a little fast at first and then the pair descended again. The re-descent caused the divers' computers to require a decompression stop at 6m. The pair started to ascend again and had drifted to a fixed line and so used this to help to control their ascent. The pair also experienced problems with the donated alternate source as the hose was too short. The short hose made access to the BCD controls more difficult and resulted in the mouthpiece almost being pulled out on more than one occasion, adding to the divers' discomfort. The pair reached 6m and conducted the required decompression stop plus a 3 min safety stop. They then surfaced, the free flowing cylinder was switched off and the diver's BCD inflated orally. The diver's cylinder contents read zero but there was still some residual pressure remaining in the cylinder and the regulator first stage had not flooded. The buddy's contents read 100 bar at the conclusion of the dive. Total dive time was 18 min.

March 2012**12/059**

Following an uneventful first dive, on a wreck, to a maximum depth of 24m for a total duration of 40 min, including a safety stop at 6m for 3 min, a pair of divers entered the water, after a surface interval of 2 hours, to dive an offshore pinnacle. The pair descended down a wall to a maximum depth of 32m and, after a few minutes, ascended to around 25 to 22m for approximately 15 min. One of the divers started to notice increased buoyancy and that the shoulder dump on her drysuit was continually dumping gas. She also noticed that she had less gas remaining than she expected. The diver had recently had her suit serviced and so did not consider that it could have been the problem at the time. The pair decided to ascend and at 12m the diver struggled to control her buoyancy, she was also being affected by a heavy surface swell. At this point her gas contents was down to 60 bar. The diver tried to deploy her DSMB but abandoned it when her gas supply went to zero. She went to switch to her pony regulator but found that there was no gas available from that either and so she finned for the surface. On surfacing the diver started to panic because she felt she had no means of inflating her BCD, forgetting that she had an emergency cylinder fitted. The diver signalled the boat which started to approach immediately. She tried to release her weightbelt but was unable to find the release because she was wearing new mitt style gloves, which she was unaccustomed to. The diver was unable to orally inflate her BCD because she was struggling to stay afloat and to breathe having taken in a little water on the surface. Once the boat was alongside she managed to climb onboard and was placed on oxygen for 30 min. The diver had missed 2 min of safety stops but, other than being shaken and exhausted, suffered no ill effects. Her buddy completed her safety stops and surfaced unaware of the problems experienced by her buddy. Subsequent examination of the equipment identified that the diver's drysuit inflator hose had not been included in the servicing and had been sticking on causing the buoyancy problems and unexpected depletion of gas. In the rush to enter the water on the pinnacle the pair had omitted a buddy check that could have identified that the diver's pony cylinder had not been turned on.

April 2012**12/077**

A rebreather diver had taken a sabbatical from rebreather diving for 14 months due to problems obtaining oxygen cells and had returned to open circuit diving in the intervening period. The diver had done a number of build up dives having returned to

using his rebreather, both in the pool and then at an inland site, gradually building his experience back up to 40m in preparation for diving over Easter. The diver had prepared his rebreather the night before and completed a single dive without incident on the first day, including deploying a DSMB without assistance. Once back onboard the boat the diver did not have any problems other than feeling a little tired. He did not have any symptoms but was glad to be back onboard as he hadn't enjoyed the dive. On returning to his accommodation the diver stripped down his rebreather in order to change the scrubber material and dry out the unit head. In doing so the diver noticed that he had previously omitted to fit the scrubber canister O ring. This may have allowed some CO₂ to bypass the scrubber during the dive. The diver had not encountered any headache, breathlessness or any other ill effects during the dive.

April 2012**12/101**

Two divers were at a depth of 21m when the regulator of one of the pair started to free flow. The diver was unable to stop the free flow. His buddy gave him his alternative source and turned off the relevant cylinder. When the valve was re-opened the free flow continued. The divers then made a normal ascent using the alternative source. No subsequent ill effects were experienced. The regulator had been recently serviced. The diver adjusted the regulator and conducted two further dives without problems. The water temperature was 7 deg C.

April 2012**12/214**

A few minutes into a dive, at a depth of 10m, a diver began sucking in water through his regulator. The diver switched to his own alternate source but was unable to get any gas, although, after checking later, the alternate source worked correctly. The diver reached for his pony cylinder regulator but inadvertently picked up his main regulator again and again took in more water. The diver then signalled out of gas to his buddy who was only a metre or so away and she swam towards him and donated her pony regulator which the diver was able to breathe from. The diver continued to breathe from his buddy's pony until his breathing had settled and then the pair conducted a normal ascent and were recovered by their cover boat. On subsequent inspection the main regulator showed that the cover and diaphragm had parted company with the regulator. The alternate source was found to be working fine on the surface.

April 2012**12/079**

An instructor was with a group of trainees at a depth of 16m. He noticed a diver from a separate party swimming by; this diver's weightbelt had slipped down over his hips and looked like it would fall off. He indicated the problem to the diver and the diver's own instructor came to assist. The belt slipped down to the diver's knees. They assisted him to a shotline and used this to make an ascent. During the ascent the weightbelt became completely detached from the diver. They made a safe ascent to the surface. It later transpired that the rescuing diver had assisted this same diver to adjust his weightbelt earlier in the dive.

April 2012**12/067**

A pair of divers conducted a dive to a maximum depth of 36m for a total duration of 33 min. One of the divers was using twin 12's setup Hogrithian style [sic] and the regulators had been lying unused for several months. The pair ascended from the maximum depth to a 6m shelf and the diver prepared to practice DSMB deployment as planned. The DSMB CO₂ canister failed to fire and so the diver switched to his necklaced backup regulator to prepare to deploy using the long hose primary regulator. The primary regulator started to free flow and, after initial attempts to stop it failed, the diver shut down the right hand post and signalled the problem to his buddy. The

diver then sent up the DSMB using oral inflation and terminated the dive.

