

The British Sub-Aqua Club



National Diving Committee Diving Incidents Report **2008**

Compiled by

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Introduction

This booklet contains the 2008 Diving Incidents Report, produced by The 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.

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:-

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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 2008*

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:

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Derek Scrivener, Service Information Data Quality Supervisor,
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Royal National Lifeboat Institution**

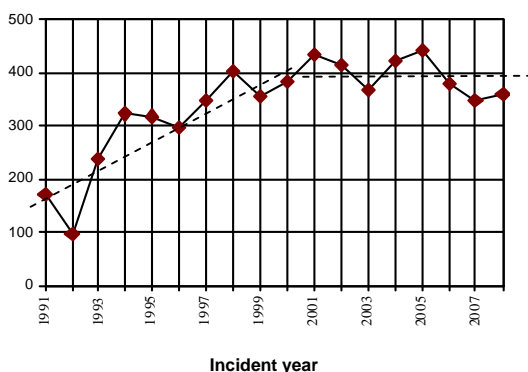
and, in particular, all of those divers and other sources who have taken the trouble to complete Incident Reports and share their learning experience with others.

Finally, to Dr. Yvonne Couch for proof reading this report

Overview

2008 has seen a levelling out of the number of incidents reported in the UK with a total of 359 being reported. The chart below shows the total of UK incidents reported annually over the last 18 years and it can be seen that after a doubling during the 90s, there was a levelling out from 2000 onwards to an average of about 400 incidents per year. The last three years have been below this figure but it seems probable that the number is currently stabilising at a little below 400, making 2008 slightly below the current norm.

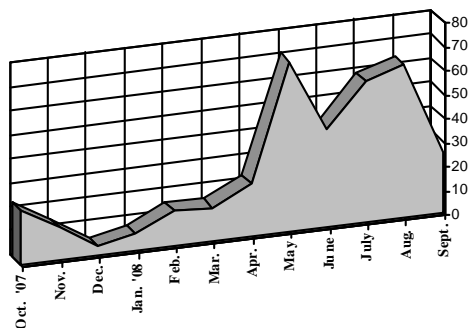
Number of reported incidents



The distribution of reported incidents by month is shown in the following chart and although it largely conforms with the expected pattern there are some abnormalities. March, April and June are somewhat below previous years and May is the highest number for over seven years. The nature of the incidents in May is totally in line with the nature of the incidents across the year as an average, so there is no suggestion that a particular problem caused this peak. More probably these variations will have been as a result of the prevailing weather conditions.

As can be seen, 72% of these incidents have occurred in the summer period. This is slightly higher than the norm of 67%.

Incidents by month - 2008



Incidents by category

The incident database assigns all incidents into one of nine major categories, and the following chart shows the distribution of the 2008 incidents into those categories.

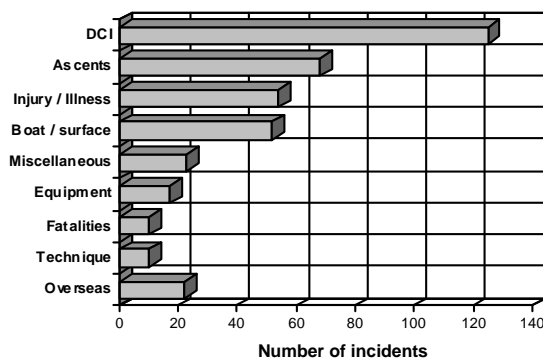
Last year, for the first time, the number of 'Ascent' related incidents overtook the number of 'Decompression illness (DCI)' related incidents; this year sees a return to the previous situation with 'DCI' once again being the largest category of incidents with a total of 125 events involving one or more individuals with DCI.

Since a peak of 144 DCI incidents in 2002 the pattern had been one of a declining trend, each year being lower than the last with only 81 incidents reported in 2007; this year that number has increased by over 50%.

On the other hand the number of cases of 'Ascent' problems has seen a steady climb over the previous 11 years. As a result of this disturbing trend BSAC has been running a campaign encouraging divers to pay much more attention to buoyancy and ascent skills. It is good to see that the number of 'Ascent' related incidents has fallen by over 30% from its peak in 2006. Typically these incidents involve a rapid ascent, often with missed decompression stops. However, if such an ascent were to have resulted in a DCI then it would have been recorded in the more serious 'DCI' category.

More detail on 'DCI', 'Ascent' and 'Boat / Surface' incidents can be found later in this overview together with an analysis of the most serious category; the 'Fatalities'.

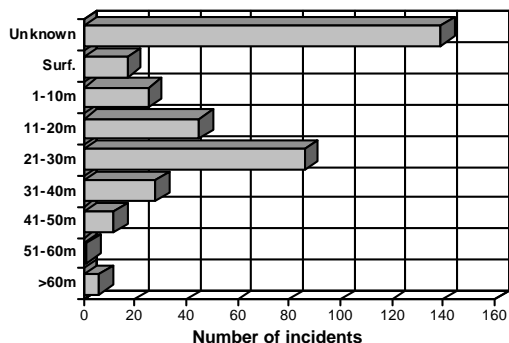
Categorisation of all the year's incidents



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 range is 7, which is in line with previous years. None of these 7 incidents was a fatality.

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.

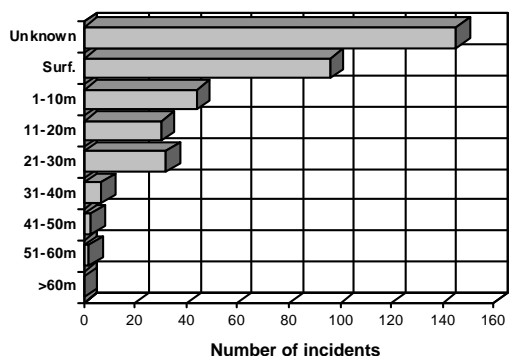
The recommended limit for divers trained to Sports Diver standard is 35m and then only when they have received appropriate training for diving at this depth.

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

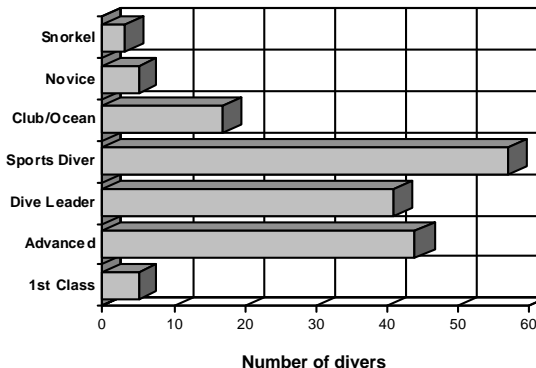


Inevitably the data are biased towards the shallower depths since many incidents happen during the ascent or at the surface. Critical among these are the DCI cases where almost always the casualty is out of the water before any problems are noted. This partially explains the large occurrence of 'Surface'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

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.

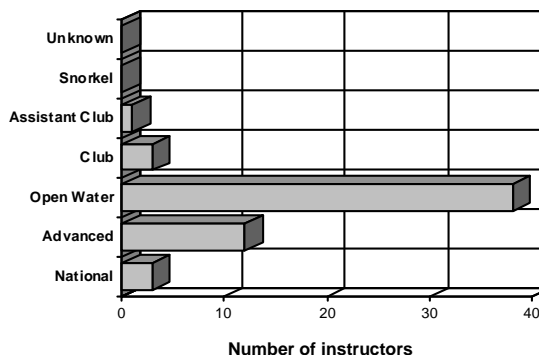
Qualification of the divers involved in incidents



These data are in line with the normal pattern of previous years and probably 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



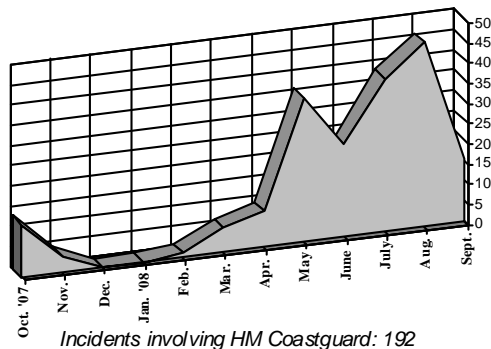
Divers' use of the Emergency Services

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.

2006 saw a dramatic drop in our demands upon the Coastguard service, but in 2007 and 2008 the number of reports from the Coastguard has risen back to a norm of the last 11 years of around 200 per year. 2008 recorded 192 incidents involving the Coastguard so this is entirely inline with expectations.

There was some concern that the industrial relations problems experienced within the service might adversely affect their reporting ability; this does not seem to have been the case.

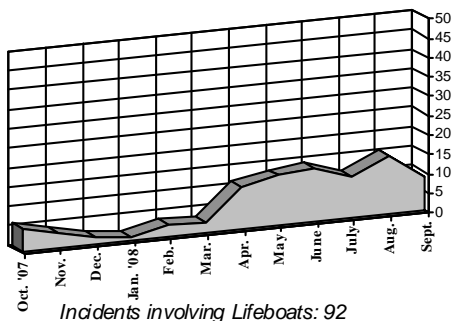
Incidents involving the UK Coastguard agency - Monthly breakdown



There were 92 incidents reported that involved the RNLI and although this is identical to the number of incidents reported in 2007 it continues the trend of a slow reduction in divers' calls on the lifeboat service.

The following chart shows the distribution of the RNLI related incidents throughout this incident year. It is in line with the other monthly based data, except that the May peak is missing.

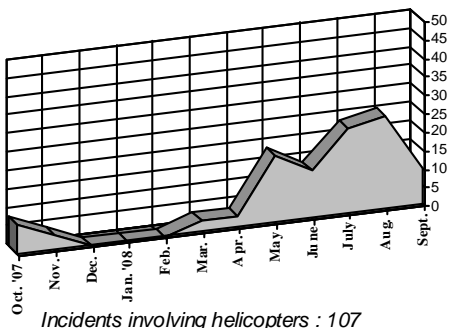
Divers' use of RNLI facilities by month



In 2008 107 incidents involved the use of helicopters. This number suggests a levelling out in the number of incidents involving a helicopter to an 11 year average of around 100 per year.

Helicopters are often tasked to support searches for missing divers and to transport divers with DCI to recompression facilities.

Divers' use of SAR helicopters by month



Fatalities

10 fatal incidents occurred in the UK during the 2008 incident year. This is significantly below the average of 17.3 fatalities per year over the previous ten years. However, comparisons of this nature need to be made with caution since a small change can make a big apparent difference to the comparison. Although it is clearly a good thing that this number is way below the average of recent years it hides the sad fact that 6 of these people were BSAC members. The ten year average for BSAC fatalities in the UK is 6.0 fatalities per year and thus, from a member's perspective, the year has, unfortunately, been an average one.

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

- One case involved a diver who is thought to have suffered a heart attack and there are two other cases where it seems very likely that an acute medical problem was the root cause, but there is currently no hard evidence to prove this.
- Six cases involved a separation of some kind. In one case a diver was lost in low visibility inside a wreck. In two cases divers became separated from their buddies during the ascent phase of the dive. One case involved a snorkel diver who was in difficulties and became separated from his buddy. One case relates to a diver found unconscious underwater; the preceding events are currently not known. The last case relates to a diver who elected to leave his buddy and to rest on some rocks after surfacing from a dive.
- Two cases involved divers using rebreathers and while the role of the rebreather in the incident is not clear; problems with or misuse of the system can not be ruled out.
- One case involved a diver who became trapped inside a wreck and ran out of air.
- Two cases involved three people diving together and in both these cases an underwater separation occurred when problems arose during the ascent.
- One case involved a diver who made a buoyant ascent due to items that he was carrying pressing on his drysuit inflation valve.

Often multiple causes were involved in an incident and in five of the fatal incidents there is currently insufficient information available to be clear about the exact chain of events and root causes.

Finally there were five reported fatalities overseas. Four of these involved the deaths of BSAC members.

- One case involved a double fatality (one BSAC member and a non-member) who were lost while cave diving.
- One case involved a diver who became separated from her buddy after apparently surfacing normally from a dive.
- One case involved a diver who became trapped in low visibility inside a wreck.
- One case relates to a diver who was diving effectively solo who suffered heart failure while underwater.

Decompression incidents

The BSAC database contains 125 reports of 'DCI' incidents in the 2008 incident year, some of which involved more than one casualty. When these multiple cases are counted the result is 132 cases of DCI.

As stated earlier this number takes us back to the level of cases that were typical around five years ago.

An analysis of the causal factors associated with the 125 incidents reported in 2008 indicates the following major features:-

- 44 involved repeat diving

38 involved rapid ascents
23 involved diving to deeper than 30m
15 involved missed decompression stops

Some cases involved more than one of these causes.

Some of the 'Injury and Illness' incidents are also thought to be DCI related, but they are reported by the RNLI as 'Diver illness' and the cause of the illness is not defined. The number of incidents in this category in 2008 is at a level similar to the average of recent years.

Ascent related incidents

As stated earlier the number of cases of 'Ascent' related problems has fallen dramatically and some of this decline is likely to be due to the focus that has been placed on this important area of diving skill.

68 cases of 'Ascent' problems have been recorded in 2008 and nearly all of these were 'Rapid ascents'. An analysis of these 'Rapid ascents' (where the detail is known) is as follows:-

22%	Weighting or weight related problems
17%	Regulator free flows
15%	Simply poor buoyancy control
15%	Delayed SMB problems
7%	Panic / anxiety / rush for surface
7%	Out of air / gas
7%	Various equipment problems
5%	Drysuit control malfunction
5%	Rebreather problems

Many DCI cases have their roots in these problems; they have been recorded under the 'DCI' heading but the causal factors are often the same, so the actual number of abnormal ascents will be significantly higher than 68 cases.

One potential explanation for the increase in 'DCI' incidents and a reduction in 'Ascent' incidents is that more poor ascents have resulted in DCI than in previous years.

Boating and surface incidents

Recent years have seen a very marked decline in the number of these incidents from a maximum of 124 in 1998. In 2008 there were 52 such incidents reported and this continues this remarkable trend of improvement.

43% of these incidents involved engine problems and 43% involved lost divers; this is entirely consistent with previous years with the bulk of the improvement coming from the boating elements of the category.

Many of the engine problems could have been prevented by better planning (to avoid running out of fuel) and correct servicing.

The lost diver category is one that has been the subject of much comment in the past. Good planning, care and attention from the cox and dive manager, and effective surface detection aids are critical.

Planning, care and attention will help to prevent the divers from becoming lost in the first place, and effective surface detection aids will enable the divers to be found rapidly should the first part fail.

Conclusions

Key conclusions are:-

- The number of incidents reported each year in the UK seems to be levelling out to around 400.
- The number of fatalities of BSAC members is in line with the average of the previous 10 years.
- The number of fatalities of non-BSAC members is dramatically lower than the average of the previous 10 years.
- Cases of DCI have risen dramatically taking us back to levels equivalent to five years ago.
- Cases of 'Ascent' problems have dropped dramatically, halting the trend of increasing problems in this category observed over the last 10 years.
- No new causal factors for incidents have been identified. Continuous skills practice, rigorous buddy checks and diving within one's current ability limits, with a slow progression to new areas, are the critical keys to safe diving.

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 2007), 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.

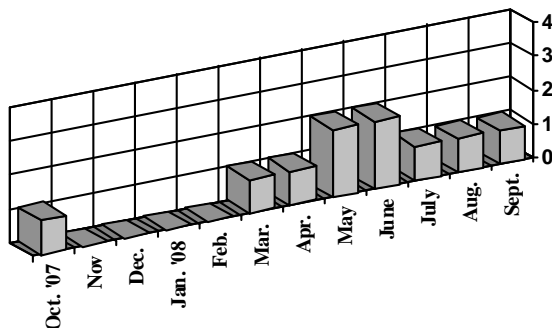
Fatalities

October 2007

08/002

A pair of divers entered a wreck. They swam some distance inside and then turned to leave. The cylinder of one of the divers got caught and the other diver helped to free it. In doing so they stirred up silt inside the wreck and this obscured their exit. They held on to each other and searched for the way out. At one point one of the divers let go of the other one to check his gauges. The divers then lost contact with each other. The diver who had checked his gauges eventually found the exit and for a while he searched for his buddy. With 37 min of decompression requirements and 80 to 90 bars remaining he started his ascent alone. He sent up an emergency buoy and another diver came to his assistance. Other divers descended to the wreck and a surface search was mounted involving a helicopter, two lifeboats and other craft but the missing diver was not found. An ROV search also failed to locate the missing diver.

**UK Fatalities - Monthly breakdown
from October 2007 to September 2008 incl.**



March 2008

08/042

Three divers descended to a wreck which lay down a slope. At 24m the conditions were good and the three agreed to continue to move down the wreck. At 47m one of the three signalled that they should start to make their way back up the wreck. As they turned they stirred up silt and the visibility reduced. Then one of the divers signalled that he was unhappy and wanted to ascend. At this point another of the divers felt his weightbelt slip, they stirred up more silt and the third diver moved away slightly to get into clearer water. The diver whose weightbelt had slipped then lost the belt completely and he made a buoyant ascent to the surface. At no time during this ascent did he see either of the other divers. The third diver who had moved back out of the silt saw two torches ascending and assumed that the second diver had taken the diver who had signalled for an ascent to the surface. The third diver followed the wreck back upwards and surfaced after a duration of 21 min, including a 2 min decompression stop, about 5 min after the buoyant diver had surfaced. The diver who had signalled that he wanted to ascend did not return to the surface. The other two divers both assumed that he was with the other one. Another two divers entered the water and conducted a search

of the shallow end of the wreck but they found no trace of the missing diver. The Coastguard was alerted and an extensive surface search was conducted involving a helicopter, a lifeboat and other craft. Other divers searched the wreck that day and the following day but no trace of the missing diver was found.

April 2008

08/057

Two divers conducted full buddy checks and then entered the water to descend a shotline to a wreck. One of the pair was using a rebreather with air as the diluent; the other was using open circuit air. They exchanged 'OK' signals as they descended. At about 35m they could see the light of other divers below them on the wreck. They exchanged 'OK' signals again but immediately afterwards the rebreather diver began to signal rapidly with his left hand. The buddy moved to help him. The rebreather diver was now sinking quickly. The buddy followed after him and they arrived on the seabed at 42m. The rebreather diver was motionless, face down on the bottom. The buddy was suffering from nitrogen narcosis but he attempted a diluent flush on the unconscious diver's rebreather, he also attempted to inflate his suit. He noticed that the head up display on the rebreather was flashing red. The buddy tried to lift the unconscious diver from the seabed. He tried a number of times but lost his grip and made a buoyant ascent to the surface. His dive duration was 9 min. He was recovered into the boat and the Coastguard was alerted. An extensive air and sea search was conducted and an ROV was used to search around the wreck but the missing diver was not found. The diver's body was recovered from near the stern of the wreck over seven weeks later.

May 2008

08/069

A party of divers travelled to a wreck site. A number of them became seasick and did not dive, as a result of this a group of three dived together. During the dive they all checked their contents gauges and all had 100 bar. About 2 min later the dive leader signalled that they should ascend, they all agreed. At this point one of the divers recalls that he had 85 bar. They ascended together making a slight pause at 10m and stopping at 6m to make a safety stop. At this point one of the three tried to reach one of the other divers' octopus regulator and he attempted to dump his weights. This diver then started to sink. One of the others went after him but then surfaced rapidly and raised the alarm. An extensive search was organised involving four lifeboats, a helicopter and other craft but the diver was not found. His body was recovered from near the wreck over four weeks later. (Media reports).

May 2008

08/078

Two divers descended a shotline to a wreck. At 38m they found a third diver unconscious, tangled in his reel, with his mask missing and his regulator out of his mouth. They inflated his BCD and sent him to the surface. The diver had been underwater for 15 min. The casualty was recovered into the boat and resuscitation techniques were applied. The Coastguard was alerted and the casualty was airlifted to hospital where he was pronounced dead.

June 2008

08/080

A group of divers planned a dive on a wreck which was positioned close to the shoreline. There was breaking swell above the wreck so the plan was for the divers to descend to the seabed about 35m from the shore at a depth of 26m and then to swim underwater to the wreck. They planned to return

by the same route. One trio and three pairs of divers entered the water to conduct the dive. The first pair returned to the boat as planned and shortly afterwards a second pair, who were using rebreathers, surfaced above the wreck in the swell. These divers then started to swim out of the rough water towards the boat. One of the pair made it to the boat but the other turned round in the rough water and swam to rocks by the shore and climbed onto them; once out of the water he was seen to sit down on a rock ledge. At this time two other divers were making their ascent. One of this pair felt unnerved by the strong water surges and began to hyperventilate, this led to panic and he made a rapid ascent to the surface. At the surface this diver appeared conscious but made no attempt to swim to the boat and did not answer when those in the boat called to him. No one in the boat was ready to enter the water and the boat could not approach this diver because of rocks. After about 2 min this diver's buddy surfaced close to him and assisted him to the boat. The troubled diver attempted to climb the ladder but fell off backwards. The regulator was knocked from his mouth and part of his equipment became tangled with the ladder. The motion of the boat caused him to be intermittently plunged underwater with no means of breathing. Others shouted at him to replace his regulator but he failed to do so. Divers in the water and people on the deck were able to free the trapped diver and he was assisted aboard. He was placed on oxygen and the Coastguard was alerted. A helicopter and a lifeboat were tasked to assist. The diver was conscious throughout but pale, subdued and complained of being cold. The sudden onset of poor visibility caused the helicopter to abandon its attempts to help. The diver was taken by lifeboat to hospital. He was subsequently recompressed, but this resulted in no improvement to his condition. He made a steady recovery and was discharged from hospital the following day. This diver had been suffering from diarrhoea and seasickness prior to the dive. While all this was taking place the diver who had swum ashore was still seen sitting on the rocks. In order to assist this diver back to the boat a member of the party snorkelled to him and planned to help him swim with the now changed water current through the rocks into clear water where they would be recovered by the boat. The snorkel diver reached the shore and discovered that the diver who had climbed on the rocks had died. He signalled the boat for help and three other divers entered the water and went to assist. The Coastguard was alerted of a further problem. Two of the divers then returned to the boat and the Coastguard was informed of the situation. The diver's body was eventually recovered into a lifeboat and taken to a harbour. It is thought that he suffered a heart attack.

June 2008

08/123

A group of divers completed a 32m wreck dive and then travelled to a second site to conduct a drift dive to gather scallops in a maximum depth of 24m. Three pairs of divers entered the water for this dive. One pair of divers collected a lot of scallops which they retained in bags. One of the divers then found a cannon ball which he sent to the surface under a lifting bag. The second diver also found a cannon ball which he tried to put in his scallop bag. The first diver then passed him another bag for the cannon ball and expected him to fasten it to his lifting bag and send it to the surface but the second diver did not do this. Instead he continued the dive holding on to the cannon ball in the bag. The first diver again prompted him to lift the cannon ball but he declined. About 5 min later the diver with the cannon ball signalled that they should ascend. The first diver then looked down to fasten his scallop bag to his weightbelt and to reel in the SMB line. When he looked back the diver with the cannon ball had gone. He conducted a brief search for the missing diver and then started his ascent with his computer indicating a total ascent duration, including stops, of 11 min. He made his first decompression stop at about 5m. At this point he looked up and saw his buddy at the surface looking down at him. He signalled him to re-descend to join him to

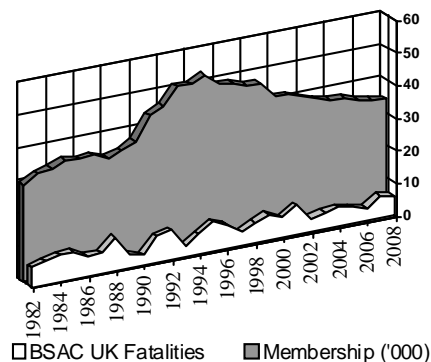
conduct his decompression stops but he didn't. He saw that the diver had the scallop and cannon ball bags clipped to a D ring on his chest. He swam up to the diver at a depth of about 2m and attempted to pull him down, but he could not do so. His computer was showing an error state. He tried twice, then the SMB line was cut and he thought that his buddy was resolving the problem. The diver then sank rapidly and struggled to regain the correct depth. A boat passed over his head and the propeller just missed him. He returned to about 6m and completed a 15 min decompression stop. There was a lot of boat traffic so he waited a further minute before surfacing. He was recovered into another boat. The diver who had surfaced with the scallops and cannon ball was seen by those in his boat floating face down. They shouted at him but got no response. The boat approached him and one of the party re-entered the water to assist the troubled diver. The rescuing diver attempted to turn him into a face up position but could not do so. The diver was brought to the back of the boat where equipment was removed from him and he was recovered into the boat. The diver was not conscious and resuscitation techniques were applied. The Coastguard was alerted and the casualty was airlifted to hospital where he was declared dead. It was subsequently found that the casualty had not taken his lifting bag on the dive with him. The cause of death was diffused gas embolism due to pulmonary barotrauma. Media reporting of an inquest reported findings that the diver had made a rapid ascent as a result of the bags that he was carrying pressing on his drysuit inflation valve and causing him to lose control of his buoyancy.

July 2008

08/124

A diver surfaced from a dive and signalled for assistance. He complained of feeling unwell and shortly after being helped back into the boat he collapsed and lost consciousness. Resuscitation techniques were applied and the Coastguard was alerted. The diver was airlifted to hospital where he was declared dead. (Coastguard report).

BSAC Fatalities against membership 1982-2008
(UK fatalities only)



August 2008

08/145

Two divers ascended at the end of a dive. At 10m they exchanged OK signals but then became separated. There were problems starting the engine of their boat. One of the pair was recovered into another boat and the other was seen at the surface with his BCD inflated. Contact was then lost with this diver. The Coastguard was alerted and an extensive search was conducted involving five lifeboats, four helicopters and other craft. Twenty days later the body of the missing diver was

seen by a member of the public floating at the surface; it was recovered.

September 2008

08/151

Two snorkel divers were conducting a shore dive when one of the pair developed difficulty breathing. His buddy shouted for help and attempted to support him at the surface. A person on

the shore heard the shouts and raised the alarm. A swell took the troubled diver away from his buddy who swam ashore for help. A lifeboat was launched and the diver was recovered. Resuscitation techniques were applied and the diver was airlifted to hospital where he was declared dead.

Decompression Incidents

October 2007**08/011**

The Coastguard was alerted when a diver developed possible symptoms of DCI. The diver was taken to a medical facility for examination. The diver was placed on oxygen but no recompression treatment was required. (Coastguard report).

October 2007**08/005**

Two divers dived to a maximum depth of 42m for 43 min including 15 min of decompression stops. One of the divers developed a back pain and tingling in his right leg. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression facility for treatment. (Coastguard report).

October 2007**08/036**

Two divers undertook a dive to a maximum depth of 29m. 16 min into the dive one of the pair indicated that she had 110 bar remaining. One minute later she indicated that she had 70 bar remaining. The divers deployed a delayed SMB and started their ascent. During the ascent the diver who was low on air lost control of her buoyancy and made a rapid ascent to the surface. At the surface she found it hard to get air from her regulator and the contents gauge read zero. Her buddy continued to ascend and then found himself next to the SMB line; concerned that his buddy may have sunk back down he followed the line downwards again. At 22m the line turned upwards again so he re-ascended. He made a 4 min stop at 6m and then surfaced. Once back in the boat both divers were placed on oxygen and the Coastguard was alerted. The diver who had made the rapid ascent developed a slight pain on the left side of her neck and a tingling in the fingers of her left hand. The neck pain resolved once she was on oxygen. She was airlifted to a recompression facility for treatment. 90 min after surfacing the buddy developed pains in his lower back and shoulders and then behind his knees. He sought diving medical advice and reported to a recompression facility where he received treatment. It was concluded that the diver had suffered some kind of equipment failure resulting in the loss of air. (Coastguard report).

October 2007**08/009**

A diver conducted a dive to a maximum depth of 30m using nitrox 31. After 51 min he ascended to 17m where he made a 2 min stop. He then ascended to 9m. During this part of his ascent he lost control of his buoyancy and made a rapid ascent to the surface, missing 20 min of decompression stops. He was recovered into the boat, placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility for treatment. (Coastguard report).

October 2007**08/026**

Two divers conducted a 33 min dive to a maximum depth of 23m. They made a normal ascent including a 3 min safety stop at 5m. About 10 min after getting back into the boat one of the pair complained of a numbness and a loss of movement down the left side of his body. He was placed on oxygen and the Coastguard was alerted. He was given water to drink and his condition improved. The boat returned to harbour and the diver was taken by ambulance and helicopter to a recompression facility where he was treated for DCI. It is thought that he suffered an embolism due to a lung problem.

October 2007**08/030**

Two divers were involved in a training course. One of the pair

got into difficulties and they both made a rapid ascent to the surface. The emergency services were alerted and the divers were airlifted to a recompression facility for treatment. (Media report).

October 2007**08/015**

The Coastguard was alerted when three divers made a rapid ascent from 2m. They had made repeated shallow dives. One of the group had a problem with their suit inflation which caused a buoyant ascent. All divers were exhibiting ill effects but one of the three was in a worse condition than the others. They were taken by ambulance to hospital for examination. (Coastguard report).

November 2007**08/019**

Three divers conducted a wreck dive to a maximum depth of 30m. They were the last group to enter the water and after 30 min one of the three used a lifting bag to recover the shotweight. This diver struggled to inflate the bag and used more air than expected. The three then started their ascent with 10 min of decompression indicated on their computers. During the ascent the diver who had inflated the bag became positively buoyant and, at 10m, he lost control of his buoyancy and was carried rapidly to the surface. The other two followed, stopping briefly at 10m. Once back in the boat the diver who had made the buoyant ascent complained of an ache in his right arm and one of the others complained of elbow and joint pain. The Coastguard was alerted and all three were airlifted to a recompression facility for treatment for DCI. The diver who had made the buoyant ascent had used a thicker than normal undersuit and had taken 2 kg off his weightbelt.

November 2007**08/020**

A diver conducted a dive to 64m using trimix 17/35 with nitrox 40 and 100% oxygen used during decompression stops. His total dive duration was 110 min. After this dive he experienced a tightness in his left arm and shoulder. The following day he dived to 65m for a total of about 120 min. His ascent profile was as follows: 65m to 30m, 6 min on trimix; 30m to 9m, 24 min on nitrox 40; 9m to 6m, 44 min on oxygen; then he surfaced. During this ascent, at a depth of 15m, he noticed an itching across his shoulders and a tightening in his left arm and chest. On surfacing the itching spread and he developed an ache in his left arm, shoulder, chest and upper legs. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. The diver had been treated for DCI the previous year and had had symptoms of skin DCI and swelling after a number of previous dives. (Coastguard & RNLI reports).

November 2007**08/021**

An instructor and two trainees were conducting mask clearing and air sharing drills. One of the trainees stated that she was concerned about mask removal underwater as she was wearing contact lenses. They descended to a maximum depth of 16m and one of the trainees completed the mask clearing drill. The instructor invited the diver with the contact lenses to partially flood her mask but she declined. The instructor then signalled this diver to simulate out of air. This she did and, using the buddy's octopus regulator, they all ascended to about 5m. During this ascent the diver receiving air felt that the octopus regulator hose was too short and it was difficult for her to retain the regulator in her mouth; she swallowed some water. Also, during the ascent, the diver was concerned about their ascent rate and the action of trying to see her computer put a further

strain on the hose making the problem worse. The instructor signalled that they should re-descend and as they did so, at about 9m, the diver receiving air tried to change back to her own main regulator. She put her regulator into her mouth but then rejected it. She reached for the buddy's octopus regulator, put it into her mouth, but rejected this too. She then grabbed her buddy's main regulator from her buddy's mouth but rejected this too. She subsequently reported that none of the regulators appeared to work although no faults were subsequently found. The divers had descended back to the seabed. The buddy managed to recover his main regulator and the instructor placed his octopus regulator into the distressed trainee's mouth. He held it there until she was able to breathe from it. He then used a controlled buoyant lift to bring her to the surface; the second trainee went with them. Their ascent rate was 'brisk' but not excessive. The divers were recovered into their boat, the troubled diver was placed on oxygen and the boat returned to the shore. The troubled diver developed a dull ache in her left shoulder. The Coastguard was alerted and the diver and her buddy were airlifted to a recompression facility. The diver was treated for DCI; her buddy required no treatment.

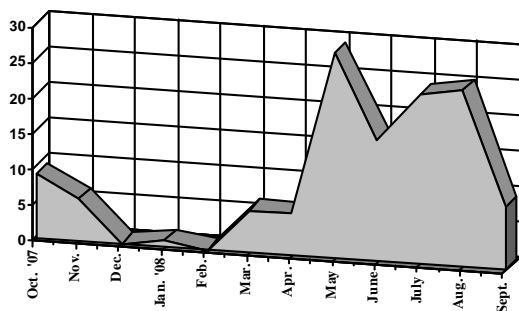
November 2007 08/187

A diver conducted a series of four dives, using air, over a two day period. On the second day he dived to 46m for 45 min with a 10 min stop at 6m. 2 hours later he dived to 32m for 40 min with a 12 min stop at 6m. After this last dive he felt a shoulder pain while climbing the ladder back into the boat and a rash appeared down his back about 1 hour later. He sought diving medical advice and was directed to a recompression facility. He was placed on oxygen for 4 hours with air breaks and he drank 5 litres of water in this same period. He was given recompression treatment which resolved his symptoms. A subsequent PFO test was negative.

November 2007 08/034

Two divers conducted a 41 min dive to a depth of 32m with a 2 min stop at 18m, a 2 min stop at 14m and an 8 min stop at 5m during their ascent. About 1 hour after surfacing one of the pair noticed a rash and itching on her left shoulder and stomach. She was placed on oxygen and diving medical advice sought. No further action was recommended and her symptoms resolved after 1 hour on oxygen. 7 days later she undertook a dive to a depth of 28m. 1 hour after this dive she reported similar symptoms, but the shoulder rash was more apparent than previously. She was placed on oxygen and diving medical advice was sought. She went to a recompression facility for treatment which resolved her symptoms. She subsequently tested positive for a PFO.

Decompression incidents by month



January 2008 08/044

Two divers conducted a dive to a maximum depth of 52m for a duration of 39 min including a 4 min stop at 11m and a 3 min stop at 10m. 1 hour 30 min later they dived to 43m for 38 min including a 3 min stop at 11m, a 5 min stop at 6m and an 11 min stop at 3m. At the end of each dive they made a strenuous walk up a steep slope from the water to their car. During their journey home, one of the pair complained of a pain in a muscle at the top of his left arm. The pain subsided over a 2 hour period. During that night he developed joint pain and he attended a recompression facility for treatment. He received two sessions of recompression and his symptoms were fully resolved.

March 2008 08/054

Two divers conducted a dive to a planned maximum depth of 30m. One of the pair was using nitrox 32. At 30m this diver experienced difficulty focusing his eyes. He felt confused and he made a very rapid ascent, reaching the surface in about 40 seconds. The divers sought medical advice and were recommended to attend a recompression facility. 1 hour after the dive the diver was placed on oxygen and further diving medical advice was sought. The diver developed a rash on his back. He was taken by ambulance to a recompression facility for treatment. He was discharged later that day.

March 2008 08/055

A diver conducted a 25 min dive to a maximum depth of 22m. After a surface interval of 1 hour 45 min she dived to 30m for 30 min. After a further surface interval of 1 hour 10 min she dived to 21m for 34 min. Shortly after the third dive she complained of feeling very cold and went to change. She then fainted. She started vomiting and was not very responsive. She was placed on oxygen and the emergency services alerted. She was taken by helicopter to a recompression facility where she was treated for DCI. Her computer showed no violations but she later reported that she had had a lack of sleep and had felt dehydrated during the day.

March 2008 08/059

An instructor and a trainee conducted a 40 min dive to a maximum depth of 10m with a 5 min stop at about 4m. Towards the end of this dive both suffered from cold hands and this caused them to terminate the dive. 2 hours 12 min later they dived again. During the dive they practised regulator clearance at 7m. After 39 min both were again suffering from cold hands and the dive was terminated. The trainee's arm continued to feel cold after the dive and the following morning he noticed a tingling sensation in it. He was advised to seek diving medical advice. The trainee went with his instructor to a recompression facility where the trainee was treated for DCI. His symptoms were fully resolved.

March 2008 08/083

Two divers conducted a series of fourteen dives over a five day period. One diver dived to a maximum depth of 50m and the other to a maximum depth of 34m, although generally their dives were between 15 and 25m. They awoke from a sleep early in the evening of the fifth day complaining of drowsiness and disorientation. They were placed on oxygen, given fluids to drink and diving medical advice was sought. The Coastguard was alerted and they were transported by lifeboat to a recompression facility. On arrival one of the pair was suffering from dizziness, disorientation, confusion and had pain in his left elbow, right knee, left ankle and the left side of his chest. The other diver had similar symptoms and generalised pain on his right side. They both received three sessions of recompression therapy and were released from hospital three days later.

March 2008 **08/064**

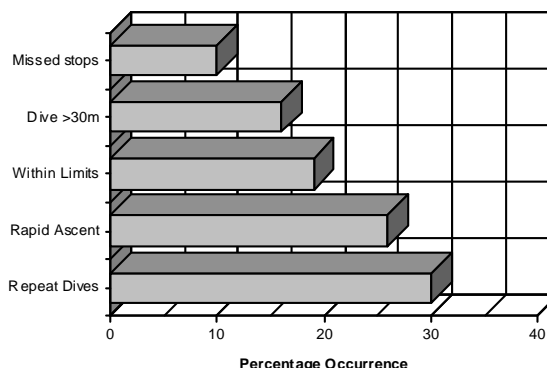
An instructor and a trainee conducted a shore dive to a maximum depth of 15m. During the dive they practised ascents using the buddy's alternative air source. The trainee's air consumption was high and the instructor cut the dive short. They surfaced from 9m and made a surface swim back to the shore. Once ashore the trainee collapsed. He was placed on oxygen and a 999 call was made to the Coastguard. He was taken by ambulance to a recompression facility where he was successfully treated for DCI. He was advised to take a test for a PFO.

suspected DCI, Stornoway Coastguard tasked Coastguard rescue helicopter R-100 to airlift the casualty to Dunstaffnage recompression chamber, the helicopter was met by Canna Coastguard rescue team who prepared the landing site. (Coastguard report).

April 2008 **08/416**

A diver was taken by lifeboat to a recompression facility. (Media report).

Percentage analysis of factors involved in cases of DCI



April 2008 **08/323**

Clyde Coastguard was alerted to a diver suffering from suspected DCI and medical connect call was made with Aberdeen Royal infirmary for advice. The diver had descended to 35m. The casualty was evacuated by lifeboat to Dunstaffnage chamber. (Coastguard & RNLI reports).

April 2008 **08/060**

A diver conducted a 54 min dive to a maximum depth of 14m. Some time later he dived to 13m. During the dive he felt a little buoyant and he opened the drysuit dump valve. He still felt buoyant so he tried to release some air from his BCD. A combination of cold hands and gloves caused him to press the inflator button at the same time and he made a rapid ascent to the surface. His dive duration was 8 min. He developed a tingling and muscle cramp in his left leg, his reflexes were rapid in both legs and he felt dizzy. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. (Coastguard report).