June 2012

12/226

A diver was preparing to dive and had kitted up on a bench. As he stood up his pony cylinder fell off the cylinder on his back and crashed to the floor behind him. There was a hissing of escaping air and so the diver de-kitted and waited for the hissing to stop before inspecting the damage. The A clamp was found to have taken the brunt of the fall and had been damaged allowed gas to escape. The diver packed away the damaged pony and regulator and continued the planned dive with his main cylinder only, which was undamaged. On further inspection the pony clamp was found to have a fault which meant that despite attaching with a secure sounding 'click' the lugs did not seat fully and the pony could slip out. The clamp was returned to the manufacturer who removed the design from sale and produced a more secure design. The diver was provided a replacement free of charge.

July 2012

12/134

A pair of divers conducted a wreck dive to a maximum depth of 23m. One of the divers had just under 50 bar remaining in his twin 10 lt cylinders as they deployed a DSMB for their ascent. This diver then noticed that his regulator was becoming hard to breathe from. He checked his pressure gauge and it read about 40 bar. He took his buddy's octopus and they ascended to 6m where they conducted a 3 min safety stop. The buddy switched to his pony cylinder to conserve his air supply. The diver switched back to his own regulator to see if he had in fact run out of air; the regulator was still hard to breathe from but it continued to supply air and the pressure gauge still indicated 25 bar when they reached the surface. No subsequent problems were experienced with this equipment and, when tested, the pressure gauge was found to under-read by 5 bar. No cause was given for the regulator problem.

Miscellaneous Incidents

October 2011**12/236**

Clyde Coastguard received a call from a local vessel reporting seeing two divers south of Largs pier. The informant was just leaving the pier at Largs and just at the Gogo Burn south of Largs pier, he reported that "there are two divers with full kit going into the water they looked as though they were struggling a bit to get under, the wind is 20 knots in a south west direction here, the divers have no flags up, nobody on the shore, it's a very unusual place for divers to go into the water as there aren't any wrecks or anything there. Just a bit concerned perhaps you could get a Coastguard to have a look." Clyde Coastguard tasked Largs CRT to attend, when they arrived on scene two divers were safely ashore on the promenade, they advised them that they should have had a dive flag and informed Clyde Coastguard of their intention. They have taken the advice onboard, they intend to do another dive this afternoon around the Gourrock area at Levan. (Coastguard report).

October 2011**12/049**

A diver was on a training dive at a depth of 6m when his mouthpiece started irritating his teeth. The mouthpiece came out of his mouth and the dive was aborted.

March 2012**12/346**

Lifeboat launched to assist dive boat. False alarm. (RNLI report).

March 2012**12/254**

Portland Coastguard received a call from a dive boat to report that one of the divers was caught below the surface in fishing net. The diver managed to cut himself free and was recovered safely to the dive boat. (Coastguard report).

April 2012**12/261**

Brixham Coastguard tasked Berry Head Coastguard and Torbay RNLI inshore lifeboat to a report of two divers possible overdue from a dive from Brixham Breakwater. The lifeboat located divers and confirmed both alright and unaware of the incident. FAGI. (Coastguard & RNLI reports).

April 2012**12/264**

Portland Coastguard received a call of a possible diver in difficulties; a vessel approached and recovered the diver. FAGI (Coastguard report).

April 2012**12/268**

Belfast Coastguard received a call reporting an overdue dive boat, which left Ballycastle to dive HMS Drake, the divers kitted up at 14:30 hoping they would be back at 18:00, the RHIB had eight to ten people onboard. The vessel returned to harbour. FAGI. (Coastguard report).

May 2012**12/271**

Falmouth Coastguard was passed a 999 call which was originally received by MRCC Dover reporting a possible overdue diver at Mullion Cove, Cornwall. Porthoustock CRT was tasked to attend Mullion Cove and establish the safety of the party. Dover received a second call confirming the divers were all safely ashore, CRT made contact with the party and collected details. (Coastguard report).

May 2012**12/272**

Brixham Coastguard tasked Plymouth Coastguard, Plymouth RNLI inshore lifeboat and police launch Paul Trevis to search the surrounding area of Devil's Point after a diver SMB was picked up by angling vessel Tee Jay. Nothing untoward found. (Coastguard & RNLI reports).

May 2012**12/120**

A group of divers were on their way to a dive site when they heard a Coastguard radio message asking for assistance for two canoeists who were in difficulties. They found them on some rocks. The sea condition was rough and divers entered the water to assist the canoeists to the boat. The water temperature was 11 deg C, the canoeists had no protective clothing and one lifejacket between them. Both were suffering from the cold and steps were taken to keep them as warm as possible. The Coastguard was informed and the canoeists were taken to the shore. The party were met by a paramedic who took over from the divers. A lifeboat arrived and recovered the swamped canoe.

May 2012**12/225**

A pair of divers descended to a wreck at a maximum depth of 35m. On reaching the wreck the divers noticed that the wreck had a large amount of fishing lines and ropes fouling it and visibility was poor at around 1m. One of the divers speculated afterwards whether they should have aborted the dive at that point but rationalised that they hadn't perhaps due to narcosis. The pair continued over the deck and slowly made their way around the superstructure. The pair came across a lifting bag attached to the shotline, which was floating above a hole in the deck that the shotweight had dropped into. Although not tasked to do so one of the divers decided to inflate the lifting bag and send the shotweight to the surface as they were close to completing their dive time. After doing so his gas contents had dropped to around 100 bar. The diver indicated to his buddy to ascend to which the buddy agreed. As the ascent started the diver discovered that the lanyard attached to his torch had become entangled in fishing line and removed his line cutter to cut it, assisted by his buddy. The diver then discovered that his fin had become entangled and he noticed the whole surrounding area was festooned with fishing line and rope. The diver's breathing rate began to increase, he lost buoyancy control and his mask flooded but his buddy was able to cut him free and he floated upwards. The diver then 'bounced' between 28m and 19m before regaining control at 20m. The diver looked around for his buddy but could not see him and decided to continue his ascent rather than risk increasing his decompression penalty looking for him in the poor visibility. The diver conducted 6 min of required decompression stops at 6m and surfaced after a total dive time of 29 min. The buddy had become entangled himself but had managed to cut himself free at the cost of the loss of his pony cylinder and he surfaced safely but was somewhat shaken. He was back in the boat by the time the other diver surfaced. The diver lost his torch as a result of the entanglement.