May 2008 **08/191**

A diver conducted a 28 min dive to 36m including a 3 min stop at 6m. After this dive she felt a 'twinge' in her shoulder but put this down to lifting diving equipment. After a surface interval of 2 hours 45 min she dived to 30m for 32 min with a 3 min stop at 9m and a 1 min stop at 6m. After this dive the symptoms in her shoulder developed into a 'hot muscle' sensation across her back. No rash was present. She was placed on oxygen, given fluids and diving medical advice was sought. Once ashore a skin DCI was diagnosed and she was transferred to a recompression facility for treatment. Initially she thought that a recent operation had contributed to the problem but subsequent tests revealed that she had a large PFO.

April 2008 **08/305**

A diver conducted a 34 min dive to a maximum depth of 19m including a 4 min stop at 6m. 3 hours 10 min later he dived to 16m for 32 min with an 8 min stop at 6m. Both dives were using nitrox 28. That night he developed a pain in his upper arm which he thought to be a strained muscle. The following day the pain eased but then increased that night and the next day. He attended his local hospital where he was admitted. He was told that if it had been a DCI he would have recovered by then. 2 hours after admission he developed other symptoms and after a further 4 hours the hospital sought advice from a recompression facility. An hour later he was discharged from hospital and told to make his own way to the recompression facility. This he did and he received two sessions of recompression treatment which resolved his symptoms.

May 2008 **08/190**

Two divers conducted a dive to a maximum depth of 23m. One of the pair was using air, the other nitrox 30. As they started their ascent the air diver became buoyant. The other diver took hold of the air diver in an attempt to slow the ascent and they both made a direct ascent to the surface missing a planned 3 min safety stop. Their dive duration was 26 min. Once back in the boat the diver who had been on nitrox became seasick while they waited to collect other divers. On the return trip her condition worsened and she struggled to breathe. She was placed on oxygen and began to feel better. Once the boat reached shore the diver was helped from the boat and it became clear that she could not walk unaided. Diving medical advice was sought and she was taken to a recompression facility. During this time she developed numbness and 'pins and needles' in her legs. She was given recompression treatment for DCI.

April 2008 **08/189**

A diver conducted a dive to a maximum depth of 50m using nitrox 27. His dive duration was 42 min including stops using nitrox 80. After this dive he reported an itching of his right shoulder and arm and a dull ache. Diving medical advice was sought and he attended a recompression facility. DCI was diagnosed and he received three sessions of recompression therapy. During this period he also developed a swelling of his right shoulder and arm. This was diagnosed as a lymphatic DCI and its cause was thought to be due to an overly tight strap over his shoulder. He had removed the chest strap from his equipment and this is believed to have worsened the situation.

May 2008 **08/297**

Two divers dived to a maximum depth of 30m. They drifted with a current and 25 min into the dive one of the pair signalled that he was down to 50 bar. His buddy deployed a delayed SMB which took some time to do. As they started their ascent the current had strengthened and they drifted apart a little. The diver with the SMB swam towards his buddy and noticed that

April 2008 **08/067**

Stornoway Coastguard was alerted to a diver suffering from

the line was going slack. At 25m they got a fast ascent warning. By this time the buddy had run out of air and he grabbed the spare regulator of the diver with the SMB. The diver who was out of air was pulling the other diver to the surface. They attempted to slow the ascent but were carried to the surface missing planned safety stops. Their dive duration was 37 min. They were recovered into their boat. On the return journey the diver who had had the SMB started to experience difficulty breathing. He was placed on oxygen and the Coastguard was alerted. He was taken by ambulance to hospital and from there to a recompression facility for treatment.

May 2008 **08/075**

Two divers conducted a dive to a maximum depth of 29m. One of the pair was using a rebreather with trimix diluent and the other open circuit air. The divers descended a shotline, swam along a wreck and then turned back. They looked for somewhere to settle to deploy a delayed SMB and during this period they became separated for a brief period. Once together again the diver on open circuit air signalled that she wanted to ascend; the other diver signalled her to stop, she then deployed her delayed SMB and they started to ascend. At 26m the diver using open circuit air started a rapid ascent. She tried to dump air from her drysuit cuff dump but was not able to do so. She took hold of the SMB line, but then released it when she realised that she was pulling her buddy up too. She made a rapid ascent to the surface. At the surface she inflated her BCD and signalled the boat. She was recovered into the boat and placed on oxygen. Her buddy made a normal ascent. The Coastguard was alerted and the diver and her buddy were airlifted to a recompression facility where both divers were treated for symptoms of DCI. Both divers had dived the previous day, the air diver to 34m for 22 min and the rebreather diver to 34m with a second dive to 18m. It was subsequently suggested that the drysuit of the diver who had made the buoyant ascent was too small and that the cuffs had been taped which had prevented the release of air.

May 2008 **08/076**

Three divers conducted a dive to a maximum depth of 20m. They made their ascent using a delayed SMB and planned to make a 3 min safety stop at 5m. During the ascent the weightbelt of one of the divers began to slip. At about 10m the weightbelt was around her knees and she was unable to fin. One of her buddies took hold of her and indicated to her that she should fin. He noticed that she had only 20 bar remaining; he prepared his alternative air supply for her. By this time they had sunk back down to 11m. The troubled diver removed the weightbelt and handed it to her buddy then made a buoyant ascent to the surface. At the surface she inflated her BCD. All three were recovered into the boat. The diver who had made the buoyant ascent was placed on oxygen. She developed a tightness in her chest and 'pins and needles' in her fingers and toes. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. The casualty's diving cylinder was later reported to have been found empty. This was the casualty's first sea dive in the UK. (Coastguard report).

May 2008 **08/103**

A diver commenced a dive to a maximum depth of 23m. On the descent he noticed that he was under-weighted but decided to continue. After 35 min he prepared to deploy a delayed SMB. He felt buoyant and put some rocks into his BCD pockets to try to compensate. He started to rise and he attempted to squeeze air from his drysuit. He adopted a horizontal position to slow his ascent and rose buoyantly to the surface missing an planned safety stop at 3m. His computer showed an ascent rate warning. About 30 min after surfacing he felt a tingling and pain in his left arm. He was placed on oxygen and the pain at first eased and then returned. Diving medical advice was sought

and the diver was taken to a recompression facility where he was treated for DCI. The diver was making his first sea dive with a new, larger, BCD.

May 2008 **08/330**

Diver showing signs of DCI with tingling in his feet following a rapid ascent from 8m. A normal ascent was carried out to 6m, he then started sinking and was stopped at 8m by his buddy, then went buoyant to surface. Transferred by ambulance to hospital for treatment. (Coastguard report).

May 2008 **08/108**

A group of four divers conducted a wreck dive to a maximum depth of 29m. At the end of the dive they made a slow ascent up the shotline. They stopped at 5m. At this point one of the divers lost control of his buoyancy and missed the planned 4 min stop. Back on the boat he did not feel well. He was placed on oxygen and the emergency services were alerted. The diver was airlifted to a recompression facility; he had an ache in his right elbow and a headache and he was treated for DCI. He had conducted three dives on the previous two days. (Coastguard report).

May 2008 **08/077**

Diver made a rapid ascent from 35m and had pain in feet and shoulders. Advice was taken from INM and the diver was airlifted by Rescue Helicopter to a Hyperbaric Chamber for treatment. (Coastguard report).

May 2008 **08/274**

A pair of divers conducted a drift dive in a maximum depth of 22m. 33 min into the dive one of the pair was down to 80 bar and the dive leader signalled the ascent. After 34 min at a depth of 14m the dive leader's computer indicated that he should slow down, he did so but his buddy didn't and he lost sight of him. The dive leader made a normal ascent including a 3 min stop at 6m. The buddy had been unable to dump air from his drysuit and he was carried to the surface. Back in the boat he complained of a tingling sensation in his lips, he breathed nitrox and then oxygen. Once the oxygen cylinder was empty the diver had no symptoms. The following day the diver attended a recompression facility and received two sessions of treatment for DCI. The diver suggested that his drysuit dump valve had been blocked from the inside by a flap that covered the zip.

May 2008 **08/121**

Two divers conducted a dive to 26m. After about 18 min one of the pair had 100 bar and the other 127 bar. One of the pair felt uneasy and signalled that he wanted to ascend. He started to deploy a delayed SMB but it was incorrectly fastened to the reel. His buddy rectified the problem. While he did so the other diver attempted to switch to his pony regulator but had difficulties with this so he took the buddy's octopus regulator. The divers then became buoyant and were unable to prevent themselves being carried to the surface. They missed a planned safety stop. The divers were recovered into the boat, placed on oxygen and given fluids to drink. The troubled diver developed a dull ache and altered sensation in his right leg. The Coastguard was alerted and the divers were airlifted to a recompression facility for treatment. (Coastguard report).

May 2008 **08/194**

Two divers conducted a 61 min dive to a maximum depth of 30m using nitrox 32. During their ascent they stopped for 2 min at 21m, 12m and 9m and 10 min at 6m using nitrox 50. After a surface interval of 5 hours they dived again to 30m for 67 min

with the same stops as before and using the same gases. The following day one of the pair experienced some tingling in his hands and feet. Two days after that he sought advice from a recompression facility. He received two sessions of treatment for DCI and his symptoms resolved.

May 2008 08/195

A diver conducted a 36 min dive to 30m with a 4 min stop at 9m and a 2 min stop at 6m using air. 3 hours 21 min later he dived to 24m for 29 min with a 3 min stop at 6m. All of the stops were safety stops. The following day he found a mild skin DCI on his back. He sought diving medical advice and attended a recompression facility where he was treated.

May 2008 08/332

Diver who was able to walk received a 5 hour treatment at the hyperbaric chamber. The details of the incident are not known. (Coastguard report).

May 2008 08/333

A diver self referred to the hyperbaric chamber for treatment. Treatment lasted 5 hours, details of the incident are not known. (Coastguard report).

May 2008 08/334

Two divers made a rapid ascent from 27m and missed their safety stop. One of them was displaying mild signs of DCI. They returned to shore in the dive boat and were transferred to the hyperbaric chamber for treatment. (Coastguard report).

May 2008 08/197

An instructor was engaged in mask and regulator clearing and controlled buoyant lift training. He dived to a maximum depth of 6m and made at least 5 ascents during the dive. His dive duration was 30 min. After this dive he noticed 'pins and needles' in his hands but put this down to tight wrist seals. He made two further training dives, one to 9m for 20 min and another to 7m for 15 min. Several days later he took another diver to a recompression chamber and mentioned to a doctor that he had 'pins and needles' and numbness in his hands. Recompression was suggested and this resolved his symptoms. He received a series of four further treatments. It is thought that he had had an undetected spinal DCI from an earlier dive and that the training dives had aggravated the condition.

May 2008 08/125

A diver conducted an uneventful dive to 28m for 28 min including 6 min of decompression stops. That night he woke up with a lot of pain in his left arm and shoulder. Three days later he attended a recompression facility and was treated for DCI. The diver had received a shoulder injury the week before and this may have played a part in the incident.

May 2008 08/109

A diver conducted a wreck dive to a maximum depth of 50m. At 48m he thought that he could hear air slowly flowing into his drysuit. He signalled to his buddy to abort the dive and they started their ascent. They planned to deploy a delayed SMB at 25m. During the ascent the diver with the suit problem rose above his buddy and they lost sight of each other. The diver attempted to dump air from his suit and tried to disconnect the direct feed hose. He attempted to slow his ascent but was carried directly to the surface missing about 45 min of stops. His dive duration was 18 min. He was recovered into the boat and placed on oxygen. The diver was nauseous and vomiting.

The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. He was released the following day with no residual ill effects.

May 2008 08/111

The emergency services were alerted when a diver made a rapid ascent from 18m. He was airlifted to a recompression facility. During the flight he developed pains in his legs and he was treated for DCI. (Media report).

May 2008 08/112

A diver conducted a 40 min dive to a depth of 24m using nitrox 32. After a surface interval of 1 hour 50 min he dived to 21m using air. During the ascent from this dive he planned to stop at 3m for 3 min. At the stop he ran out of air and surfaced missing 2 min of stops. Once back in the boat he noticed a slight pain in his right elbow. He was placed on oxygen and the Coastguard was alerted. He was airlifted to a recompression facility for treatment. This diver had completed his most recent dives in fresh water and he may have been under-weighted. He had to work hard to stay at the stop. He also thought that he stayed at depth too long. (Coastguard report).

May 2008 08/338

A diver surfaced from a no problem dive with 'pins and needles' in both hands and a migraine headache. The dive boat returned to port and the diver was evacuated to the hyperbaric chamber for treatment. (Coastguard report).

May 2008 08/126

Two divers conducted a 35 min dive to a depth of 4m. Later that day they dived to 29m. They made their ascent from this dive on a shotline. There were other divers on this shotline and a strong current running. They attempted to conduct a decompression stop at 4m but the current dragged the shotline towards a horizontal position and the divers were pulled down to a depth of 7m. At this point they let go of the shotline and then lost control of their buoyancy. They made a rapid ascent to the surface. They were recovered into the boat and placed on oxygen. The boat returned to the shore where others identified a potential DCI concern and called an ambulance. One of the pair had a pain in his right arm and left knee; the other diver initially had no symptoms but then developed hypersensitive muscle reflexes. Both were given recompression treatment.

May 2008 08/301

Two divers conducted a 30 min dive to 26m with a 1 min stop at 3m. 1 hour 43 min later they dived to 23m for 33 min with a 1 min stop at 3m. 12 min later one of the pair complained of a slight pain in his arms and elbows and a general weakness. He was placed on oxygen and the Coastguard was alerted. The casualty then developed pains in his lower chest, pain and tingling in his back and a tight feeling around his ribs. Then his legs became numb and he developed pain in his lower back and solar plexus area. The pain then eased but he was left with 'a floating feeling' in his legs. He was given water. The diver was airlifted to a recompression facility where he received a number of recompression treatments for a spinal DCI. A lifeboat was also tasked to help but turned back once the diver had been airlifted. The diver was later found to have a PFO.

May 2008 08/115

A diver conducted a 30 min dive to a maximum depth of 35m with a 6 min stop at 6m. Later that day she carried out a drift dive to a maximum depth of 28m. Her dive duration was 40 min including a 3 min safety stop at 6m. 5 min after surfacing the

diver complained of an itchy chest and difficulty breathing. She lay down and was placed on oxygen. The Coastguard was alerted and diving medical advice was sought. The diver was airlifted to a recompression facility where she was treated for the onset of a cerebral embolism. Whilst in the recompression chamber the diver came very close to death but eventually made a good recovery. The diver was found to have a very high gas loading for the normal dive pattern that she had conducted. It was proposed that she may have a PFO and that heart strain whilst giving birth one year earlier may have been a factor. Since the birth the diver had only conducted two previous shallow shore dives. (Coastguard report).

May 2008 **08/114**

A diver conducted a 44 min dive to 19m. Later that day he dived to a maximum depth of 21m. During the ascent from this dive he made a 3 min safety stop at 6m. During this stop he felt his chest tighten and he found it increasingly hard to breathe. He checked his gauges and regulator and found no problems. He cut short his stop and swam to the surface. His total dive duration was 41 min. He was recovered into the boat. He complained of tingling in his wrist and hands and had a small rash on his lower arm. He was placed on oxygen and the Coastguard was alerted. He was airlifted to a recompression facility for treatment. Ten years earlier this diver had experienced a similar problem which resulted in him gasping for breath whilst sitting at home; medical tests at the time revealed nothing abnormal. Further tests were planned. (Coastguard report).

May 2008 **08/113**

A diver began feeling ill after surfacing from a dive. He was taken to a Hyperbaric Chamber for treatment. Bad air was suspected as being the cause. (Coastguard report).

June 2008 **08/128**

Three divers conducted a 33 min dive to a maximum depth of 17m with a 3 min stop at 6m. 2 hours 45 min later they dived to a maximum depth of 20m. The dive plan was for one of the three to practise compass skills and another to practise deploying a delayed SMB. 25 min into the dive the divers settled on the bottom and the diver with the delayed SMB prepared and launched it. She then wound in the slack line and they began an ascent to 6m. At a depth of 11m the diver with the SMB lost control of her buoyancy and she made a rapid ascent to the surface. She later discovered that she had lost one of her weights and it was this that caused the uncontrolled ascent. The other two divers made a normal ascent including a safety stop. These two divers then returned to recover the lost weight. The following day the diver who had made the rapid ascent felt unwell, she sought diving medical advice and was referred to a recompression facility where she received four sessions of recompression treatment.

June 2008 **08/340**

A medilink call was provided between a diver and a diving doctor after the diver reported symptoms of DCI in his arm and shoulder following a second dive of the day to 29m for 40 min. The doctor recommended that the diver attend the hyperbaric chamber for treatment. He was transferred from the dive boat to a lifeboat and then taken to the chamber by ambulance. (Coastguard report).

June 2008 **08/341**

A diver surfaced with chest pains and no feeling in his left arm following a seemingly normal dive profile. The casualty was placed on 100% oxygen on recovery but the boat reported that his condition was deteriorating quickly. The diver and his buddy

were airlifted by rescue helicopter to hospital for treatment. (Coastguard report).

June 2008 **08/120**

Three divers conducted a drift dive to a maximum depth of 21m. About 45 min into the dive they decided to surface. One of the pair adopted a vertical position and as he did so his weightbelt slipped down to his thighs. It could not fall off because he had clipped it to his BCD so he left it there. He tried to ascend but was unbalanced by the weightbelt, so he returned to the seabed. He unclipped the weightbelt and put it over his shoulder. He started his ascent again. He then found that he was inhaling water, after two breaths he switched to his octopus regulator. During the ascent he decided to drop his weightbelt. He was still inhaling water, breathing deeply and panting. At the surface he asked for help and is thought to have lost consciousness for a while. He was recovered from the water and placed on oxygen. The Coastguard was alerted and the diver was airlifted to a recompression facility. He did not show typical signs of DCI but did have 'brisk reflexes' so he was given recompression treatment. It is thought that by putting the weightbelt over his shoulder the diver had pulled on the regulator hose and this had displaced the regulator mouthpiece thus causing the water inhalation. (Coastguard report).

June 2008 **08/130**

A medical link call was made to a dive doctor for medical advice for two divers whose computers showed a rapid ascent from 27m, but had not become locked out. They did not miss any stops, and were not displaying any signs or symptoms of DCI. They were placed on 100% oxygen as a precaution and the doctor initially advised to monitor for any signs or symptoms. However, a short time later one of the divers began displaying signs of DCI, so both were airlifted to a hyperbaric chamber for treatment. (Coastguard report).

June 2008 **08/343**

A diver reported to be suffering a sore shoulder after a second dive of the day, following a seemingly normal dive profile. She was transferred to a hyperbaric chamber for further investigations as it could have been due to muscular strain. (Coastguard report).

June 2008 **08/122**

A diver conducted a dive to a maximum depth of 30m. During this dive he felt a tingling sensation and had the feeling of being 'spaced out'. He felt anxious and panicky. He ascended and his disorientation passed but he was left with a pain in his left forearm and a headache. Both symptoms resolved with time. He was diving in a new drysuit and thought that the condition was due to a tight neck seal or suit squeeze. He attempted to stretch the suit to ease the fit. Later that day he dived to 18m and experienced the same symptoms. The following day he dived in a semi-drysuit in an attempt to avoid the problems. At 29m he felt 'spaced out' again and as he surfaced he developed a pain in his arm, and became dizzy, distant and unaware of his surroundings. Back in the boat he felt shaky, weak and was unable to co-ordinate his movements. He was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression chamber. He received four sessions of recompression treatment and was then referred to a specialist for attention to residual symptoms thought to be associated with the balance organ in his ear. (Coastguard report).

June 2008 **08/203**

A dive boat had just recovered its pair of divers when they saw a lone diver by the shore. They approached him and he said

that a current had swept him from his buddies and that he was out of air. He swam a few metres to their boat and hung on as they towed him, in reverse, to his boat. The divers in the boat noticed that the lone diver's computer was indicating an error state. This diver then swam to his boat and asked for another cylinder and regulator which he was given. The divers in the rescuing boat suggested that he should be placed on oxygen and offered theirs to him. However the diver re-submerged and one of his buddies followed after him. 19 min later the divers re-surfaced and were recovered into their boat. The diver whose computer was in error said that he felt dizzy and he agreed to move into the rescuing boat and take oxygen. The divers in this boat then contacted the Coastguard and were directed to a nearby recompression facility. They delivered the diver to this facility and left him in the staff's care.

June 2008 **08/205**

Two divers conducted a drift dive to a maximum depth of 37m. At the end of the dive they ascended to 12m where the current became much stronger. The SMB was pulling one of the divers away from his buddy and this diver signalled for his buddy to close the gap between them. In doing so he lost control of his drysuit and was unable to prevent a buoyant ascent to the surface. His buddy followed him. Once in the boat he informed the skipper of the problem but refused oxygen as he had no symptoms. Two days later he noticed a pain in his right elbow but put it down to a muscle strain. The following day the pain remained and he sought diving medical advice. No other symptoms of DCI were found but he was given recompression treatment which resolved his symptoms. The following day he was given a further session of recompression treatment. This diver had conducted a series of dives and on the subject dive he was using nitrox 29.

June 2008 **08/134**

A diver made a series of two dives a day for a period of three days. The maximum depth of these dives was 29m. On the fourth day he made one dive, to 35m for 30 min. On the fifth day he dived to 28m for 34 min with a 3 min stop at 6m. After this dive he felt itchy and tender on his shoulders, back and chest, but put this down to a new shirt. After a 2 hour 55 min surface interval he dived to 26m for 50 min with a 3 min stop at 6m. The symptoms remained for about 2 hours after this second dive after which he ceased to be aware of them. The following day after a 22 hour surface interval he dived to 25m for 45 min with a 3 min stop at 6m. About an hour after this dive he told the boat's skipper that he felt hot and itchy. He was placed on oxygen and diving medical advice was sought. He was given a medical examination and advised that he could be suffering from a mild type 1 DCI but did not require recompression treatment. The following day he had a bloated abdomen and was taken to hospital by ambulance from where he was later discharged. The diver had been diving on nitrox 27. Subsequent tests revealed a large PFO.

June 2008 **08/252**

Three divers planned a 35 min dive to a maximum depth of 18m. 12 min into the dive the dive leader deployed a delayed SMB. During deployment the line tangled and the diver was pulled up to about 12m. He regained control and re-descended. Meanwhile the other two divers had started an ascent. One of these two had difficulty controlling her buoyancy and the other tried to slow her ascent. They passed the dive leader and took hold of the SMB line to try to control the ascent. The two divers were carried directly to the surface; their dive time was 16 min. The dive leader let go of the SMB reel when it was pulled up by the other two and he made a safety stop before surfacing, his dive time was 19 min. The divers were recovered into their boat and about 30 min later the diver who had had buoyancy problems began to feel unwell. Initially it

was thought to be seasickness, but she then developed difficulty with speech and a numbness in her tongue and fingers. She was placed on oxygen and the Coastguard alerted. She was airlifted to a recompression chamber and treated for DCI.

June 2008 **08/136**

A dive boat reported having a diver onboard suffering a severe headache and nausea following a normal dive profile and ascent. Medical advice was taken from a diving doctor who recommended evacuation to a hospital for evaluation. However, the paramedic on scene considered that they should be transferred to a hyperbaric chamber for assessment/treatment. The diver was airlifted by a rescue helicopter to a hyperbaric chamber. (Coastguard report).

June 2008 **08/135**

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

June 2008 **08/155**

A diver was engaged in a week of diving. On the last day he dived to 53m and made a 12 min stop at 6m and a 3 min safety stop at 3m during his ascent. After a surface interval of 2 hours 10 min he dived to 29m for 39 min with a 2 min mandatory plus 3 min safety stop at 6m. After this dive he complained of a sore left arm which he described as being 'an ache like a pulled muscle'. He also had a multicoloured rash on this arm. He was placed on oxygen and given fluids. After 10 min on oxygen the rash eased. Diving medical advice was sought and it was recommended that he remain on oxygen for 30 min. No further treatment was required and the diver made a full recovery.

June 2008 **08/156**

Three divers using rebreathers conducted a dive to a maximum depth of 46m. They spent 32 min at a depth of 43m. They made a slow ascent with the following stops: 2 min at 30m, 2 min at 22m, 2 min at 18m, 2 min at 9m and 16 min at 6m. Once out of the water one of the three went to the toilet to urinate. Immediately after this he started to experience stomach cramps and lower back pain. 5 min later his vision became blurred. He was placed on oxygen and his buddies packed the equipment away while he rested. They then sought diving medical advice and were told that his symptoms indicated DCI and that he should make his way to the nearest A&E hospital. On the way he developed 'pins and needles' and an ache in his elbow. After an examination he was taken by ambulance to a recompression facility for treatment which resolved his symptoms.

June 2008 **08/157**

Three divers conducted a dive to a maximum depth of 27m. During the ascent one of the three lost control of his buoyancy and made a rapid, feet first, ascent from 10m. His dive duration was 35 min. At the surface he developed a pain in his shoulder and felt nauseous. He was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression chamber for treatment. (Coastguard report).

July 2008 **08/139**

A diver made a rapid ascent after being stung by a jellyfish. The diver developed signs of DCI and the Coastguard was alerted. A boat was used to transfer the diver to a recompression facility but it broke down on the way. The diver was eventually treated for DCI and the sting.

July 2008 08/347

Dive support vessel contacted Belfast Coastguard reporting having a diver aboard suffering post dive symptoms of DCI. Rescue helicopter R-118 recovered the diver and transported to Craigavon chamber for treatment. (Coastguard report).

July 2008 08/211

A diver engaged in a series of dives over a six day period. On the first day she experienced a severe pain in her left breast which spread during the lunch period to include both breasts. Others suggested that it might be a muscle strain but the diver was not convinced. The pain felt like a deep itch an inch into the breast tissue; it faded overnight. Three days later a rash appeared on top of her left breast about 2 hours after a dive; it disappeared overnight. The following day she only dived in the afternoon. The dive was on nitrox 28 to 27m for 50 min with a 8 min decompression stop of which 3 min was a safety stop. Within an hour of surfacing she experienced a severe pain in her left breast and the skin was red. On return to shore she sought medical advice and was placed on oxygen. She went to a recompression facility and received treatment for DCI. The following day she had some residual tenderness.

July 2008 08/304

Two divers conducted a dive to a maximum depth of 29m. One was using open circuit air and the other a rebreather. They started their ascent after 34 min. The rebreather diver's computer indicated minimal decompression while the air diver's computer showed the need for 20 min of decompression stop. Decompression actually took longer than indicated and they surfaced after a total dive time of 74 min. Once ashore the rebreather diver complained of chest and stomach pains; he was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility where he received recompression treatment. DCI was thought to have been unlikely but his symptoms were resolved by recompression, so it remained a possibility. It was subsequently determined that the decompression took longer than the computer indicated since the divers stopped at 6m and the computer based its prediction on a stop at 3m.

July 2008 08/141

A diver using air conducted a 58 min dive to a depth of 46m. On leaving the water he noticed a slight pain in his left elbow which then subsided; he put this down to a muscular strain. Later that day he conducted a drift dive to a maximum depth of 30m for a duration of 33 min. On surfacing from this second dive the pain returned and became severe as he climbed the ladder. He was placed on oxygen and given fluids. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. The diver subsequently reported that he had a metal pin in the affected area of his left elbow. (Coastguard report).

July 2008 08/142

A diver using air conducted a dive to 18m for 53 min including a 3 min safety stop at 6m. 2 hours later he conducted a drift dive to a maximum depth of 18m for 45 min with a 3 min safety stop at 6m. About 5 min after he had got back into the boat he felt a pain in his right shoulder. The pain subsided and was then replaced by a tingling pain in both shoulders. He was placed on nitrox 80 and the Coastguard was alerted. He was airlifted to a recompression facility for treatment. (Coastguard report).

July 2008 08/354

Following two 23m dives a diver complained of joint pain in arm and legs also suffering light-headedness. Coastguard rescue helicopter R-100 recovered the diver and transferred to

Dunstaffnage for treatment. (Coastguard report).

July 2008 08/254

Two divers using air conducted a dive to a maximum depth of 32m. One of the pair had his computer incorrectly set to nitrox 32 and when it cleared at 6m he left his buddy and surfaced. His total dive duration was 58 min including a 1 min stop at 9m and a 1 min stop at 6m. The diver was placed on oxygen and the Coastguard was alerted. The diver was taken by ambulance to a recompression facility for treatment for DCI. The buddy completed his stops and surfaced without adverse effects.

July 2008 08/291

An instructor conducted a 20 min dive to a maximum depth of 6m. The dive consisted of repeated ascents and descents to 6m. After the dive he noticed a tingling sensation in his right arm. He was placed on oxygen and diving medical advice was sought. His condition worsened and he was airlifted to a recompression facility.

July 2008 08/166

A diver using a drysuit for the first time dived to 23m for 33 min. Then, after a surface interval of 1 hour 55 min, he dived to 19m for 36 min. The following day he felt an ache in his shoulders and hip and a slight tingling in his left hand and arm. He also had a rash over his shoulders. He thought that these symptoms were due to the previous day's exertion and to lying on his arm. The following day the symptoms remained and he contacted his doctor. His doctor could not help so he sought diving medical advice. He attended a recompression chamber where he received treatment for DCI.

July 2008 08/359

Clyde Coastguard was alerted to a diver suffering DCI following a dive to 105m, 13min bottom time 3 hours deco. The diver made surface OK then complained of pains in the knee and 'pins and needles' in lower leg. The casualty was transferred to Dunstaffnage for treatment. (Coastguard report).

July 2008 08/255

A diver felt seasick before a dive. He entered the water and waited at the top of the shotline for 10 min to recover. He felt fit to dive and he and his buddy descended to a wreck in a maximum depth of 32m. On the bottom he did not feel right and signalled his buddy to ascend. They ascended a few metres and waited there for about 10 min after which the diver felt that he could continue. They re-descended and moved along the wreck. The diver then became concerned that his fingers and toes were cold and he signalled to his buddy that he wanted to ascend. They returned to the shotline and when the diver moved into a vertical position he was sick. His regulator came out of his mouth and his vomit in the water obscured his vision. His buddy put his regulator back into his mouth but he had swallowed a lot of water. He was sick into the regulator and this inhibited his breathing. He changed to his alternative regulator, then changed back when this too became filled with vomit. The pair made a rapid ascent to the surface and were recovered into the boat. The sick diver was placed on oxygen and the Coastguard was alerted. The diver was taken by ambulance and helicopter to hospital and a recompression facility where he was treated for DCI. He subsequently tested negative for a PFO. This was this diver's first dive to deeper than 20m in the UK.

July 2008 08/175

Two divers dived to a maximum depth of 25m. At the start of

the dive they deployed an SMB. When one of the pair reached 50 bar they started their ascent. They made a stop at about 6m but surfaced with 2 min of stops outstanding. Part of the ascent was fast and the diver who first reached 50 bar had to switch to his pony cylinder. Once in the boat this diver was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility where he found to be very confused. The diver stated that he suffered from cerebral palsy. He was treated for DCI. (Coastguard report).

July 2008 **08/216**

A diver conducted a 40 min dive to a maximum depth of 22m. Later the same day he dived to 28m for 36 min. Both dives included a 3 min safety stop at 6m. Some time after the second dive the diver developed a slight pain and a skin rash on his right shoulder. He was first placed on nitrox 50 then, 20 min later, on oxygen. He was given water to drink. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment.

July 2008 **08/215**

A diver conducted a 47 min dive to a maximum depth of 41m including a 2 min stop at 8m. 1 hour 57 min later he dived to 46m for 36 min including a 4 min stop at 7m. Shortly after getting back in the boat he felt a pain in his right shoulder but put it down to a strain. The pain developed across his lower back and then across his stomach. He lay down but the symptoms remained. He then felt a tingling feeling down his right leg and it became very sensitive to touch; a similar feeling then developed in his left leg. He was placed on oxygen and the Coastguard was alerted. He was taken by lifeboat to a recompression facility and treated for DCI.

July 2008 **08/361**

Yarmouth Coastguard received a call from a dive support vessel reporting having a diver aboard suffering from suspected DCI. The casualty was met by Happisburg Coastguard Rescue Team and an ambulance for transportation to hospital. (Coastguard report).

July 2008 **08/172**

A pair of divers conducted a wreck dive to a maximum depth of 45m using air. Their ascent included a 10 min stop at 10m and a 31 min stop at 5m; during the 10m stop one of the pair lost sight in one eye. He took hold of his buddy and after about 1 min his vision returned. At the surface the diver who had had the temporary loss of sight had pains in his left arm; he thought these pains were a result of gripping his buddy very hard. These divers did not report the incident to the dive manager at this time. Their total dive duration was 57 min. Once back on shore the diver still had arm pains and he placed himself on oxygen for 40 min as a precaution. At this point the dive manager was informed of the problem. The following morning the pain had returned in his left arm together with a mottling of the skin and he did not have full use of the arm. The Coastguard was contacted and the diver and his buddy went to a recompression facility. The diver received three sessions of recompression therapy. The diver had had previous DCI incidents.

July 2008 **08/178**

Two divers conducted a wreck dive to a maximum depth of 28m. They deployed a delayed SMB to make their ascent and as they started to move upwards one of the pair lost control of his buoyancy and made a rapid ascent to the surface arriving feet first. His buddy lost his regulator and inhaled some water. He then panicked, lost control of his buoyancy too and made a rapid ascent to the surface. Their dive duration was 20 min.

The Coastguard was alerted and both divers were airlifted to a recompression facility. The second diver developed a slight numbness in his left hand. Both divers were more accustomed to fresh water diving and both were under-weighted. (Coastguard report).

July 2008 **08/362**

Portland Coastguard was contacted by a dive support vessel reporting having a diver aboard suffering from suspected DCI, the diver was transferred by ambulance to Poole recompression chamber for treatment. (Coastguard report).

July 2008 **08/363**

Solent Coastguard was alerted by a dive support vessel to a diver aboard suffering suspected DCI, and the casualty being administered oxygen. Rescue helicopter R-106 recovered casualty from vessel and airlifted to Poole General hospital for treatment. (Coastguard report).

July 2008 **08/173**

A diver conducted a 38 min dive to 30m including a 1 min stop at 12m and a 3 min stop at 5m using nitrox 32. 2 hours 15 min later he dived to a maximum depth of 29m. During the ascent from this second dive, at a depth of 23m, the diver started to deploy a delayed SMB. As the SMB inflated the diver rose up with it. He re-descended to 23m and continued to fill the buoy. He ascended again to about 18m at which point he let go of the SMB and re-descended to 20m. He then made a normal ascent with a 4 min stop at 5m. His total dive duration was 39 min. About 1 hour later this diver complained of feeling dizzy and having blurred vision and he was sick. He was placed on oxygen and then taken by ambulance to a recompression facility for treatment.

July 2008 **08/174**

Milford Haven Coastguard received a call from a dive support vessel reporting a diver aboard suffering from suspected DCI following a dive to 52m, the casualty was airlifted by RAF R-169 to Poole recompression chamber. (Coastguard report).

July 2008 **08/177**

A diver conducted a 30 min dive to a maximum depth of 27m. 10 min after leaving the water she started to feel very seasick. She then developed a loss of feeling and 'pins and needles' in her hands. She was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility where she was treated for DCI. No causal factors were identified. (Coastguard report).

July 2008 **08/176**

Falmouth Coastguard scrambled Royal Navy helicopter R-193 to airlift a diving casualty suffering from suspected DCI to DDCR Plymouth. (Coastguard report).

August 2008 **08/226**

Two divers conducted a normal dive to a maximum depth of 29m for a duration of 38 min including a 2 min stop at 18m and a 6 min stop at 6m. Shortly after getting back into the boat one of the pair began to experience painful abdominal cramps. He thought that it was trapped wind but a few minutes later he felt 'pins and needles' in his arms and fingers. He was placed on oxygen and the Coastguard was alerted. The casualty was taken by lifeboat and ambulance to hospital. The casualty developed leg spasms, hypersensitivity around his midriff and difficulty urinating; his abdominal pains eased with the application of oxygen. He was diagnosed with a spinal DCI and

received a series of three sessions of recompression treatment over a period of three days. Minor residual symptoms remained at the time of reporting and further medical advice was being sought. It was thought that dehydration may have played a part in this DCI.

August 2008 08/367

Forth Coastguard was asked for medical advice for a diver suffering from suspected DCI, the casualty was transferred to A&E by ambulance for observation. (Coastguard report).

August 2008 08/182

Two divers conducted a wreck dive to a maximum depth of 30m. They deployed a delayed SMB to make their ascent and at 6m they halted to conduct a planned 3 min safety stop. At this point one of the pair noticed that the SMB line was caught on the regulator 'A' clamp of the other diver. He moved to release it and while doing so they both lost control of their buoyancy and dropped back to 14m. They re-ascended to 6m but then dropped again to 8m. From this point they ascended to the surface. One of the pair was shaken by these events and did not feel right. Both were placed on oxygen for about 30 min as a precaution. Neither diver dived again that day. The following day they drove home and the diver who had felt unwell after the subject dive developed a headache, became lightheaded and had a tingling in his arms. Over the next few days these symptoms did not ease and another diver advised him to seek medical advice. Tests were conducted and the diver was then transported to a recompression facility where he received a series of three treatments for a neurological DCI. This diver had conducted a series of dives in the days preceding the subject dive.

August 2008 08/370

A diver made a rapid ascent from 60m. At the surface the diver was found to be paralysed and his recovery was made difficult because there were other divers in the water. He was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility where he received a series of treatments.

August 2008 08/228

A diver conducted a 33 min dive to a maximum depth of 38m with a 1 min stop at 20m and a 5 min stop at 6m during her ascent. When the boat approached to pick her up she was unable to grasp the ladder and she seemed unresponsive and unable to help herself. Other divers removed her kit and lifted her into the boat. She was placed on oxygen and given fluids and the Coastguard was alerted. She complained of a slight tingling in her legs and feet. She was transferred into a lifeboat and then airlifted to a recompression facility where she received a precautionary treatment. The diver had had a suspected DCI four years previously and a PFO had been diagnosed and closed.

August 2008 08/268

A diver conducted a 29 min dive to a maximum depth of 26m. An hour later he dived again but experienced tooth pain during the descent, at a depth of 5m, and he made a rapid ascent to the surface. The following day the diver conducted a dive to a maximum depth of 25m. He was using a twin cylinder setup with a manifold and two regulators. The way in which the equipment was configured resulted in the second regulator being presented over the left shoulder upside down; this was not noticed during the pre-dive checks. After 10 min the diver indicated to the dive leader that he had only 50 bar remaining in one cylinder; the other one was full. The dive leader thought that the manifold had been opened at the start of the dive. He

indicated to the diver to use his second regulator (attached to the full cylinder). The diver found this difficult to breathe from and indicated that he wanted to use the dive leader's alternative air source. She gave this to him and they started to ascend from 22m. At 15m they were ascending too rapidly and the dive leader dumped all the air in her BCD and indicated to the other diver that he should also dump air. They then started to descend rapidly and the dive leader indicated that the other diver should fin upwards but he did not respond. They sank back to 20m and the dive leader inflated her BCD. They started to re-ascend, lost control of their buoyancy and made a rapid ascent to the surface. Their dive duration was 13 min. 10 min after surfacing the diver who had been low on air developed symptoms of DCI. He was placed on oxygen and the Coastguard was alerted. Both divers were airlifted to a recompression facility and the diver with DCI received six sessions of recompression treatment over a four day period. He made a full recovery. Subsequent examination of the diver's equipment revealed that he had 50 bar in one cylinder, 80 bar in the other and they would not equalize when the manifold valve was opened.