June 2012**12/286**

Holyhead Coastguard was made aware of two divers who were apparently in difficulties at Trefor beach Gwynedd. The divers struck the pier, and were holding onto it in rough sea conditions, a vessel assisted one diver, the other made it to shore unaided, an off duty first responder assisted one of the divers who was taken to hospital for examination. (Coastguard report).

July 2012**12/294**

Falmouth Coastguard tasked Penlee inshore lifeboat to a report from a shore contact that a dive RHIB had broken down off Low Lee buoy. The ILB arrived on scene and confirmed that there was no problem and that the RHIB had not broken down. FAGI (Coastguard & RNLI reports).

July 2012**12/296**

Yarmouth Coastguard received a report from Sheringham lifeguard that two divers were having difficulty regaining the shore, a lifeguard on a paddle board went out and assisted them in, lifeguards did not require RNLI or Coastguard assistance. (Coastguard report).

July 2012**12/353**

Two lifeboats launched to locate missing diver(s). False alarm. (RNLI report).

August 2012**12/314**

Forth Coastguard was called by St Abbs inshore lifeboat to report they were self launching to a report of a diver in difficulty near St Abbs harbour. MRCC Forth dispatched Eyemouth Coastguard to assist and alerted ARCC for info. The lifeboat recovered the diver to shore and reported although exhausted, he required no medical attention. Eyemouth Coastguard later confirmed this to be the case and ops terminated at 1228 UTC when units were stood down. (Coastguard report).

August 2012**12/320**

Brixham Coastguard made enquiries and a Ministry of Defence launch was dispatched when two divers failed to notify their shore contact after their dive at Eastern Kings, near Smeatons Pass, Plymouth and were reported overdue. The divers arrived home prior to units arriving on scene. (Coastguard report).

September 2012**12/156**

A dive boat heard a radio call concerning a climber in distress on the shore nearby; they offered assistance. On arrival they found the climber had dislocated his shoulder. He was about 5m up the cliff, above the entrance to a small cave. The climber's companions fitted him with a harness and he was lowered down into the boat. A helicopter arrived and the boat was directed to a small ledge where the casualty was picked up by the winchman and flown to hospital.

September 2012**12/333**

Full set of dive gear found on wreck of the Ethel, condition indicated that it had been there for some time. (Coastguard report).

September 2012**12/341**

MRCC Brixham tasked Torbay Coastguard to investigate the report of two divers possibly in difficulties off Hopes Nose, Torquay. Coastguards confirmed the two objects were marker buoys. False alert, good intent. (Coastguard report).

Overseas Incidents

Fatalities

November 2011

12/088

Three divers entered the water and started their descent. They planned to dive to 112m to the bridge of a wreck. One of the three experienced difficulty clearing his ears and they stopped at both 5m and 10m. This diver got to a depth of 15m, experienced more ear problems and ascended back to around 13m. At this point he signalled that he would abort the dive and that the other two should continue without him; this they did. The lone diver failed to return to the surface. It was some time before the party realised that this diver was missing. An extensive search was conducted involving boats and helicopters but the missing diver was not found. It is believed that this diver started his descent with nitrox 50 and would have switched to trimix 10/70 at around 20m. He was using a rebreather. There was a suggestion that he may have suffered hypoxia.

January 2012

12/052

Three divers completed a dive to a maximum depth of 30m and a total duration of 45 min including a 3 min safety stop at 5m. All three divers had used nitrox 32 with one diver having his computer set to 28% for additional conservatism; his buddies' computers were set to 32%. The three had descended the boat's mooring line and swum into a slight current for the first part of the dive and then drifted slowly back to the mooring line on their return; all had got slightly cold towards the end of the dive. After surfacing and regaining their boat they removed their equipment and the diver also removed his suit and re-entered the water to relieve himself which was his normal practice. All the divers dried themselves and changed into dry clothes. The diver took his thermos flask and went and sat on a bench for a cup of tea but subsequently fell over and became unresponsive. CPR was started and the oxygen kit prepared. The boat was released from the mooring line and an emergency call made whilst the boat headed back to harbour. CPR continued during the return to harbour and the boat was met by an ambulance. The ambulance crew came aboard and checked for vital signs asking for CPR to continue whilst this was being done and the diver was being prepared for evacuation. The diver was taken to hospital but did not survive. A subsequent post mortem identified that death had occurred from a burst artery close to the heart.

March 2012

12/009

A student on a rebreather course was at a depth of 30m with an instructor and a fellow student. 30 min into the dive the diver signalled that he had a problem and seemed to have trouble breathing. The diver was taken to the surface whilst continuing to struggle to breathe. The diver was made buoyant on the surface and shortly after lost consciousness. The diver was recovered back onto the boat where CPR was carried out whilst the boat returned to the shore (40 min approx.). The diver was taken to hospital but did not recover.

April 2012

12/010

A diver, who had not dived since gaining his initial qualification fifteen years previously, had been undertaking refresher training in the pool over the winter. The diver had conducted an uneventful and enjoyable dive earlier in the day to a maximum depth of 8m for 15 min. After a surface interval of 2 hours and 20 min the diver entered the water with an experienced buddy

with a plan to dive to a maximum depth of 8m for 30 min. On entering the water some time was spent adjusting buoyancy before descending and commencing the dive. Approximately 7 min into the dive the diver was seen ascending slowly towards the surface whilst he was swimming along. His buddy followed him to the surface where the diver indicated that he was having difficulty breathing. The diver was advised to keep his regulator in whilst his buddy began towing him towards the shore. The buddy could initially hear the diver breathing from his regulator but after towing a short distance the sounds of breathing stopped. The buddy checked the diver who appeared to be unconscious and he began administering rescue breaths whilst towing towards the exit point and shouting for help. An RHIB in the area came alongside and offered assistance. The diver was recovered into the RHIB and given oxygen enriched rescue breaths with chest compressions and the emergency services were contacted. The diver was returned to shore where resuscitation efforts continued for 40 min until the arrival of a rescue helicopter. The diver was airlifted by helicopter to hospital but did not recover.

July 2012

12/110

A trainee diver conducted a solo dive from the shore. The maximum depth is thought to have been around 7m. He was later seen face down at the surface and the action of the waves washed his body towards the shore. A friend waded out and found him face down with his mask off and his BCD deflated. The emergency services were alerted and the casualty was airlifted to hospital where he was declared dead. There was some suggestion that a medical event may have been involved.

Decompression Illness

November 2011

12/036

A diver conducted a series of dives on a diving holiday. He undertook a dive using nitrox 28, to a maximum depth of 36m, for a duration of 47 min with 16 min of stops at 3m to clear his computer; the computer was set for diving on air. Following the dive, the diver had lunch and felt progressively unwell including symptoms of migraine, headache, dizziness and tingling and numbness intermittently in his left buttock. The diver took paracetamol and went to bed for 2 to 3 hours by which time he felt better. Another member group had commented to others that the diver had been suffering stomach cramps and migraines. An examination of the diver was inconclusive but a history revealed that the diver had experienced the same symptoms following a second dive of the day ever since he had started diving in 2004 with symptoms starting within 30 min of surfacing. The diver was advised not to dive for the remainder of the holiday and to consult his GP and a medical referee on his return home. The diver was seen by a medical referee who advised referral for a PFO test. The test revealed the diver had a PFO and he was awaiting a closure.

January 2012

12/037

A diver had completed two dives the previous day on a diving holiday. On the second day the diver completed a dive to 27m for 55 min duration followed 86 min later by a dive to 22m for 56 min total dive time. 60 min after surfacing the diver became unstable and felt nauseous. The diver reported his symptoms to the dive guide and was immediately put on oxygen and given water to drink. A recompression chamber was contacted and

the diver was transported to the chamber arriving 75 min after the onset of symptoms. The diver spent 2 hours in a chamber where he received recompression treatment on oxygen with air breaks. The diver suffered no lasting effects.

May 2012**12/085**

A pair of divers were diving a wreck at a depth of 66m. Both were using rebreathers and trimix and planned a run time of 20 min and total dive time of 60 min. Approximately 14 min into the dive the mouthpiece of one of the divers detached from the integrated bailout valve (BOV) and the loop fell away, it flooded and the diver inhaled water. The diver tried to reattach the mouthpiece and switch to the bailout open circuit supply but inhaled more water. He abandoned the BOV presuming he had not fully switched the valve and found the mouthpiece still in his mouth which he removed. The diver then switched to his alternate integrated BCD mouthpiece and, after a couple of attempts to reach it, managed to breathe from it but found it difficult as he was hyperventilating and felt it was very stiff. The diver signalled his buddy, who had seen the original problem and knew the diver had inhaled water, and he took the offered bailout regulator. This regulator had a free flow control device on it, which the diver was not aware of, and it was switched off so the diver was unable to obtain a breath from the regulator. The diver handed it back to his buddy for him to switch on, which he did, and returned it. The diver was now able to breathe but the added delay and further inhaled water meant he was breathing rapidly and starting to panic. Both divers were now concerned about the limitations of bailout gas available from the buddy's 7 lt bailout cylinder and so started an ascent. The diver began finning hard to initiate the ascent, whilst his buddy prepared to deploy a DSMB. The buddy dropped his DSMB and then took the troubled diver's DSMB but dropped this as well in the confusion as the pair were surrounded by a large amount of bubbles. The pair made an ascent direct to the surface missing 14 min of required decompression stops. The diver switched from his buddy's hypoxic bailout gas to his own oxygen bailout. The diver relaxed face down in the water trying to calm down but his buddy tried to lift him up. He signalled that he was OK and indicated for his buddy to go onto oxygen. The buddy then shouted for the cover boat and began swimming for it as he was experienced a burning pain in his shoulder and upper chest. The cover RHIB came alongside and recovered the divers. Oxygen and water were provided, a call was made to the Coastguard and the boat began to make way back to port. The buddy began vomiting shortly after getting in the boat and this prevented him from drinking and interrupted the breathing of oxygen. The shoulder and abdominal pain subsided within a few minutes. The RHIB returned to shore and the buddy was transferred to a rescue helicopter that had landed nearby. Both divers were transferred by helicopter to hospital where both divers were assessed. Both were found to have lowered core temperatures and the buddy had low oxygen saturation. The buddy then started to develop weakness and numbness in his legs and lower abdomen but was able to walk and had some pain around his right shoulder. The diver displayed no symptoms and so was not recompressed. The buddy was recompressed and the initial treatments were extended due to continued symptoms. At the end of the first treatment the buddy's condition deteriorated and so a further treatment was undertaken immediately. After several treatments over the next few days the buddy continued to suffer serious lower body detriment and he continued to receive treatment including physiotherapy.