August 2008 08/372

Holyhead Coastguard tasked R-122 helicopter to recover a diver suffering from suspected DCI and transport the casualty to Murrifield hospital for treatment. (Coastguard report).

August 2008 08/373

Stornoway Coastguard received a call from dive support vessel reporting having a diver aboard suffering from suspected DCI following a dive to 23m, the casualty was airlifted by Coastguard rescue helicopter R-100 and transferred to Dunstaffnage chamber. (Coastguard report).

August 2008 08/229

A diver suffering symptoms of DCI was airlifted to a recompression facility for treatment. (Media report).

August 2008 08/375

Shetland Coastguard assisted a dive support vessel to transport a diver suffering from suspected DCI to recompression chamber. (Coastguard report).

August 2008 08/377

Belfast Coastguard received a call from a dive support vessel reporting having a diver onboard suffering from possible symptoms of DCI, the casualty received medical advice and was met by an ambulance for transfer to hospital at Ballycastle assisted by Ballycastle Coastguard team. (Coastguard report).

August 2008 08/241

A diver completed a 63 min shore dive to a maximum depth of 7m. Later that day he dived to 5m for 45 min. He developed a headache after the first dive and this got worse after the second dive and he felt sick. After the second dive he was very confused, weak, disorientated, unable to stand or talk, was unresponsive and had difficulty breathing. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression facility. The diver was recompressed and this resolved his symptoms. The diver has a history of migraines. (Coastguard report).

August 2008 08/236

A diver with symptoms of DCI was taken by helicopter and ambulance to a recompression facility for treatment. (Media report).

August 2008 08/266

A diver conducted a 38 min dive to a depth of 29m with a 4 min stop at 6m. 2 to 3 hours after the dive she developed symptoms of skin DCI and felt dizzy. She placed herself on oxygen. A recompression facility was contacted and she was advised to attend there. An ambulance was called which took the casualty to hospital. Fellow divers contacted the Royal Naval Duty Officer and he intervened to get the casualty transferred to the recompression facility. The diver was given recompression treatment for DCI.

August 2008 08/378

Humber Coastguard received a call from a dive support vessel requesting medical advice for a diver suffering from suspected DCI following a rapid ascent from 6m after a dive to 30m+, the casualty was recommended to attend A&E by INM for observation. (Coastguard report).

August 2008 08/234

Swansea Coastguard requested rescue helicopter R-169 to evacuate a diver, who had made a rapid ascent from 16m, to DDRC Plymouth. (Coastguard report).

August 2008 08/244

A diver conducted three dives over a three day period. The first dive was to 62m for 90 min, the second was to 60m for 85 min and the third was to 65m for 85 min. He used nitrox 34 as his travel gas, trimix 18/32 for the dive and nitrox 70 for decompression. On the last dive he left the bottom after 25 min and made stops at 42m and 36m, switched to his travel gas and made stops at 30m, 24m, 20m, 18m, and 15m, then switched to his decompression gas for stops at 12m, 9m and 6m. He then took 5 min to surface from 6m. Once back in the boat he developed a slight cough and he breathed nitrox 70. He noticed some bruising on his chest and abdomen. That evening he felt very tired and he noticed a rash on his stomach before eating and going to bed. The following morning he felt unwell and he sought diving medical advice. He attended a recompression facility for treatment for DCI. (Coastguard report).

August 2008 08/245

Two divers conducted a night drift dive in a maximum depth of 25m. When they started their ascent one of the pair had 100 bar remaining. This diver struggled to get air into his delayed SMB and he started to ascend quickly. He tried to stop his ascent but started to panic and breathed deeply. His computer indicated the need for 7 min of decompression and he tried to stop at 6m. At 6m he switched to his pony regulator as he had only 30 bar in his main cylinder. He stopped for 3 min but then surfaced. Back in the boat he was placed on oxygen and the boat returned to shore. The diver developed 'pins and needles' in both hands and forearms and he felt dizzy and sick. The Coastguard was alerted and the diver was taken by helicopter and ambulance to a recompression facility for treatment for DCI. (Coastguard report).

August 2008 08/295

A pair of divers swam down an underwater slope and then, at a depth of 22m, they swam off in mid-water. After a few minutes one of the pair started to feel anxious in the increasing dark and cold and she started to breathe heavily. She attracted her buddy's attention and indicated that she wanted to ascend. During the ascent she lost control of her buoyancy and the ascent became rapid. At the surface she was disorientated, unable to control her breathing and she felt weak, dizzy and sick. Shortly after leaving the water she felt worse and she developed a tingling in her legs and a headache. She was placed on oxygen. Diving medical advice was sought and the

diver was airlifted to a recompression facility for treatment. She was discharged the following day fully recovered.

August 2008 08/242

A diver completed a series of four dives over a four day period. The first dive was to 68m for a total duration of 148 min, the second was to 64m for 126 min, the third was to 66m for 120 min and the fourth was to 65m for 122 min. All dives were made using a rebreather with a 10/50 trimix diluent. His set point was 1.3 below 6m and 1.5 above 6m for decompression. Shortly after his last dive he felt a burning sensation on his upper chest and the skin had a rash and was itchy. He was placed on oxygen for 30 min and the rash disappeared but a bruising-like pain remained. Early the following morning he awoke to find that his balance was impaired and he felt dizzy. He contacted a recompression facility and was advised to go there. He was given recompression treatment and this resolved his symptoms apart from some soreness. The cause of his DCI was said to be due to repeated deep dives.

August 2008 08/380

Portland Coastguard was contacted by dive support vessel requesting medical advice for a diver. The vessel was placed in a connect call with Poole hyperbaric unit after a diver started to display possible DCI. Under advice the diver was kept under observation but not taken off the dive vessel. (Coastguard report).

August 2008 08/243

A diver made a rapid ascent from a dive to 30m. He developed a tingling feeling in his arms and, once ashore, he was taken by ambulance to hospital. (Media report).

August 2008 08/233

A diver conducted a 35 min dive to a maximum depth of 29m with a slow ascent to 6m and a 5 min stop at 6m including a 3 min safety stop. Once back in the boat she was seasick despite having taken anti-seasickness medication before the dive. Later, during her drive home she noticed a slight rash and itchiness to her upper body but thought that this was from wearing her drysuit. Her right arm felt heavy and she had a pain in her left knee, she thought these symptoms were due to kneeling and leaning over the side of the boat when she was sick. The following morning she found it difficult to put weight on her knee and took two paracetamol. That morning her upper right arm was itchy, very swollen and hot. She sought diving medical advice by phone and attended her local hospital. Some weakness was found on her right side, she was placed on oxygen and given intravenous fluids. She was taken to a recompression facility where spinal and skin DCIs were diagnosed. She received three sessions of recompression treatment and her symptoms were resolved apart from some remaining tenderness. A PFO examination was recommended.

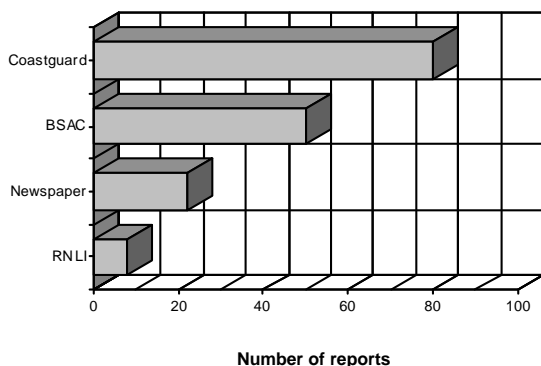
August 2008 08/383

Portland Coastguard was contacted retrospectively for medical advice by a diver having made a 65m dive 85min submerged duration. The casualty was treated at Poole recompression chamber. (Coastguard report).

August 2008 08/249

Yarmouth Coastguard was alerted to a diver suffering from suspected DCI following a dive to 28m for 30min, the casualty was taken by Air One air ambulance to A&E. (Coastguard report).

Decompression data source analysis



September 2008 **08/250**

A diver suffering from suspected DCI was taken by lifeboat to a recompression facility for treatment. (Media report).

September 2008 **08/384**

Dive support vessel contacted Falmouth Coastguard requesting medical advice for a diver suffering from suspected DCI following a dive to 32m. A medical connect call was established with DDRC Plymouth, the advice dictated an evacuation to the chamber at DDRC, Naval Rescue helicopter R-193 airlifted the casualty. (Coastguard report).

September 2008 **08/296**

A pair of divers completed a 24 min dive to a maximum depth of 20m. At the end of the dive they made a surface swim to the exit point. During this swim one of the pair got cramp in his leg and his buddy started to tow him. The diver with cramp then became unresponsive and the other diver called for assistance. The diver was recovered from the water and found to be unconscious but breathing. He was placed on oxygen and the emergency services were alerted. The diver started to recover but was paralysed down his right-hand side. Diving medical advice was sought. The diver was taken by ambulance to hospital and from there to a recompression facility. He received two sessions of recompression treatment for DCI. Initially he was thought to have had a stroke but it was diagnosed as a cerebral embolism potentially exacerbated by hypothermia. The diver was using a membrane drysuit but had forgotten his undersuit so he dived without it. It is also believed that he had not been wearing a hood.

September 2008 **08/258**

A diver suffering from suspected DCI was taken by lifeboat to a recompression facility. (Media report).

September 2008 **08/257**

A rebreather diver conducted a series of dives over a number of days culminating in a dive to 42m. Ascending from this dive he

made a 2 min stop at 24m, a 2 min stop at 16m and a 5 min stop at 6m. At the 6m stop his rebreather computer cleared its stop requirements after 2 min and his dive computer cleared after a further 1 min. He stayed at the stop for a total of 5 min while his buddy's computer cleared. About 10 min after surfacing he began to feel dizzy and his right ear felt blocked. He moved to the side of the boat to be sick but his dizziness made him stumble and he hit and cut his head on a railing. He was sick for about 10 min and then he was placed on oxygen. The Coastguard was alerted and the boat directed to rendezvous with a lifeboat. The boat made harbour before meeting the lifeboat and the diver was taken by ambulance to hospital. The diver was then transferred by ambulance to a recompression facility for treatment. A vestibular DCI was diagnosed and he received two sessions of recompression treatment. He was then flown to another recompression facility for two further sessions of treatment. At the time of reporting he had some residual dizziness and was seeking further medical treatment.

September 2008 **08/259**

A diver using air conducted a 30 min dive to a maximum depth of 27m. 4 hours later she dived to 20m for 36 min. After this dive she became nauseous, had a weakness on her right-hand side, had right shoulder pain and nystagmus. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. (Coastguard report).

September 2008 **08/261**

A diver conducted a 30 min dive to 33m and then a 36 min dive to 25m. The following day she dived to 33m for 38 min including a 1 min stop at 16m, a 1 min stop at 10m and a 3 min stop at 6m. At this last stop she felt nauseous. Once back in the boat her nausea increased and she developed a pain in her right forearm. She was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression chamber for treatment. It is thought that dehydration may have been a causal factor. (Coastguard report).

September 2008 **08/269**

A diver with suspected DCI was taken by ambulance and lifeboat to a recompression facility for treatment. (Media report).

September 2008 **08/271**

A diver using a trimix rebreather conducted a 60m dive for 105 min. The following day he repeated this profile. The day after that he dived to 62m for 105 min. Shortly after surfacing from this dive he developed a skin rash across his abdomen, he was nauseous and vomiting. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. At the chamber he had pain in his upper arms and a tightness in his chest. He was given recompression treatment and responded well. This diver had had two similar problems in the previous two years.

Injury / Illness

October 2007**08/010**

A diver completed a 21 min dive to a maximum depth of 10m. After the dive he complained of tingling in his arms. He had numbness in his lips and he was sick. The Coastguard was alerted and the boat returned to shore. Once ashore the diver was taken by ambulance to hospital. It was thought that this may have been a non-diving related illness. (Coastguard report).

October 2007**08/014**

The Coastguard was alerted when a diver complained of feeling unwell. He was taken by ambulance to a medical facility. (Coastguard report).

October 2007**08/017**

A group of diver were recovering an RHIB onto its trailer. While they were lining the boat up with the trailer a series of waves hit them making the task difficult. They decided to abandon the attempt and to recover the RHIB in a nearby marina. Further waves then knocked the trailer half off the slipway. The driver became concerned about the safety of the car and unhooked the trailer. One person took hold of the recovery strap and another held the trailer. A larger wave then washed the trailer completely off the slipway and it started to roll down the beach. A finger of the diver who was holding the strap became trapped in the hook at the end of the strap and he was dragged down the beach injuring his finger. He attended hospital for this injury and was treated for a broken finger and damaged ligaments.

October 2007**08/418**

A diver had completed a shallow training dive when she developed a pain in both knees. She was placed on oxygen and taken by ambulance to hospital. She was discharged, fully recovered, later that day.

October 2007**08/314**

Two lifeboats launched to help diver(s) with illness. Person(s) brought in. (RNLI report).

November 2007**08/039**

Two divers entered a quarry to make a dive to a maximum depth of 26m. They made a surface swim to the planned dive site. One of the pair noticed that she was lower than usual in the water even with her BCD fully inflated. When they started the dive she felt that she was descending quicker than normal. She tried putting air into her drysuit but it did not slow her descent. As she descended she became concerned that she was going much deeper than planned and she started to panic. She grabbed hold of a rock wall at 18m and signalled to her buddy that she wanted to ascend. She put more air into her suit but continued to descend when she released her hold on the wall. She started to hyperventilate. Her buddy reached down and grabbed her hand. They reached the bottom at 25m and the heavy diver started to lose consciousness. Her buddy inflated his drysuit to bring them to the surface but lost his grip on her and made a buoyant ascent to the surface. The heavy diver sank back down and the regulator came out of her mouth. Another diver was returning from a deep dive and was making a decompression stop in the same area. This diver chanced upon the unconscious diver lying on the bottom at 28m, about 1m from a steep slope down to 60m. This diver released her weights and inflated her BCD, sending her to the surface. She surfaced close to her buddy who started towing her ashore. Other divers on the shore realised that there was a problem and went to assist.

They brought the casualty to the shore giving rescue breaths on the way. Once out of the water they administer CPR and oxygen assisted rescue breaths. After about 7 min the casualty regained consciousness. The emergency services were alerted and the diver was airlifted to a recompression facility for precautionary treatment; from there she was taken to hospital from where she was released 3 days later. Subsequent examination of the diver's drysuit dump valve indicated that it may not have been adequately closed.

November 2007**08/315**

Lifeboat launched to help diver with illness. (RNLI report).

December 2007**08/317**

Lifeboat launched to help diver with illness. (RNLI report).

December 2007**08/318**

Lifeboat launched to help diver with illness. (RNLI report).

January 2008**08/040**

A diver had completed a dive and was leaving the water by walking up a slipway. He was wearing a rebreather and a side-slung cylinder. He slipped, fell over and hurt his left ankle and foot. It is thought that he was wearing fins. He was taken to hospital where a bad sprain was diagnosed.

January 2008**08/041**

Two divers conducted a dive to a maximum depth of 20m in a quarry. One of the pair was using a borrowed membrane drysuit. At the end of the dive they made a normal ascent to the surface and swam towards the side. Their dive duration was 20 min. As they neared the exit point the diver in the membrane suit became increasingly cold and started to panic. A boat went to their assistance. The diver was having difficulty breathing and complained of extreme cold. She was recovered from the water and brought ashore. Her condition did not improve and the emergency services were alerted. The diver was taken by ambulance to hospital from where she was released later that day.

January 2008**08/062**

Two rebreather divers approached a diving club seeking permission to use their pool during one of the club's pool nights to practise drills with their rebreathers. One of the rebreather divers had just completed a training course for his equipment; the other had many hours experience on his rebreather. During their practice, at a depth of 4m, the more experienced rebreather diver noticed that his newly qualified buddy was exhibiting unusual behaviour and then appeared to blackout. The mouthpiece fell from his mouth and the rebreather flooded. The buddy brought the unconscious diver to the surface using his own buoyancy. At the surface two instructors from the host club helped to support the casualty and, assisted by a further instructor from another group who were also using the pool, they recovered the casualty from the water. He was not breathing and resuscitation techniques were applied. After a short period the casualty started to breathe, he was placed on oxygen and he recovered consciousness. The emergency services were alerted and the casualty was taken by ambulance to hospital from where he was released the following day. He remembered a feeling of falling asleep underwater. During the session the diver had left the water to adjust the configuration of his equipment and he had

turned off the oxygen supply while he did so. He had forgotten to turn it back on again when he re-entered the water. The instrumentation of this particular system flashes a red indicator if the oxygen partial pressure is below 1 bar; hence, at the surface, it would be normal for it to indicate red whether the oxygen was turned on or not. The number and duration of the flashes indicates the actual oxygen partial pressure.

February 2008 08/065

A trainee snorkel diver conducted a 'duck dive' in a swimming pool in a depth of 2.5m. He descended rapidly and hit his head on the pool bottom. He was assessed at the time and felt fit to continue the training session. The following day he felt unwell and attended his local hospital. He was treated for mild concussion.

February 2008 08/046

Three divers conducted a dive to a maximum depth of 20m. At the end of the dive they deployed a delayed SMB to make their ascent. At 6m one of the three was too buoyant and struggled to stay down. One of the others tried to assist him but he made a rapid inverted ascent to the surface. His dive duration was 27 min. The boat party saw the diver motionless at the surface and moved quickly to recover him. He was conscious but dazed and breathless. He was placed on oxygen and a 999 call was made for an ambulance to meet the boat at the harbour. The other divers were recovered and the boat started back. The diver started to convulse and passed in and out of consciousness. Once ashore the diver was taken to a recompression facility for treatment. He was discharged the following day symptom-free.

February 2008 08/047

A diver and an instructor made a dive to a maximum depth of 21m, in a quarry, to conduct SMB training. The trainee began to wind in the line to make an ascent then became confused and dumped air from his BCD instead of inflating it. He seemed incapable of rectifying the situation and the instructor abandoned the reel and brought him to the surface using her own BCD. At the surface she inflated his BCD and started towing him to the side. Once out of the water the divers were both placed on oxygen. No subsequent ill effects were reported. The instructor suggested that the diver had been affected by narcosis.

February 2008 08/063

Two divers conducted a dive to a maximum depth of 27m. During the ascent one of the pair lost control of his buoyancy and made a rapid ascent to the surface; his buddy tried to slow the ascent but was carried up too. Their dive duration was 18 min and they had missed an indicated 2 min decompression stop. Back in the boat the buddy complained of a pain in his ears. Both divers were placed on oxygen; no other symptoms developed. The following day the diver with ear pain visited his doctor and a burst eardrum was diagnosed. The trip to the dive site was made in an RHIB in cold weather and the diver who had made the rapid ascent had worn additional clothing under his drysuit. He had not weighted himself correctly for the additional buoyancy.

February 2008 08/052

Two divers entered the water for a dive; one of them was using a rebreather. They had been underwater for about 5 min, at a depth of 6m, when one of them realised that the other, the rebreather diver, was no longer with him. He backtracked and found the missing diver on his back with his regulator out of his mouth. He brought him to the surface and raised the alarm. He gave two rescue breaths before a rescue boat arrived. Once out of the water the casualty was found not to be breathing. Resuscitation techniques were applied and the emergency

services were called. He was taken by ambulance to hospital where he began a recovery.

March 2008 08/058

Two divers conducted a shore dive to a maximum depth of 10m. After 22 min they surfaced briefly to check their location. After a further 5 min one of the pair got cramp in her leg and they lost direction again so they surfaced once more. They found that they were further away from their exit point than they expected and the diver's cramp got worse. They started to swim back on the surface. The buddy tried to tow the diver with cramp, but she tired and became very cold. They signalled for help and continued their swim. After a further 10 min the buddy lost her fin. Two members of the party snorkelled out from the shore and assisted them back. The Coastguard was alerted, a lifeboat was tasked to assist, an ambulance was called for the cold diver and she was treated for hypothermia.