July 2012**12/154**

A diver conducted a 91 min dive to 71m including the following stops; 3 min at 15m, 5 min at 12m, 8 min at 9m and 34 min at 6m. 23 hours later he dived to 78m for 82 min with the following stops; 4 min at 21m, 4 min at 12m, 6 min at 9m and 25 min at 6m. 90 min later he conducted a dive to 56m for 89 min with

the following stops; 2 min at 15m, 4 min at 12m, 6 min at 9m and 40 min at 6m. Prior to this dive he felt tired. Towards the end of the dive at a depth of about 30m the diver and his buddy had to reposition the boat's anchor chain and a lifting bag and this involved hard physical work. The diver was using open circuit trimix 13/60. During the ascent, at a depth of 21m, he switched to nitrox 50. At this point he noticed a pain in his left knee and wrist but thought little of it. On surfacing the pain increased and he had a tingling on his skin which felt dry and rough; he sought diving medical advice. 7 hours 30 min later he received recompression treatment and his symptoms were resolved.

July 2012**12/219**

A diver conducted two training dives in a day to 10m for 37 min and 2 hours 8 min later a second dive to a maximum depth of 15m for 34 min using nitrox 32. Some time after surfacing the diver complained to his buddy that he was feeling slightly dizzy. The buddy sat him down and gave him some water to drink (200ml). 40 min later the buddy conducted a casualty assessment as a precaution. It was discovered that the diver had a slight tingling sensation in his left fingertips. The duty medical officer was contacted and the diver was advised to go onto oxygen and be transferred to hospital. The diver was transferred to hospital by ambulance and he subsequently received treatment at a recompression chamber.

Illness / Injury**November 2011****12/023**

A student on an entry level diver training course had completed two dives on the second day of the course to 4m for 59 min and 3m for 31 min after an 80 min surface interval. At the end of the day the diver complained of earache. The following day the diver was seen by medical staff and was informed that he had a perforated ear drum and he was advised not to dive.

November 2011**12/028**

A diver was completing his final sheltered water dive for his entry level course at a depth of 4m. After 24 min the diver indicated he had discomfort in his left ear on descent. The dive was terminated and the diver taken to a medical facility for treatment. The diver was advised not to dive until further notice.

January 2012**12/035**

A snorkeler had been snorkelling from a RHIB for 2 hours. On returning to the RHIB the practice was that the Coxswain would hold the diver's right arm, leaving the left arm free to grab the seat pod, and then pull on the count of three. The Cox had a habit of pulling on two and half. The RHIB also had a hard rubber grab handle on the sponson just above the rubbing strip. On being pulled into the RHIB the diver hit his left side on the grab handle cracking a rib. The diver experienced severe pain when sleeping on his left side for a period of two weeks and all pain subsided after six weeks.

April 2012**12/233**

Whilst preparing to dive a student diver discovered that the dump valve on her BCD had broken and she changed for a hire BCD. She had broken her mask the previous day and was also using a hired mask. The student and her instructor entered the water and swam through an open tunnel to the outside reef. Approximately 10 min into the dive the pair were at a depth of 18m when the student started to have a problem with her mask, she then suddenly turned to face the reef wall, inflated her BCD and started to ascend. Her instructor grabbed a 'D' ring as there

was no rear dump on the BCD and dumped her own gas in an attempt to slow the ascent. On surfacing the student said she couldn't breathe but this was due to an over-inflated BCD and once some gas was released she was able to breathe easily. The student explained that she had got mucus and water in her mouth as a result of the leaking mask and didn't know if she could or should swallow it and had panicked but apart from the rapid ascent had suffered no ill effects. The instructor had bloodstained mucus in her mask, sinus pain and pain and deafness in her right ear. The pair swam on the surface to the entrance to the tunnel but because of surface traffic had been advised to swim back through the tunnel underwater. The instructor gave the student her spare mask which fitted and the pair descended to 6m and swam back underwater. On descent the pain in the instructor's sinuses and ear was relieved but returned after their final ascent. The pair did not dive again that day and went sightseeing the following day before flying home the next day with no further problems. The injury to the instructor was implicated in incident number 12/234.

April 2012 **12/123**

An instructor and a trainee entered the water and descended a shotline to a depth of 4m. At this point the trainee experienced ear pain. The instructor aborted the dive and brought the trainee to the surface. Subsequent medical examination found no injury and the diver was able to continue with subsequent dives.

April 2012 **12/072**

During descent for a planned dive of 31 min to a maximum depth of 15m using nitrox 32, a student on a training course experienced difficulty clearing his ears at a depth of 12m. The student experienced severe pain in his left ear and signalled the problem to his instructor. The instructor terminated the dive and all three divers made a controlled ascent to the surface and were recovered to the boat. On returning to the shore the student sought medical advice and was diagnosed as having a perforated eardrum.

August 2012 **12/221**

A trainee diver conducted a training dive to a maximum depth of 4m for 35 min. On surfacing the diver reported having 'pins and needles' in her hands which lasted for 10 min. This was attributed to a tight wetsuit seal and she stated that she often got 'pins and needles'. After a surface interval of 90 min the diver completed a training dive to a maximum depth of 6m and total duration of 40 min without incident. On surfacing the diver reported a pain in her chest. After de-kitting she reported 'pins and needles' in her hands and feet. The diver was taken into shade, laid down and given oxygen. Contact was made with a recompression chamber doctor for advice and, although initially advising DCI was unlikely due to the limited depths, the group were advised to take the student to hospital for assessment. At hospital the student declined blood tests and IV fluids. An ECG and chest x-ray were conducted and showed no abnormalities and the diver was discharged. The diver was advised not to dive again until passed fit by a diving doctor.

September 2012 **12/159**

Three divers conducted a dive to a maximum depth of 28m. Towards the end of the dive they started back to exit in the area of a sheltered cove. But a current carried them away from the cove and into rough water. They tried swimming underwater but made no headway. At the surface they could not use snorkels because of the breaking seas. They decided to swim to the nearest point on the shore. Once there they were repeatedly thrown against jagged rocks and were unable to climb onto the shore. Two divers eventually made it ashore and came back to assist the third. The third diver had sought

shelter in a small alcove, protected from the action of the sea, but was unable to climb out. Their shore party had seen their plight and called the emergency services. The trapped diver was eventually lifted to safety by a helicopter. This diver was taken to hospital and treated for bad cuts to her hands. Their diving equipment had protected them from more serious injuries from the rocks.

Boating and Surface

October 2011 **12/006**

A coxswain covering three pairs of divers responded to another RHIB's coxswain who was waving for assistance. On moving alongside it was reported that the throttle handle had parted from the engine. The RHIB was taken under tow and the divers were subsequently recovered. The disabled boat was towed back to harbour without further incident. The throttle handle was repaired by securing it in place with a locking screw and glue. The repair was effective for the remainder of the trip.

October 2011 **12/022**

A pair of divers entered the water from the shore for the third dive of the day, in late afternoon, intending to exit at dusk. There was a light swell as they entered over a rocky shore. The pair conducted an uneventful dive to a wreck at a maximum depth of 15m and a total dive duration of 54 min. Towards the end of the dive there was a noticeable swell at 9m and it was increasingly noticeable at 6m. On surfacing, a heavy swell could be observed hitting the shoreline. One diver attempted to exit and was picked up by a wave and thrown onto rocks by the exit point but managed to hold onto a rail provided. The second diver attempted to assist the first to remove her fins. Whilst doing this the second diver was picked up by a wave and smashed face down on the rock and then swept off back into the sea. The diver checked his mask and regulator for damage; both were intact and functioning. The diver then exited the water and de-kitted himself and then went to assist his buddy from the water. The first diver lost her camera whilst in the swell as it broke away from the lanyard fixing. The second diver's camera was also damaged in the surf. Neither of the divers suffered injuries.

Ascents

February 2012 **12/042**

A diver on holiday was on a trip to dive offshore pinnacles for a drift dive with expected multiple shark sightings. She was buddied with an instructor and her student who was on a deep dive speciality course. The dive plan was for the diver to accompany the instructor and her student to a maximum depth and then transfer to join the main dive group as the instructor was to descend to 40m for a training exercise. The diver entered the water but had problems with clearing her ears and took time to descend to 5m where the instructor and the student were waiting for her. The three then continued their descent with the diver concentrating on the instructor but aware of the group in her peripheral vision. The diver saw a signal for her to separate and join the main group and was mildly surprised, on checking her gauges, to find she was at 36m and the main group were no longer visible. She remained close to the instructor and they reached a maximum depth of 40m where they stabilised in a current. The instructor then began a DSMB deployment exercise with her student and the diver looked around to inspect the coral and fish life. The instructor was using a reel with 50m of line and due to the prevailing current, 3 knots, on deployment she and her student were immediately

dragged up 10m so that when the diver turned back around she was alone and unable to see them. She ascended to 23m but, because she had not dived using a BCD for buoyancy before, she forgot to dump the expanding gas and had difficulty remaining at 23m and had to swim down. The diver saw a solo diver, a roving photographer from the main group, further along the reef and signalled her that all was not well but the diver turned and swam rapidly away. It later turned out she had been swimming in the direction of the main group but the diver had been unable to follow. The diver then made an uncontrolled ascent direct to the surface in 5-7 secs. On surfacing the photographer also surfaced and checked she was OK and then recovered her dive. The diver was recovered to the dive boat and placed on oxygen for 15 min. No ill effects were encountered.

May 2012 **12/124**

A diver under training conducted a dive to a maximum depth of 14m. At 6m he deployed a DSMB then he made a slow buoyant ascent to the surface. Despite signals from his instructor he then re-descended to conduct his missed safety stop before surfacing normally. His dive duration was 34 min. No subsequent ill effects were reported.

May 2012 **12/207**

A diver conducted a dive using nitrox 32, with her buddy, to a maximum depth of 27m and made a gradual ascent up the reef. After 25 min the pair were at 20m and reached the entrance to a tunnel which sloped steeply up. The pair had conducted the same dive the previous day and had been through the tunnel without incident. The diver had 80 bar of gas remaining and entered the tunnel first followed by her buddy. On exiting the tunnel at a depth of 12m the diver hit her cylinder valve on the roof of the tunnel and her contents gauge dropped rapidly to zero. Her buddy was behind her in the tunnel, was unaware of the problem and was not in a position to donate his alternate source, so the diver decided to ascend direct to the surface. Initially the diver was able to get some gas and so ascended slowly to around 5m before the gas delivery ceased and she made a faster than normal ascent, her computer indicating the ascent from 12m to the surface taking less than a minute. On surfacing the diver orally inflated her BCD and waved for assistance. An inflatable from the dive boat came to pick the diver up and she was able to signal her buddy from the surface that she was OK. He completed his safety stops at 6m before surfacing and returning to the boat. The diver was kept under observation for 24 hours but suffered no ill effects.

June 2012 **12/090**

A diver conducted his second dive of the day. He dived, with a dive leader, to 20m for 20 min. The pair deployed a DSMB to make their ascent. At 6m the diver commenced a rapid ascent to the surface. At the surface he 'seemed rather flustered'. He was placed on oxygen for 10 min and seem subdued. On return to shore he had fully recovered and experienced no subsequent ill effects.