March 2008 08/082

Two divers dived to a maximum depth of 12m. One of the pair became inverted and lost his regulator. They began a buoyant ascent during which they separated at about 8m. The buddy surfaced shortly afterwards having inflated his BCD and he was able to right the troubled diver. The buddy towed the diver ashore and contacted the Coastguard. A helicopter was tasked to support.

March 2008 08/321

Clyde Coastguard was alerted to a diver feeling unwell following a tooth extraction and having taken antibiotics, administered oxygen. Oban team and ambulance attended. (Coastguard report).

April 2008 08/280

A pair of divers conducted a 27 min dive to a maximum depth of 6m. 1 hour 34 min later they dived to 6m for 20 min. Once out of the water they started to de-kit and while doing so the back of one of the divers went into a spasm. Diving medical advice was sought and it was not thought to be a diving related problem. The diver was advised to contact his local doctor.

April 2008 08/325

Clyde Coastguard assisted a diver to obtain treatment. Clyde Coastguard tasked Largs lifeboat to transfer the casualty to Millport Pier, where Cumbrae Coastguard assisted. (Coastguard report).

April 2008 08/398

Lifeboat launched to help diver with illness. (RNLI report).

April 2008 08/281

A pair of divers conducted a 38 min dive to a maximum depth of 32m in a quarry. Later that day they dived to 22m for 29 min. At the surface after this dive one of the pair was exhausted and unable to swim back to the shore. They called for help and a boat was used to bring them ashore. The diver was found to be totally exhausted and unable to help herself. She had not eaten that day but had drunk large amounts of coffee. She was given oxygen and water and advised to rehydrate herself.

May 2008 08/073

Male diver who had been recovered unconscious on the surface following a shallow dive. This was his first dive for a year. As soon as he descended his drysuit inflation valve opened and poured air into his drysuit, but his new neck seal didn't give

thereby putting pressure on the carotid and windpipe. He resurfaced and was able to shout for assistance before coming unconscious. When the neck seal was loosened he recovered consciousness. He was transferred to hospital for initial treatment and later transferred to a specialist hospital following suspected heart problems. (Coastguard report).

May 2008 08/283

A trainee and an instructor dived to a maximum depth of 9m. At 5m the trainee panicked and she surfaced alone close to a jetty. She was seen by divers on the jetty and then she started to sink back down without her regulator in her mouth. Two divers entered the water from the jetty and brought her back to the surface and then removed her from the water. The diver was cyanosed and unwell. She was placed on oxygen and the emergency services were alerted. The diver was taken by ambulance to hospital from where she was discharged the following day.

May 2008 08/331

Diver had an onset of chest and diaphragm pain after boarding the dive boat, and decided not to dive, he had been diving the previous afternoon. Following an ECG by the ambulance crew who attended him, the results of which they were not happy with, the diver was transported to hospital for further investigation. (Coastguard report).

May 2008 08/196

A diver was helping to recover an RHIB onto a trailer. The winch line became disconnected and the diver reconnected it. A large wave then caused the boat to slide backwards pulling on the winch line. The diver had not locked the winch and the handle spun round hitting him in the face. He attended hospital where ten stitches were required to close the wound.

May 2008 08/284

A diver was on a quayside preparing to enter the water. He was using a 15l cylinder and it slipped from the clamping band. The effort required to resolve this problem combined with the hot conditions on the day and a feeling of dehydration caused him to collapse and he fell down. He was given oxygen.

May 2008 08/092

After a dive a diver complained of pain in his elbow joint. He was placed on oxygen but this did not affect the symptoms. The diver refused further treatment or diving medical support.

May 2008 08/094

A rebreather diver descended to a wreck in a maximum depth of 40m. During his descent he felt a 'pop' in his ear but experienced no pain. Upon surfacing he was found to be bleeding heavily from his ear. He was taken to hospital where a ruptured ear drum was diagnosed.

May 2008 08/265

A pair of divers conducted a dive to a maximum depth of 33m. After 31 min they made their ascent including a 3 min safety stop at 6m. 15 min after surfacing one of the pair began to feel dizzy and unsteady. The diver had had similar symptoms on a previous occasion and at that time the problem was not found to be diving related. It was thought that this was another occurrence of the same problem. The diver was taken home and later he made contact with a recompression facility for advice. He attended the facility and was given recompression treatment. It was unclear if this was DCI.

May 2008 08/127

An instructor and a trainee started their descent. At 3m the instructor noticed that the trainee's mask was flooding. The trainee was indicating a problem with her ear and attempting to equalise the pressure. While trying to deal with these problems the trainee did not put air into her BCD and thus continued to descend. At 6m the instructor took hold of the trainee and inflated her BCD for her. At the surface the instructor signalled for assistance and they were recovered into the boat. The trainee was placed on oxygen and her condition monitored. The trainee developed a headache and discomfort in her neck and shoulders. The Coastguard was alerted and the boat returned to harbour from where the trainee was taken by ambulance to a recompression facility. Barotrauma to both ears was diagnosed; no recompression was required.

June 2008 08/402

Lifeboat launched to help diver with illness. (RNLI report).

June 2008 08/287

A trainee and an instructor conducted a 32 min dive to a maximum depth of 8m. Later that day they dived to a maximum depth of 6m. During this dive the trainee felt breathless and made a rapid ascent to the surface. His dive duration was 9 min. Once out of the water he was placed on oxygen but his condition caused concern and diving medical advice was sought. Recompression was recommended and a helicopter was tasked to transport the diver. However, he refused to go into the helicopter and would not go to hospital. He was checked and no signs of DCI were found. The following day he went to see his doctor. He was given an inhaler and advised to lose some weight. This diver is a type 2 diabetic with slight asthma, but he had a doctor's statement that he was fit to dive.

June 2008 08/204

A diver completed a 34 min dive to a maximum depth of 11m. When he surfaced he was breathless, grey in colour, had blue lips and he began to vomit. He was placed on oxygen and his condition improved. The boat returned to shore and a 999 call was made. The diver was taken by ambulance to hospital.

June 2008 08/345

A dive boat reported having recovered a diver onboard with signs of a suspected heart attack after he surfaced unconscious and not breathing. He was given basic life support by the boat crew until he was transferred to the lifeboat. After medical advice from a hyperbaric chamber, the diver was airlifted by a rescue helicopter to hospital for treatment. (Coastguard & RNLI reports).

June 2008 08/406

Lifeboat launched to help diver with illness. (RNLI report).

June 2008 08/288

A trainee and an instructor conducted a 20 min dive to a maximum depth of 7m. About 15 min after the dive the trainee complained of irritation in her knees and elbows. Diving medical advice was sought. The diver was advised to get out of her suit, drink plenty of fluids and relax for 15 min and then spend 1 hour on oxygen. She did this and her symptoms resolved. After further diving medical advice she went home. The diver had previously received recompression treatment after a series of pool training sessions.

July 2008 08/137

An instructor and a number of trainees were engaged in a diving

course at a depth of 20m. One of the trainees had a problem and while that was being resolved another of the trainees suddenly became unresponsive. He was brought to the surface by a controlled buoyant lift. Throughout this time he had his regulator in his mouth and appeared to be breathing. At the surface the alarm was raised and the diver was recovered into a boat. Resuscitation techniques were applied and the emergency services were alerted. The casualty was successfully resuscitated and then airlifted to hospital. It is thought that he had a heart attack underwater and possibly a second one in the boat. He was reported to be making a good recovery.

July 2008 **08/213**

A diver completed a dive and entered the boat via a dive lift. She was fully kitted as she stepped down into the boat. She slipped and badly injured her ankle. The Coastguard was alerted and the diver was airlifted to hospital where she was treated for a broken ankle.

July 2008 **08/358**

Shetland Coastguard was alerted to a diver having surfaced unconscious following a dive, CPR was performed and the casualty was transferred to an ambulance on arrival in harbour, treatment continued and the casualty was believed to be stable. (Coastguard report).

July 2008 **08/214**

Three divers conducted a wreck dive to a maximum depth of 18m. As they surfaced one of the three experienced ear pain and they re-descended to 15m. The diver indicated to the dive leader that the pain had gone but all was not well with her ears. They ascended again and at 10m the diver experienced pain again and re-descended to 18m. One of the other divers then indicated that he had only 30 bar remaining. The dive leader then lifted the diver with the ear problem to 6m pinching her nose as he did so. They conducted a 5 min stop at 6m and blood was seen to be coming from the nose of the diver with the ear problem; it is thought that her ear drum had ruptured at this time. The diver who was low on air ran out during the stop and he used the dive leader's octopus regulator. Once back in the boat they made a 'Pan Pan' call and alerted the Coastguard. Once ashore the diver was taken to hospital and a perforated eardrum, due to reversed ear, was diagnosed. The diver was given antibiotics. She had used a nasal spray 2 hours before the dive and it was suggested that the effects of this may have worn off during the dive and allowed mucus to build up in her Eustachian tube.

August 2008 **08/164**

After a dive time of 10 min a diver surfaced from a wreck in a maximum depth of 28m and gave an emergency signal to the boat. The boat approached and found three divers at the surface, two upright in the water and a third lying flat. The third diver was seen to be very blue and hardly breathing. A crew member climbed down onto the dive lift to assist in the removal of the casualty's equipment and he was then lifted into the boat. Once in the boat the casualty was found to be heavily cyanosed and breathing poorly. A resuscitation bag mask was used to assist his breathing and once he had settled into a better rhythm he was placed in the recovery position. He was placed on oxygen and slowly regained consciousness. After about 15 min he started to struggle and efforts had to be made to keep the oxygen mask in place. The boat returned to harbour and an ambulance and doctor arrived. He was taken to hospital where it was found that he had inhaled a large quantity of water. He was discharged the following day.

August 2008 **08/376**

Shetland Coastguard was alerted by a dive support vessel requesting medical advice for a diver who had coughed up blood. Recommended to go to hospital at Balfour for chest x-ray as doesn't seem to be a DCI type incident. (Coastguard report).

August 2008 **08/238**

A diver was preparing to enter the water from a dive boat when he suddenly fell into the water and surfaced the other side of the boat. He was recovered back into the boat and was found to have cuts to his head and hands. First aid treatment was given and the boat headed slowly back to harbour. The diver was in a confused state. The Coastguard was alerted and a helicopter and lifeboat were tasked to assist. The diver was placed on oxygen and this eased his confusion. The diver was taken by ambulance and helicopter to hospital where his wounds were treated. It was concluded that line had unravelled from the diver's delayed SMB reel, fallen in the water and snagged the propeller thus pulling him into the water.

August 2008 **08/256**

A diver conducted a 31 min dive to a maximum depth of 23m including a 3 min stop at 6m. 2 hours 6 min later he dived to 20m. During this dive he indicated to his buddy that he felt cold. The divers surfaced with another pair from the same party. At the surface the cold diver's head was seen to roll and he became a little unresponsive. He was assisted from the water and once in the boat he was sick. He was helped to de-kit, wrapped in a blanket and given tea. 30 min later he seemed to be improving but was then sick again. His skin was blue and his attention level seemed to be below normal. The Coastguard was alerted and the diver was given more warm clothing and placed on oxygen. Once ashore he was taken into an ambulance and further warming was administered. The diver recovered at the scene. The diver had been diving without a hood.

August 2008 **08/415**

A diver was walking on a wet metal gangplank when he slipped and fell. The cylinder that he was carrying struck him on the cheekbone just below his eye. He sought medical advice and severe bruising was diagnosed. The following day the bruising had started to subside and he conducted a 42 min dive to 42m. On surfacing from this dive his face was found to be severely swollen. The boat put into the nearest harbour and the diver was taken by ambulance to a recompression facility. Recompression was not required and the diver travelled from there to hospital. He was diagnosed with subcutaneous emphysema but no fractures were found.

August 2008 **08/150**

Two divers descended a shotline. One of the pair experienced difficulties clearing her right ear. They slowed their descent and the diver managed to clear her ear. They continued downwards and the diver had further trouble with her ears. At a depth of 12m she experienced a sudden pain in both ears which was so severe that she fainted. Her buddy gave her the 'OK' signal but this was not returned. The diver rolled over and started to sink. Her buddy took hold of her and brought her to the surface using a controlled buoyant lift. At the surface he gave an emergency signal to the boat and the casualty was quickly recovered. She was still in pain and was placed on oxygen. The boat returned to the shore and the diver was taken to hospital by ambulance. The pupil of her right eye was found to be dilated and unresponsive and this was thought to be due to bubbles in the tear duct. Her ear drums were swollen but not perforated. She was discharged later that evening.

August 2008 **08/248**

A diver experienced problems with his face mask, it kept filling

with water and he could not clear it. He struggled to resolve the problem and he found it difficult to breathe normally. His buddy saw that he had a problem and assisted him to the surface. He had dived to a maximum depth of 17m for 13 min. At the surface the diver was semiconscious. He was recovered into the boat and the Coastguard was alerted. The diver was airlifted to a recompression chamber but no signs of DCI were found. It was thought that he had inhaled water and he was transferred to hospital for treatment. (Coastguard report).

August 2008**08/247**

Seven divers were riding in an RHIB while it was being towed on its trailer along a beach prior to launching. The RHIB fell from its trailer, tipped over and trapped the divers underneath. The Coastguard was alerted and a helicopter, a land ambulance and a Coastguard rescue team were tasked to help. Two women suffered leg injuries and were taken by land ambulance and car to hospital. A third woman with suspected spinal injuries was airlifted to hospital. (Coastguard report).

September 2008**08/171**

A diver experienced a shortness of breath during a dive and aborted the dive. Later that day he was preparing for another dive but felt unwell again and decided not to make this dive. Later that day he was sitting down when he collapsed. Resuscitation techniques were applied and an AED was used. He was taken by ambulance to hospital where he died two days

later. He is thought to have suffered a heart attack. (Note: This is not recorded as a diving fatality as the individual had been out of the water a number of hours before the attack occurred. It is recorded as an illness while diving; the subsequent problems were not related to the dive.)

September 2008**08/388**

Stornoway Coastguard received a call from a dive party requesting medical advice for a diver suffering headaches after diving to 20m and 17m in a day. A medical connect call was established, the doctor recommended no further action but to keep the casualty under observation and contact his own doctor if the symptoms continue. (Coastguard report).

September 2008**08/264**

A pair of divers conducted a dive in a quarry to a maximum depth of 21m. After 35 min one of the pair was low on air so they deployed a delayed SMB and made their ascent. They had a long swim to the exit point and they used the SMB as additional buoyancy support. On the return swim one of the pair started to have difficulty breathing and they raised the alarm. The diver was recovered by boat and placed on oxygen. He quickly recovered. His breathing was noisy and he was advised to seek medical advice.

Boating & Surface Incidents

October 2007 08/006

A dive boat with seven people onboard was at anchor in a bay while the divers had their lunch between dives. There was an onshore wind and the divers had to reposition the boat when the wind shifted. They recovered the anchor but then found that the boat could not be driven even though the engine started and ran. They relaid the anchor and a heavy shotline in an attempt to stop the boat being driven ashore. They made a 'Pan Pan' call for assistance. Three divers swam a line to some adjacent rocks and this helped to stabilise the boat's position. A helicopter, an inshore and an all weather lifeboat attended. The inshore lifeboat towed the boat out of the bay and the all weather lifeboat towed it back to harbour. The inshore lifeboat picked up the three divers who had swum to the rocks. It was later found that a woodruff key connecting the propeller to its shaft had broken.

October 2007 08/312

Lifeboat assisted in the search for missing diver(s). Others coped. (RNLI report).

October 2007 08/037

The Coastguard was alerted when a dive boat suffered engine failure with one diver in the water. Another vessel recovered the diver and returned him to the disabled boat. The skipper managed to resolve the problem and the boat returned to harbour. This was the second time within the week that this vessel had experienced engine failure. On the first occasion the boat had been towed back to harbour and the engine had been stripped and checked. (Coastguard report).

October 2007 08/313

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

January 2008 08/391

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

February 2008 08/393

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

February 2008 08/394

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

March 2008 08/395

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

April 2008 08/396

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

April 2008 08/397

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

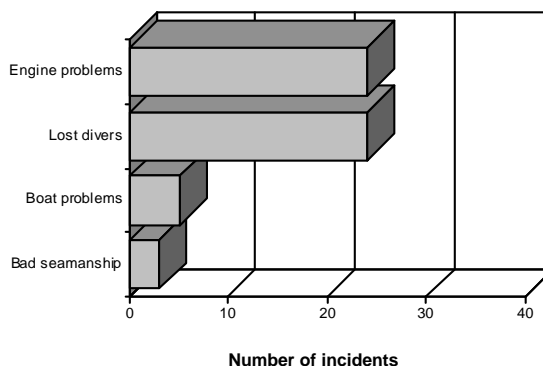
April 2008 08/307

With two pairs of divers in the water the cox of an RHIB attempted to restart the engine to return to the shot buoy, however the engine would not start. They tried for 10 to 15 min to find the cause meanwhile they drifted further away. When the first pair of divers surfaced the cox contacted the Coastguard using a 'Pan Pan' call. The second pair also surfaced and they stayed with the first pair close to the shot buoy. A nearby warship came to their assistance, recovered the divers and took the RHIB in tow. A lifeboat was launched to assist. The divers later determined that the kill switch may have become loose or detached.

April 2008 08/399

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

Analysis of boating & surface incidents



May 2008 08/327

Report received from shore of two people shouting for help in the water. Two male divers shore diving had got carried away by the tide and taken approx 700m offshore where they were recovered to shore by a dive boat that was in the area. (Coastguard report).

May 2008 08/328

'Mayday' call from a dive boat which was taking on water. The boat was assisted in pumping the water clear by another boat and two lifeboats and returned safely to shore. (Coastguard and RNLI reports).

May 2008 08/299

Two divers entered the water to make a night dive from a pier, their planned duration was no more than 40 min. Underwater visibility was low but they had powerful lamps. During the dive they encountered an unexpected current but thought that it would carry them in their intended direction. After drifting for 5 min they decided to ascend and during the ascent they became

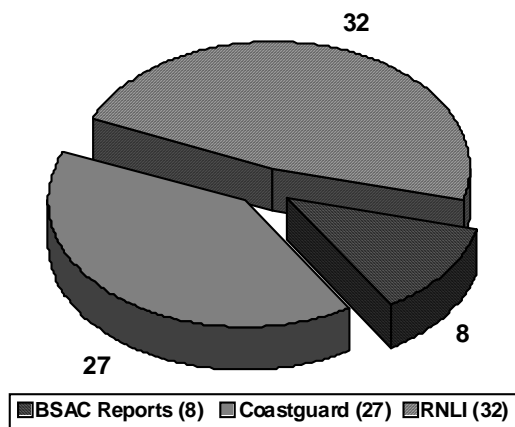
separated. Both the divers switched off their torches to try to see the other but they were unable to. They both conducted safety stops and surfaced. At the surface they were sufficiently far apart that they could not see each other. They both realised that they were 400m to 500m from their exit point and 300m to 400m offshore. Independently they both swam towards the shore. Meanwhile their shore party had become concerned that they had not returned and alerted the Coastguard. A helicopter and two lifeboats were tasked to search. One of the divers succeeded in reaching the shore and made his way back to the shore party. He was then able to direct the helicopter to the area in which they had surfaced. The missing diver used his torch to attract the attention of the helicopter crew and he was quickly recovered.

An RHIB was at anchor with one person aboard while two pairs of divers conducted a dive to a depth of around 6m. The divers deployed a delayed SMB to surface, the anchor was lifted and the divers were recovered into the boat. With the divers back in the boat attempts were made to start the engine but these were unsuccessful. The anchor was re-deployed and the Coastguard was alerted. A lifeboat was tasked to tow the boat to shore.