August 2012 **12/136**

An instructor and a trainee were on a dive to increase the trainee's experience of depth. They descended a shotline to 20m and then followed the seabed down to 33m. Towards the end of the dive they made a slow, controlled ascent to 11m where the instructor deployed a DSMB. Prior to this point the trainee's buoyancy had been good. However, while the instructor was deploying the DSMB the trainee started to float upwards. He was unable to stop himself being carried to the surface, missing a planned 3 min safety stop. The instructor surfaced normally. Both were safely recovered from the water. Neither diver had had less than 5 min no stop time left at any point in the dive. No subsequent ill effects were experienced.

September 2012 **12/222**

Three students on an accelerated decompression course and their instructor conducted a dive to a maximum depth of 34m using nitrox 27. During descent the divers experienced very poor visibility of 2 to 3m, although they conducted a bubble check without problem. On reaching a depth of 25m the visibility improved considerably. The dive and training drills proceeded without problems and the group started their ascent at the planned time of 28 min. At a depth of around 26 to 28m all four divers took up positions slightly apart to avoid entanglement and deployed their DSMBs. The instructor was level with one student whilst another was slightly above him and the third student slightly below. At 25m the instructor lost sight of the last two students as he entered the poor visibility zone but knew they had been in close proximity and was confident they would regroup on their decompression stop. As the pair approached their decompression stop at 6m the instructor had already switched to his decompression mix of nitrox 50 and his remaining student was just about to switch. The pair were suddenly dragged upwards. The instructor managed to control his ascent and regain control of his buoy line, his student let her reel go. The pair had been momentarily dragged up to 3m and so decided to extend their decompression stops by 6 min and surfaced after a total dive time of 40 min. The instructor surfaced to find the other two students in the cover boat and breathing oxygen from two separate oxygen sets onboard. The deeper of the students had been using a finger spool for the DSMB deployment and he had stuck his gloved finger into the spindle hole of the spool instead of allowing it to spin free. During deployment this had created friction and the diver found himself being pulled upwards. He was unable to control his drysuit and BCD during the ascent and made a fast ascent direct to the surface, missing decompression stops. The shallower student got his fin and ankle knife tangled on the buoy line of the deeper student as it was deployed and was also dragged to the surface in a fast, feet first, ascent as he was unable to reach his BCD controls. Both divers did switch to their decompression gas whilst awaiting recovery on the surface. During their fast ascent it is believed they snagged the lines of the instructor and the other student resulting in them being pulled upwards. On the surface the instructor carried out a CNS examination of the two students on oxygen and found no signs or symptoms of DCI. A call had already been made to the local port authority and marine police in line with local practice. A police launch arrived shortly afterwards and transferred all three students back to harbour and on to hospital for treatment. The instructor remained onboard to assist with recovering a final pair of divers who were not part of the course. The three students were taken to hospital and, after having x-rays and blood tests taken, were transferred to a recompression chamber where they each received a 2 hour 15 min recompression treatment, all remained symptom-free.

Equipment**October 2011** **12/019**

A pair of divers had conducted a first gentle drift dive to 16m for a maximum dive time of 45 min including a 3 min safety stop. One diver was using his own regulator and his buddy was using hired equipment. After a surface interval of 45 min the pair were joined by the dive centre owner for a second dive on a wreck at a maximum depth of 17m. After approximately 35 min the pair were asked for their cylinder pressures. The diver with the hired equipment showed the gauge to the dive guide at which point it exploded. The diver stopped to pick up the gauge whilst her partner picked up the console computer. The guide then provided his alternate source, which was taken by the diver who was a little confused as her regulator was still working well. The

guide then tried to put his thumb over the end of the high pressure gauge hose but was unable to stem the flow of gas. The group ascended to 6m where they conducted a 3 min safety stop.

April 2012 **12/071**

During a training dive, at a depth of 4m, a student was practicing for an alternate source ascent with another student, under the supervision of an instructor. He took the donor's alternate source and experienced a very wet breath and appeared to be uncomfortable. The instructor aborted the drill and the dive was terminated after a dive time of 46 min. On inspection the exhaust valve of the alternative source was found to have become inverted and was not making a seal; the fault was rectified. The student had practiced the same drill with the same equipment on a previous dive that day without problem.

May 2012 **12/125**

During a training course an instructor was demonstrating the mid-water deployment of a DSMB. He heard a loud 'pop' and was surrounded by a mass of bubbles. He discovered that the hose to his pony cylinder's pressure gauge had burst. The dive was aborted and a safe ascent was made.

June 2012 **12/129**

A diver entered the water at the start of a dive. An air leak was seen near the shoulder dump of his BCD. The BCD was replaced and the dive continued normally. Subsequent examination revealed a failure of a welded seam of the inner bladder of the BCD. This fault was found on three other BCDs from the same manufacturer. The manufacturer was informed and they instigated a recall.

July 2012 **12/130**

A dive was aborted when a diver's pressure gauge hose was seen to be leaking.

September 2012 **12/163**

A number of divers were engaged in a training event. One diver lifted another from 20m using a controlled buoyant lift. During the dive a small stream of bubbles were seen coming from the diver's cylinder valve. During the lift the 'O' ring blew out and a large air loss took place. The diver took his buddy's octopus regulator and the buddy closed the cylinder valve. They made a controlled ascent to the surface including a 3 min safety stop.

INCIDENT REPORTS

If you would like to add to, correct or place a different interpretation upon any of the incidents in this report please put your comments in writing and send them to the following address:

**The Incidents Advisor,
The British Sub-Aqua Club,
Telford's Quay,
South Pier Road,
Ellesmere Port,
Cheshire,
CH65 4FL.**

For new incidents please complete a BSAC incident report form and send it to BSAC HQ at the address shown above.