May 2008 **08/102**

Two boats were engaged in a wreck dive. The skipper of one of the boats alerted the Coastguard when he lost contact with the other boat. The skipper attempted to contact the boat by radio and passengers on the boat tried to contact passengers on the other boat by mobile phone, but no contact could be made. The missing boat had suffered an engine failure and had made the return journey on one engine; which caused them to arrive later than expected, after nightfall. He had turned off his radio to save battery power. (Coastguard report).

Boating & surface incident report source analysis



May 2008 **08/104**

A group of five divers, a cox and another person returned to a marina in an RHIB. They moored up on a fuel pontoon and one person hosed down the boat while the fuel tank was refuelled. The tank was overfilled and fuel was spilt; this fuel then ignited. The hose was turned on the fire and it was extinguished. A few minutes later the fuel caught fire again. It was subsequently discovered that an exposed wire on the depth sounder was intermittently short circuiting and this provided the source of ignition.

May 2008 **08/400**

Lifeboat launched to assist dive boat that was out of fuel. (RNLI report).

June 2008 **08/403**

Two lifeboats assisted in the search for missing diver(s). Others coped. (RNLI report).

May 2008 **08/401**

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

June 2008 **08/118**

Two divers were diving from a small ski boat, leaving one person in the boat. With the divers in the water the cox was unable to start the boat's engine and he alerted the Coastguard. The divers surfaced and could see the boat but were carried away by wind and tide. A lifeboat was tasked to search and the divers were recovered at dusk. Divers and boat were returned safely to the shore. It is reported that the boat had no flares, no radio, no lifejackets and no 'A' flag. (Coastguard & RNLI reports).

May 2008 **08/110**

An RHIB was following two pairs of divers who were diving to a maximum depth of 7m. With the divers underwater the fuel tank in the boat ran out and they switched to the second tank. However the engine could not be restarted. The cox alerted the Coastguard and two lifeboats and a helicopter were tasked to assist. The divers surfaced after about 15 min and when they realised that the boat was not following them they started to swim to the shore. As they neared the shore a private craft that was assisting in the search found them. The boat and divers were safely recovered to the launch point. It was thought that there may have been dirt in the fuel lines. (Coastguard & RNLI reports).

June 2008 **08/132**

Two divers entered the water from an RHIB for a planned wall dive to a maximum depth of 30m for a duration of 45 min. Once underwater they realised that the current was flowing in the opposite direction to that expected. They continued their dive and after 25 min one of the pair deployed a delayed SMB and they made a normal ascent with a 2 min safety stop at 6m. The boat crew did not expect the divers to surface where they did and they did not see the divers' SMB. At the surface the divers could see their boat but could not attract the attention of those aboard. The current was moving them away from their boat so they used the current to swim to a nearby island. The boat party searched for the missing divers and then alerted the Coastguard. A search was organised involved a helicopter and two lifeboats. Once on the island the divers were able to attract the attention of the helicopter. The helicopter crew alerted their

May 2008 **08/337**

Report of a dive boat, a long way offshore, suffering electrical failure. All divers were onboard when it broke down. A lifeboat was tasked to their assistance and towed them back to port. (Coastguard report).

May 2008 **08/201**

boat to the divers' position and they were safely recovered. It was subsequently discovered that the divers had misread the tide tables.

June 2008 08/133

The Coastguard was contacted after a sightseeing boat passed over the top of a number of divers, some of whom had SMBs. The divers were close to an island and their boat was close to them. The sightseeing boat passed between the dive boat and the island. The divers were in a location that is popular for sightseeing and fishing and one that divers have been recommended to avoid. No divers were injured.

June 2008 08/407

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

June 2008 08/408

Two lifeboats launched to assist swamped / leaking dive boat. (RNLI report).

July 2008 08/410

Two lifeboats assisted in the search for missing diver(s). (RNLI report).

July 2008 08/346

Two divers made shore who became separated from diving vessel. (Coastguard & RNLI reports).

July 2008 08/161

A live-aboard dive boat set sail on a 12 hour passage with eleven passengers and three crew aboard. As their passage progressed the weather conditions worsened and the boat's speed slowed to 3 knots. The Coastguard was alerted and requested hourly position reports. The crew then discovered that a large quantity of water was in the bilges. Pumps were used in an attempt to remove the water but one of them failed to function. Uncertain if they could manage to keep up with the influx of water the skipper made a 'Pan Pan' call to the Coastguard. The Coastguard requested that all aboard don lifejackets and upgraded the call to 'Mayday'. A lifeboat and a helicopter were tasked to assist and a nearby fisheries protection vessel came to help. The helicopter stood by the boat until the lifeboat arrived and then additional pumps were passed to the dive boat from the fisheries vessel. By this time the dive boat's remaining pumps had cleared a lot of the water and it was escorted into a harbour by the lifeboat. At the time of the incident wave heights were estimated to be in excess of 10m with occasional peaks of 15m. The water was found to be entering because of a damaged rudder stock; this and the failed pump were repaired.

July 2008 08/351

Dive support vessel contacted Milford Haven Coastguard reporting having picked up two divers, the divers were from another vessel. They were returned to the parent vessel. (Coastguard report).

July 2008 08/143

A group of eight divers conducted a drift dive in a maximum depth of 20m. It was agreed that they would all deploy SMBs for the duration of the dive and limit their dive times to 30 min. One of the divers failed to deploy his SMB and after the 30 min duration had passed and there was no sign of the diver the Coastguard was alerted. A helicopter was tasked to assist and

the diver was spotted at the surface about 300m from the boat. He was safely recovered into the boat. (Coastguard report).

July 2008 08/355

Portland Coastguard was alerted by a vessel reporting they had recovered two divers from the water, the parent vessel had broken down, the recovering vessel returned the divers and the parent vessel restarted one engine and returned to harbour. (Coastguard report).

July 2008 08/167

The Coastguard was alerted when two divers were overdue from a dive. An extensive search was organised involving a helicopter, a lifeboat, a warship and other craft. The divers made their way to the shore where they were found by the helicopter. They were safely recovered.

July 2008 08/360

Dive support vessel broke down with two divers aboard, the vessel was towed to port by a lifeboat from Little Haven. (Coastguard & RNLI reports).

July 2008 08/412

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

August 2008 08/181

Three pairs of divers and one group of four entered the water for a drift dive. All four groups deployed SMBs. At the end of the dive they all surfaced at around the same time. Two pairs and the group of four were recovered into the boat. When the skipper then looked for the final pair they were no longer visible. A brief search was conducted but bright sunlight inhibited their vision. Concerned that the remaining divers might be caught in a strong current and swept away the skipper contacted the Coastguard with a 'Pan Pan' call. The Coastguard tasked two lifeboats and a helicopter to search and another dive boat assisted. The divers were found by this second dive boat over a mile from their boat's position. (Coastguard report).

August 2008 08/366

Two divers were adrift for a period of time, Humber Coastguard tasked Seahouses ILB and AWLB to search for the missing divers, both located no further medical assistance required. (Coastguard & RNLI reports).

August 2008 08/180

On returning from a dive a pair of divers had agreed to search for and recover a mooring chain in an anchorage. The owner of the chain stood by in a dinghy and the divers entered the water from another boat. The divers searched for and found the mooring chain and then sent the free end to the surface using a delayed SMB. Once they had completed this they continued the dive, slowly making their way towards the shore where they left the water. The plan had however not been clearly communicated to the person waiting in the dinghy who expected the divers to surface with the chain. This person then spoke with another dive boat skipper and, after a brief search involving another boat, they decided to alert the Coastguard that the divers were missing. The Coastguard initiated a search involving two lifeboats and a helicopter. This was watched by the two divers from the shore who then realised that it was them being searched for. The Coastguard was informed and the search was terminated.

August 2008**08/369**

Brixham Coastguard received a call from a diving RHIB reporting having broken down with five divers in the water. Brixham Coastguard tasked Torbay lifeboat and Coastguard rescue helicopter R-106 to assist. The helicopter found the divers and relayed their position to the lifeboat, all were picked up safely, the vessel was towed to shore by Torbay AWLB. (Coastguard report).

August 2008**08/183**

The Coastguard was alerted when a dive boat suffered engine failure. A lifeboat and a helicopter were tasked to assist. They stood by until all the divers had surfaced and been recovered and then the boat was towed ashore by the lifeboat.

August 2008**08/232**

Seahouses RNLI lifeboat towed an RHIB, with six persons on board, back to Seahouses Harbour after an engine failure at the Farne Islands. Seahouses Coastguard Rescue Team assisted at the harbour. (Coastguard report).

August 2008**08/240**

The cox of an RHIB alerted the Coastguard when a solo drift diver was overdue. A helicopter and two lifeboats were tasked to assist. The diver was quickly found and recovered by a passing yacht. The search was called off and the helicopter stood by while the diver was transferred to his RHIB. It was later stated that the SMB line had parted and it was this that caused the initial separation. (Coastguard report).

August 2008**08/237**

The Coastguard was alerted when a diver was not found at the end of his dive. A search was initiated but another dive boat spotted the missing diver at the surface and directed his boat to him. The diver was safely recovered and the search was called off. The diver's SMB had become disconnected from the line and when he surfaced he was 100m from his boat and the sea state prevented him from being seen. (Coastguard report).

August 2008**08/239**

An RHIB was covering two divers close to some rocks. It was struck by three large waves and carried onto the rocks. The cox made a 'Mayday' call but, due to the noise of the boat on the rocks, heard no reply. The RHIB was turned on its side but the cox and another person in the boat were able to right it. The cox managed to re-start the engine and pull the boat off the rocks. A lifeboat was tasked to assist but another dive boat went to the aid of the troubled RHIB, recovered their divers and escorted them back to harbour. There was minor damage to the boat and the cox and crew sustained cuts, bruises and neck and back whiplash injuries.

August 2008**08/246**

The Coastguard was alerted when two divers failed to surface at the planned time after a wreck dive. A helicopter and a lifeboat were tasked to search, then another boat in the area

reported seeing an SMB. The dive boat investigated and found that the divers were safe and well and the search was called off. The dive plan was for the divers to deploy a delayed SMB prior to making their ascent. The missing divers did not do this and they ran into unplanned decompression stops. There was a 3 kt current running and the divers only deployed their delayed SMB when they were 1 min from surfacing. They were thus some way from their boat when their SMB appeared at the surface. (Coastguard report).

September 2008**08/262**

Two divers were conducting a drift dive in a maximum depth of 20m. One of the divers had a regulator free flow and surfaced, however his buddy did not. The buddy's SMB line then became tangled with a lobster pot line and the diver cut it, this resulted in the SMB floating free. The boat approached the SMB but no bubbles could be seen. The SMB was recovered and it was then discovered that the diver was missing. The Coastguard was alerted and a search was initiated involving a helicopter, two lifeboats and other craft. The missing diver was found about 20 min after the call to the Coastguard was made. He was safely recovered into his boat. (Coastguard report).

September 2008**08/263**

The Coastguard was alerted when a solo diver was not seen to surface after a 60 min dive to 14m. A helicopter was tasked to search but the search was terminated when the missing diver was found on the shore. There is a suggestion that the diver's SMB may have been pulled below the surface thus causing the loss of contact with the boat. The diver was at the surface for 20 min before the Coastguard was alerted and he decided to make his own way to the shore. (Coastguard report).

September 2008**08/270**

A lone diver was picked up and reported that his buddy had been missing for about an hour. The Coastguard was alerted and a search was initiated involving two lifeboats. A short time later the missing diver was located safe and well on the shore and the search was terminated. (Media report).

September 2008**08/414**

The Coastguard was alerted when two divers were thought to be missing. A search was initiated involving a helicopter, three lifeboats and a shore team, but no sign of the divers was found. This is thought to have been a false alarm. (Coastguard report).

September 2008**08/272**

Two divers conducted a 44 min dive to a maximum depth of 20m. One of the two divers had only one leg and part of one of his hands was missing. When they surfaced they found that a heavy fog had formed and they could not see their boat. They climbed onto some nearby rocks. The less able diver was using a twin-set and he found it impossible to get back in the water to swim to the boat. Another diver from the boat entered the water, swam to them, assisted the diver into the water and helped him back to the boat.

Ascents

October 2007**08/013**

The Coastguard was alerted when two divers surfaced from 24m missing decompression stops. They had become tangled in their surface marker buoy and were pulled to the surface. (Coastguard report).

October 2007**08/007**

Two divers entered the water to dive on a wreck. One of the pair thought that the mouthpiece of his regulator was loose and he took some time at the surface checking. They then descended a shotline. They reached the seabed at a depth of 41m. The shotline was too long and they turned on their torches and followed the line along the seabed. The diver who had concerns about his mouthpiece then swam to his buddy and signalled that he wanted to ascend. His buddy noticed that he was in some distress and tried to calm him. They held on to each other and the buddy inflated both BCDs. They made a rapid ascent to the surface in 1 min. Their dive duration was 7 min. They were recovered into the boat and the distressed diver was placed on nitrox 80 and then oxygen. The Coastguard was alerted and a helicopter was tasked to assist.

October 2007**08/027**

Two divers made a 35 min dive to a maximum depth of 8m. After a surface interval of 2 hours 37 min they dived to a maximum depth of 21m. During the ascent from this dive they lost buoyancy control and sank back down to 15m. They then made a rapid ascent to 5m where they made a 2 min safety stop. One of the divers was running very low on air and he ascended to the surface and ditched his weights. They sought assistance and were placed on oxygen. One of the pair complained of 'tired legs' and this was put down to their long surface swim. Both were placed on oxygen and no further actions were reported.

October 2007**08/016**

A trainee diver undertook his second dive of the day. On the first dive he had been too heavy and during the second dive it was planned that he would shed some of the weight to get his buoyancy correct. The diver, an instructor and another trainee descended to a maximum depth of 10m. During the descent the trainee diver removed two 1 kg weights. They made their return following an upward sloping bottom. During this return swim air migrated in the trainee's drysuit and he became inverted. He ascended to 6m before he was able to recover and swim back down. As he swam back down to 8m he started to become buoyant again and he was carried to the surface. He exhaled all the way and the instructor and the other trainee held on to his fins to slow his ascent. At the surface he inflated his BCD and was breathing rapidly due to panic. Once ashore he was placed on oxygen. The diver suffers from asthma and, although he did not suffer an attack, he used his inhaler as a precaution. An ambulance was on scene due to a previous, unrelated, incident and it was decided to take him to hospital for a check up. He was released later that day.

October 2007**08/417**

A diver on a training course descended to a depth of 2m. She operated her drysuit inflator valve and it stuck open. She made a rapid ascent to the surface where the suit continued to inflate. The hose was disconnected and she was assisted to the shore. She was placed on oxygen and treated for shock. She was taken by ambulance to hospital and discharged later that day. Grit had been found in the hose connector earlier that day.

November 2007**08/032**

A trainee and an instructor conducted a dive to a maximum depth of 15m for a planned duration of 30 min. After 20 min the trainee lost control of his buoyancy at a depth of 5m and rose to the surface. At the surface he did not respond to signals from the boat and was seen to be in a face down position. The boat approached and the instructor surfaced close by. The trainee was recovered into the boat. He did not suffer any ill effects and had been face down looking for his buddy.

November 2007**08/038**

A trainee and an instructor entered the water for the trainee's first dive in a drysuit. He had a 3 kg shot pack in each of the integrated weight pouches of his BCD and a 2 kg shot pack in both the pockets of his BCD. They completed a successful dive to a maximum depth of 17m for 40 min. After a surface interval of 1 hour 46 min they made a second dive. During the surface interval the trainee had moved the 2 kg packs from the BCD pockets to the integrated weight pouches of the BCD. During the second dive it was planned that the trainee would practise use of an SMB. They dived to a maximum depth of 18m and towards the end of the dive, at a depth of 12m, the weights fell from one of the trainee's weight pouches and he started a buoyant ascent. He managed to halt the ascent at about 9m and swam back down. The instructor found and refitted the weights. The trainee had become tangled in the SMB line and the instructor freed him. They continued up a slope to make their exit but, at a depth of about 9m, the weights detached once again and the diver was carried rapidly to the surface. The instructor went with him and they left the water. The instructor later recovered the dropped weight. Subsequent examination of the weight system suggested that the clips retaining the weights may not have been fastened correctly.

November 2007**08/031**

A diver dived with three buddies to a maximum depth of 35m. When he deployed a delayed SMB the line became tangled and he was caught in it. He made a fast ascent to the surface missing a 5 min decompression stop. The other divers surfaced normally. Specialist advice was sought. The diver developed no symptoms and no further action was reported.

November 2007**08/022**

Two divers conducted a wreck dive to a maximum depth of 34m. When one of them reached 100 bar they headed back to the shotline. However, they were unable to find it and so they deployed a delayed SMB to make their ascent. During deployment the SMB line got caught so the diver let go of the reel and SMB. The divers had dropped back down about 3m while they tried to resolve the problem. They ascended slowly to 6m where they conducted a stop of about 9 min. One of the divers indicated that he had 1 min of decompression stop left but the signal was mis-understood by the other diver and as a result they both surfaced. Once in the boat they were placed on oxygen for about 25 min. No symptoms developed and no further action was taken.

November 2007**08/043**

Two divers descended a shotline to a wreck. When they reached the wreck one of the pair dropped down the outside of the hull; at this point the light level was low and the diver felt uneasy. His buddy went with him and the uneasy diver grabbed hold of him. They reached the bottom at a depth of 37m. The uneasy diver signalled that he wanted to ascend. The buddy

deployed a delayed SMB and tried to make an ascent. However, the uneasy diver was heavy and the buddy struggled to get them back up to 34m. Because of the hold that the other diver had on him the rescuing diver was not able to conduct a controlled lift in the normal way so he put some air into his own BCD. They started their ascent and the rescuing diver attempted to control their speed by releasing air from both his and the other diver's suits and BCDs. They ascended from 30m to the surface in less than 1 min. At the surface the rescuing diver gave the emergency signal and they were recovered into their boat. The emergency services were alerted and the divers were placed on oxygen. They were taken by lifeboat to the shore and then transferred to hospital. They were placed on oxygen for 4 hours and then discharged. It is thought that the troubled diver had been affected by nitrogen narcosis.

December 2007 **08/024**

A diver was diving with a new weightbelt and trying to reduce the amount of weight that he was carrying. He dived with a buddy to a maximum depth of 21m. As they ascended at the end of the dive he attempted to deploy a delayed SMB mid-water but he was too buoyant and struggled to stay at depth. His buddy stopped him and deployed his own delayed SMB. They ascended to 6m normally but, at this point, the buoyant diver was unable to prevent himself from making an uncontrolled ascent to the surface. He then finned back down to his buddy and held onto a structure on the bottom. His buddy put rocks into his BCD pockets and they made a 3 min stop and then surfaced. On surfacing the buoyant diver complained of chest pain. He attended hospital and was kept in overnight for observation.

January 2008 **08/045**

Two divers commenced a dive in a lake. They followed a rope down to a depth of 30m. Other divers had previously swum this route and the visibility was very poor. At 30m they signalled by touch that they should ascend. They rose to 21m and one of the pair attempted to deploy a delayed SMB. The cold made it difficult for the diver to attach the buoy to the line. When the buoy was deployed the line came off the spool and became tangled in the mechanism. During this time the divers sank back down to 32m. The diver with the SMB felt panicked and he used a lot of air. They made a rapid ascent to about 5m and then made a 5 min stop at depths between 6m and 3m. During this time the troubled diver noticed that he only had 20 bar remaining and he switched to his pony regulator. The other diver mis-understood signals from the troubled diver and assumed that the troubled diver's computer had malfunctioned so they completed their stops using the other diver's computer. The other diver was using nitrox 32 and when they eventually surfaced the troubled diver was found to have missed some decompression. At the surface the troubled diver became entangled in his SMB line. Once out of the water he breathed nitrox 32 at intervals during the next 2 hours. No symptoms developed and no further action was taken. The reel was new and when the diver had tied a clip to the end of the line he had omitted to pass the line through a line guide on the reel, thus allowing it to slip and tangle.