All personal details are treated as confidential.

Incident Report Forms can be obtained free of charge from the BSAC Internet website

www.bsac.com/incidentreporting

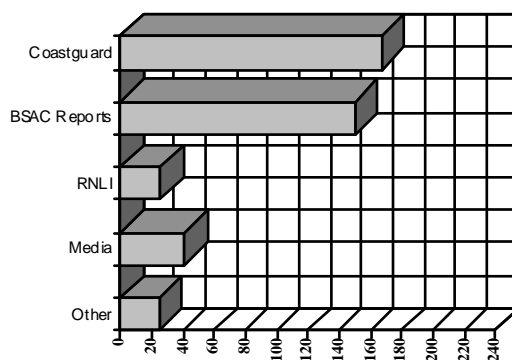
or by phoning BSAC HQ on **0151 350 6200**

Numerical & Statistical Analyses

Statistical Summary of Incidents

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Incidents Reported	439	465	453	409	498	499	437	401	416	453	412	405	377
Incidents Analysed	417	458	432	392	445	474	418	377	381	409	393	392	346
UK Incidents	384	433	414	366	423	441	379	349	359	381	364	375	314
Overseas Incidents	33	25	18	26	22	33	39	28	22	28	29	17	32
Unknown Locations	1	0	0	0	0	0	0	0	0	0	0	0	0
UK Incident - BSAC Members	113	122	149	162	154	160	148	120	129	120	116	193	133
UK Incident - Non-BSAC Members	52	94	55	74	72	65	50	61	65	29	30	94	40
UK Incident - Membership Unknown	219	217	211	130	197	216	181	168	165	232	218	88	141

UK Incident Report Source Analysis



Total Reports: 439
Total Incidents: 314

History of UK Diving Fatalities

Year	Membership	Number of Fatalities	
		BSAC	Non-BSAC
1965	6,813	3	-
1966	7,979	1	4
1967	8,350	1	6
1968	9,241	2	1
1969	11,299	2	8
1970	13,721	4	4
1971	14,898	0	4
1972	17,041	10	31
1973	19,332	9	20
1974	22,150	3	11
1975	23,204	2	-
1976	25,310	4	-
1977	25,342	3	-
1978	27,510	8	4
1979	30,579	5	8
1980	24,900	6	7
1981	27,834	5	7
1982	29,590	6	3
1983	32,177	7	2
1984	32,950	8	5
1985	34,861	8	6
1986	34,210	6	9
1987	34,500	6	2
1988	32,960	10	6
1989	34,422	4	8
1990	36,434	3	6
1991	43,475	8	9
1992	45,626	9	8
1993	50,722	3	6
1994	50,505	6	6
1995	52,364	9	9
1996	48,920	7	9
1997	48,412	4	12
1998	46,712	6	16
1999	46,682	8	8 *
2000	41,692	6	11
2001	41,272	9	13
2002	39,960	4	10
2003	38,340	5	6
2004	37,153	6	19
2005	37,185	5	12
2006	35,422	4	12
2007	34,857	7	5
2008	34,325	6	4
2009	32,790	7	7
2010	32,229	8	9
2011	30,909	4	7
2012	29,632	10	7

Note

* 1999 Figure corrected from 9 to 8 due to a double count discovered in 2010

LIST OF ABBREVIATIONS USED IN THIS AND PREVIOUS INCIDENT REPORTS

AS	Alternative source (gas or air)
AAS	Alternative air (gas) source
A&E	Accident and emergency department at hospital
AED	Automated external defibrillator
ARCC	Aeronautical rescue coordination centre
ARI	Aberdeen Royal Infirmary (Scotland, UK)
AV	Artificial ventilation
AWLB	All weather lifeboat
BCD	Buoyancy compensation device (e.g. stab jacket)
BOV	Bailout valve
CAGE	Cerebral arterial gas embolism
CG	Coastguard
CCR	Closed circuit rebreather
CNS	Central nervous system
CPR	Cardiopulmonary resuscitation
CRT	Coastguard rescue team
DCI	Decompression illness
DDMO	Duty diving medical officer
DDRC	Diving Diseases Research Centre (Plymouth, UK)
DSC	Digital selective calling (emergency radio signal)
DSMB	Delayed surface marker buoy
DPV	Diver propulsion vehicle
ECG	Electrocardiogram
ENT	Ear, nose and throat
EPIRB	Emergency position indicating radio beacon
FAWGI	False alarm with good intent
FRS	Fire and rescue service
GP	General practitioner (doctor)
GPS	Global positioning system
Helo	Helicopter
HLS	Helicopter landing site
HMCG	Her Majesty's Coastguard
HUD	Head up display
ILB	Inshore lifeboat
INM	Institute of Naval Medicine
IV	Intravenous
LB	Lifeboat
MCA	Maritime & Coastguard Agency
m	Metre
min	Minute(s)
MOD	Maximum operating depth
MOP	Member of the public
MRCC	Maritime rescue coordination centre
MRSC	Maritime rescue sub centre
MV	Motor vessel
NCI	National Coastwatch Institute
PFO	Patent foramen ovale
POB	Persons on board
QAH	Queen Alexandra Hospital (Portsmouth, UK)
QAB	Queen Anne Battery (Plymouth, UK)
RAF	Royal Air Force
RHIB	Rigid hull inflatable boat
RMB	Royal Marines base
RN	Royal Navy
RNLI	Royal National Lifeboat Institution
ROV	Remotely operated vehicle
SAR	Search and rescue
SARIS/SARSYS	Search and rescue information system
SMB	Surface marker buoy
SRR	Search and rescue region
SRU	Search and rescue unit
UTC	Coordinated universal time
VLB	Volunteer life brigade
999	UK emergency phone number