February 2008 **08/303**

Three divers conducted a dive to a maximum depth of 35m. They then ascended to 20m to continue the dive. One of the pair was low on air and ascended to 6m and then surfaced having completed decompression stops. The other two divers ascended to 6m and while doing so the drysuit dump valve of one of the pair became blocked and the diver rose to the surface. This diver immediately re-descended but the two lost contact with each other. They both independently completed their decompression stops and surfaced safely. It is thought

that the blocked dump valve was caused by the diver's undersuit. No subsequent ill effects were reported.

February 2008 **08/319**

Solent Coastguard was alerted to two divers having missed stops from 28m, a connect call for medical advice was established, the divers were monitored aboard the dive support vessel, no further action. (Coastguard report).

February 2008 **08/048**

Three divers completed a 26 min dive to a maximum depth of 18m. 1 hour 20 min later they dived again. They were at a maximum depth of 18m when one of them lost his regulator; he started to panic and made a rapid ascent to the surface. The bubbles confused another of the group who also made a faster than normal ascent to the surface. Their dive duration was 9 min. Once out of the water, both of these divers were placed on oxygen. The third diver was unaffected. No subsequent ill effects were reported.

February 2008 **08/051**

Two divers were diving at a depth of 21m when one of them experienced a regulator free flow. The divers made a rapid ascent to the surface. They were recovered by boat and placed on oxygen. No subsequent ill effects were reported.

February 2008 **08/050**

Two divers conducted a 33 min dive to a maximum depth of 17m with a safety stop at 6m. 2 hours 15 min later they dived again. As they descended on the second dive water entered the drysuit of one of the divers and they decided to abort the dive. They both deployed delayed SMBs. One of them used his octopus regulator to do this and the regulator went into free flow. The other diver offered his octopus regulator but the diver could not get air from it despite the fact that it had been found to function correctly during their buddy checks. The diver with the free flow then made a rapid ascent to the surface; his buddy went with him. At the surface they called for assistance and were helped from the water. Both were monitored for symptoms; none were experienced and no further action was reported.

February 2008 **08/106**

Three divers conducted a wreck dive. 15 min into the dive, at a depth of 9m, one of the divers became inverted with air in the boots of his drysuit. His buddies were able to right him but he made a buoyant ascent to the surface missing a planned safety stop at 6m. He suffered no subsequent ill effects. It was later determined that the drysuit did not fit him correctly.

March 2008 **08/053**

Two divers entered the water to conduct a night dive. About 3 min into the dive, at a depth of 20m, the regulator of one of the pair went into free flow. They made a fast ascent to the surface. Once out of the water they were placed on oxygen. No subsequent ill effects were reported.

March 2008 **08/276**

Two divers conducted a dive to a maximum depth of 21m. At 20m one of the pair had a regulator free flow. He was unable to get a normal breath and panicked. He ditched his weightbelt and made a rapid ascent to the surface. His dive duration was 5 min. No subsequent ill effects were experienced.

March 2008 08/275

Two divers dived to a maximum depth of 29m. At 21m one of the pair suffered a regulator free flow. They made an ascent using the buddy's alternative air source. Their ascent was rapid, taking only 1 min from 21m. Both divers were placed on oxygen but no subsequent ill effects were experienced.

March 2008 08/277

Two divers were following a sloping contour downwards. At 30m one of the pair lost control of his drysuit buoyancy and made a rapid, inverted ascent. No subsequent ill effects were reported.

April 2008 08/322

Brixham Coastguard was alerted by a dive support vessel to a diver having made a rapid ascent, Plymouth lifeboat was tasked to bring the diver ashore where it was met by an ambulance for transportation to DDRC Plymouth. (Coastguard & RNLi reports).

April 2008 08/278

Two divers were following a sloping contour downwards. At a depth of 24m one of the pair lost control of her drysuit buoyancy. Her foot came out of the drysuit boot and she made a rapid, inverted ascent to the surface, taking 40 seconds to ascend from 24m. She was placed on oxygen. No subsequent ill effects were experienced.

April 2008 08/066

Two divers conducted a drift dive in a maximum depth of 14m. Underwater they linked themselves together with a buddy line to avoid separation. The diver with the SMB experienced problems with his weightbelt and when they came across a ledge he used this as shelter from the current to resolve the problem. He passed the SMB to his buddy and lay on the bottom to adjust the belt. The buddy was unsure of what was happening and thought that the diver was in trouble. He moved to assist and released the diver's weightbelt. This caused the pair to make a buoyant ascent to the surface. Their dive duration was 21 min. The divers were recovered into their boat. The buddy was sick and reported double vision. He then felt 'pins and needles' in his toes and the Coastguard was alerted. Both divers were placed on oxygen and once ashore they were taken to hospital. The divers quickly recovered and no further action was taken. The buddy had previously been suffering from seasickness and neither diver had eaten their lunch. The divers had both dived to 20m 1 hour 49 min before the subject dive, the diver with the loose belt for 24 min and his buddy for 39 min.

April 2008 08/279

Four trainees planned to dive to a depth of 22m in a quarry. However the group descended to a maximum depth of 32m at which point two of the divers' regulators began to free flow. One of the divers with a free flow made a rapid ascent to the surface with another of the group. At the surface they called for help and a boat was sent to recover them. They were placed on oxygen and one of the pair stated that the two other divers were still underwater. The boat went out to where a stream of bubbles could be seen but were then directed by the group's instructor, who was on the shore, to two divers leaving the water. The boat went to investigate, found that these were not the missing divers and returned to the spot where the bubbles were seen. 2 min later the missing divers surfaced. The one with the free flow was out of air and her BCD was inflated orally. They swam to the shore and left the water. The diver with the free flow in the first pair complained of a pain in her chest but this was thought to be a strain. Later she complained of a

severe headache. Diving medical advice was sought and she was advised to attend her local hospital A&E department.

April 2008 08/306

A pair of divers conducted a wreck dive to a maximum depth of 21m. On reaching the wreck one of the pair signalled that her mask was flooded. She cleared her mask but about 3 min later it flooded again. She cleared it but again, after another few minutes it flooded once more. Once again she cleared the mask and then signalled that she wanted to ascend. The other diver deployed a delayed SMB which took him some time because he had difficulty inflating it. During this time the diver again signalled that she wanted to ascend and became distressed. The other diver tried to calm her but just as the SMB was nearing the surface the troubled diver again gave the ascend signal and then started to fin upwards. The other diver abandoned the SMB, took hold of the troubled diver and attempted to slow their ascent. At 6m he released his grip, conducted a safety stop and then surfaced. The troubled diver rose directly to the surface and was recovered into the boat. Her dive duration was 11 min. She was placed on oxygen but, apart from a headache, no symptoms developed and no further action was taken. Subsequently the troubled diver reported that her regulator felt as if it was delivering water as well as air and grit was found to be preventing the exhaust valve from sealing fully. She was also concerned about controlling her drysuit buoyancy.

April 2008 08/326

Clyde Coastguard was alerted to two divers who had missed decompression stops following a dive to 30m. The divers had surfaced and seeing a ferry coming closer had re-descended to avoid being run down, as a result they were way over their time. Largs's lifeboat and Cumbrae Coastguard attended. (Coastguard report).

May 2008 08/088

A diver conducted a dive to a maximum depth of 33m. During the ascent his cuff dump failed to operate and he made a rapid ascent missing an indicated 6 min of stops. His dive duration was 27 min. He was taken to a recompression facility and placed on oxygen for 3 hours.

May 2008 08/282

Three divers conducted a 37 min dive to a depth of 35m. Later that day they dived to a planned depth of 36m. One of the three was using a rebreather and as they descended, at a depth of 21m the rebreather flooded. They aborted the dive and made a faster than normal ascent to the surface. Their dive duration was 10 min. No subsequent ill effects were reported.

May 2008 08/199

A diver experienced difficulties with a weightbelt clip at a depth of 10m. As he tried to refasten it he rose 2m and became inverted. He attempted to right himself by holding on to some kelp but his hand slipped and he made an inverted buoyant ascent to the surface. He was placed on oxygen but no symptoms developed and no further action was taken.

May 2008 08/335

Diver made a rapid ascent. Individual believed was under-weighted for dive, so added more weight. Then felt he was sinking so added too much air to his BCD and drysuit causing a rapid ascent and panic. (Coastguard report).

May 2008 **08/198**

Three divers conducted a dive to a maximum depth of 25m. At a depth of 18m one of the three developed buoyancy control problems and began to rise upwards and one of his buddies went with him and attempted to dump air from his drysuit. They ascended slowly to 10m where they stopped for a minute. The third diver watched from a depth of about 17m. The buoyant diver then began to rise again and his buddy broke contact with him at 7m. The buoyant diver rose rapidly to the surface. His dive duration was 22 min. The buddy made her ascent and the third diver deployed a delayed SMB and made a normal ascent. The buoyant diver and his buddy were placed on oxygen and given fluids. No symptoms developed and no further action was taken.

May 2008 **08/099**

Three divers were ascending from a dive. One of the three was underweighted and they made a faster than normal ascent.

May 2008 **08/285**

A trainee and an instructor conducted a dive to a maximum depth of 21m. At this depth the trainee's regulator started to free flow. He switched to his alternative air source but this free flowed too. He made a faster than normal ascent to the surface. Once out of the water he was placed on oxygen. No subsequent ill effects were reported.

May 2008 **08/200**

Two divers conducted a dive to a maximum depth of 27m. The regulator of one of the divers suddenly failed and would no longer deliver air. The diver's contents gauge showed 130 bar remaining in the cylinder. He gave the 'out of air' signal to his buddy who gave him his main regulator and then switched to his octopus regulator. During this process the divers lost control of their buoyancy and were unable to prevent a rapid ascent to the surface. Once out of the water the divers were placed on oxygen and the Coastguard was alerted. The Coastguard arranged for diving medical advice and the divers were told to attend a recompression facility once ashore. This they did and no signs of DCI were found. Shortly after surfacing the regulator was still malfunctioning but when checked ashore it was found to work correctly. The demand valve was returned to the manufacturer but at the time of reporting no fault had been found.

May 2008 **08/286**

A pair of divers conducted a 34 min dive to a maximum depth of 19m. 1 hour 30 min later they dived to 20m. During this dive, at a depth of 18m, one of the divers became confused and thought that she had become separated from her buddy. She started to ascend but felt that she wasn't going up so she dropped one of her weights. Her buddy, who was in fact close to her, saw what was happening and slowed her ascent. They ascended from 14m to the surface in 1 min. Their dive duration was 13 min. The divers were placed on oxygen. No subsequent ill effects were reported.

June 2008 **08/339**

A medilink call was provided between a diver and a diving doctor after the diver missed 3 min of stops following a dive to 24m for 23 min, although he displayed no signs or symptoms of DCI. The doctor advised no medical attention was required and to go home, but not drive himself, and have someone stay with him and monitor him for symptoms. The doctor intended to speak to the diver later in the day to confirm that he was alright. (Coastguard report).

June 2008 **08/342**

A medical link call was made to a dive doctor for medical advice for a diver who had surfaced and missed 20 min of stops. The boat was advised to place the diver on 100% oxygen and then contact them when they returned to shore. The diver later made contact with the hospital who gave further advice over the telephone. The vessel had to call by telephone for assistance as their radio was not working! (Coastguard report).

June 2008 **08/202**

A diver descended a shotline to a wreck in a maximum depth of 25m. On the wreck he noticed that he was tilting to one side and he discovered that he had lost the weight from one of his weight pockets. He indicated the problem to his buddy but felt that he could continue the dive. After a dive duration of 19 min and at a depth of 20m he asked his buddy to deploy his delayed SMB to make their ascent. At this point he lost control of his buoyancy and made a rapid ascent to the surface. He remembers checking the security of the weight fastening during the buddy checks and believes that jostling with other divers on the shotline during the descent may have caused it to fall away. No subsequent ill effects were reported.

June 2008 **08/344**

A diver missed 4 min of stops following a normal ascent. Although he was not displaying any signs or symptoms of DCI his computer had locked out. As a precaution the boat was connected to a dive doctor for medical advice. The advice was to remain on 100% oxygen and monitor for the onset of symptoms. (Coastguard report).

June 2008 **08/308**

A pair of divers conducted a drift dive to a maximum depth of 18m. One of the pair had his weights split with 8 kg integrated into his BCD and an 8 kg weightbelt. During the dive his weightbelt came undone and fell clear. The diver started a buoyant ascent and his buddy, who was attached by a buddy line, went with him. They tried to slow the ascent but rose, faster than normal, to the surface. Once back in the boat both were placed on oxygen and given fluids. When the oxygen ran out they breathed nitrox 35. The Coastguard was alerted and diving medical advice was sought. The group was advised to monitor the pair for signs of symptoms; none developed and no further action was taken.

June 2008 **08/208**

An instructor and two trainees conducted a wreck dive to a maximum depth of 13m. There was a current and they sheltered in the lee of the wreck to practise using an SMB reel. One of the trainees, who was using a drysuit for the first time in open water, was seen to be a little light. They moved to the top of the wreck and the current picked up. At this point the diver who had been slightly buoyant lost control of her buoyancy and rose rapidly to the surface. The instructor and the other trainee followed at a slower pace. All were safely recovered into the boat and the diver who had made the buoyant ascent was placed on oxygen. She developed no symptoms and no further action was taken.

June 2008 **08/209**

Two divers descended a shotline to a wreck in a maximum depth of 30m. However the shotline was slack and they reached the seabed some distance from the wreck. One of the pair had ear problems so they rose to 15m and then re-descended. They failed to find the wreck and the diver who had had ear problems deployed a delayed SMB to ascend. In the process he lost control of his buoyancy and made a rapid ascent to the surface. His buddy followed at a normal rate.

They were recovered into the boat, the diver who had made the rapid ascent was placed on oxygen and the Coastguard was alerted. Once ashore the diver was taken by ambulance to hospital, he was kept on oxygen then discharged later that day.

July 2008 **08/210**

A pair of divers prepared to conduct a wreck dive. During the buddy checks one of the pair noticed that his buddy's suit inflation hose was not attached and he had to straighten her cylinder and release the hose to enable it to be attached. This delayed them and they allowed other divers to go ahead of them. The diver whose hose had been disconnected was seen to be agitated and shaking and, once in the water, she became entangled in the shotline and had to be assisted free. When underwater she became separated from her buddy on two occasions and he had to re-locate her. They dived to a maximum depth of 33m and then moved back to the top of the wreck after about 33 min. The diver who had had the problems held the reel and handed her delayed SMB to her buddy who filled it for her with his octopus regulator; she then started to rise quickly. The buddy went with her and, at 14m, saw that the ratchet of the reel had not been released. He released it at 12m allowing the SMB to go to the surface. He then started to sink back, now holding the reel. He stabilised his buoyancy at 14m and made a normal ascent including 4 min of decompression stops. The troubled diver was carried directly to the surface, arriving feet first. This diver was recovered from the water and placed on oxygen. Once ashore both divers were taken by ambulance to a recompression facility. The diver who had made the rapid ascent was given precautionary recompression treatment. Her computer was subsequently found not to have been working.

July 2008 **08/349**

Humber Coastguard received a call from a vessel requesting evacuation of a diver who had made a rapid ascent from 33m, R-128 flew the casualty to Hull hyperbaric chamber. (Coastguard report).

July 2008 **08/348**

Diver made a rapid ascent from 13m, was placed on oxygen by support vessel. (Coastguard report).

July 2008 **08/350**

Shetland Coastguard received a call from a diving support vessel requesting assistance for a diver who had missed stops following a dive. (Coastguard report).

July 2008 **08/253**

Two divers dived to a maximum depth of 30m; one was using air, the other nitrox 32. After 30 min one of the pair deployed a delayed SMB but the reel jammed and the diver let it go. When they reached 6m the air diver had 13 min of decompression stops and the nitrox diver had none. After 3 min of stops the nitrox diver was low on gas and switched to her pony cylinder. When she switched her main regulator began to free flow and while trying to sort this out she lost control of her buoyancy and ascended to the surface. The air diver still had 10 min of decompression remaining but she was concerned about her buddy and she too ascended to the surface. Advice was sought from a recompression facility and the air diver was placed on oxygen. Checks were made against decompression dive tables and it was concluded that the diver was not at risk. No symptoms developed and no further action was taken. The air diver's computer was later found to be significantly more conservative than another diver's computer when checked on a subsequent dive.

July 2008 **08/352**

Brixham Coastguard received a call from a dive support vessel who had returned to port with a diver who had made a rapid ascent from 24m, the diver was placed under observation, no further medical assistance required. (Coastguard report).

July 2008 **08/212**

A pair of divers conducted a dive to a maximum depth of 32m. When they started their ascent their dive computers showed 15 min and 20 min decompression respectively. They ascended slowly and when they reached 6m both computers indicated 20 min decompression. One of the divers was under-weighted and struggled to stay down. In doing so she used her air more rapidly and she ran out with 6 min of decompression still required. Her buddy gave her his octopus regulator but she got her fin tangled in the SMB line and they both rose to the surface. Their dive duration was 61 min. The diver who ran out of air surfaced with a headache. She had been seasick before the dive and felt sick again once back in the boat. She was placed on oxygen. The divers had not agreed a dive time or planned their decompression prior to the dive.

July 2008 **08/290**

Two divers conducted a dive to a maximum depth of 20m. Towards the end of their dive, at a depth of 20m, they lost control of their buoyancy and they both made a rapid ascent to the surface. Once out of the water they were placed on oxygen. One of the pair developed apparent signs of DCI and diving medical advice was sought. Recompression was recommended and the divers were airlifted to a recompression facility. Once there treatment was not found necessary and they were discharged.

July 2008 **08/292**

A trainee and an instructor dived to a maximum depth of 25m. Towards the end of the dive they were at a depth of about 10m when the trainee ran out of air. The instructor gave him his alternative air source but the trainee swallowed some water, panicked and rushed for the surface. His dive duration was 27 min. No subsequent ill effects were reported.

July 2008 **08/364**

Solent Coastguard was alerted by a dive support vessel indicating they had a diver having made a rapid ascent from 55m, the casualty was airlifted by rescue helicopter 104 to hospital for treatment. (Coastguard report).

August 2008 **08/225**

Two divers completed a 51 min dive to a maximum depth of 31m with a 3 min stop at 6m and a 20 min stop at 10m. 3 hours later they dived to a maximum depth of 30m. During their ascent, at a depth of 8m, they stopped and one of the divers deployed a delayed SMB. He used an auxiliary regulator to inflate the buoy. During inflation the regulator became tangled in the buoy line. The SMB dragged the diver to the surface. He was able to slow his ascent by finning and his computer did not register a rapid ascent. His dive duration was 34 min. The other diver deployed his SMB and made a normal ascent including a 3 min safety stop. The second diver was unaware of what had happened to his buddy. Diving medical advice was sought for the diver who had been dragged to the surface and he was monitored for 48 hours. No symptoms were experienced and no further action was required.

August 2008 **08/365**

Holyhead Coastguard received a call reporting two divers making a rapid ascent from Dorothea quarry following a dive to

19m. Both casualties monitored but no further medical action taken. (Coastguard report).

August 2008 08/368

Clyde Coastguard received a call requesting assistance for a diver having made a rapid ascent from 25m. The diver was transported to shore and treated at Millport chamber. (Coastguard report).

August 2008 08/294

An instructor and two trainees dived to a maximum depth of 10m. One of the trainees made a rapid ascent to the surface and was seen by other divers coughing, breathless and apparently in distress. She was recovered into a boat and placed on oxygen. She quickly recovered but later complained of a 'crackling' in her chest. The emergency services were alerted and she was taken by ambulance to hospital from where she was later discharged.

August 2008 08/184

A rebreather diver conducted a dive to a maximum depth of 30m. During his ascent he deployed a delayed SMB at a depth of 20m. At this point he experienced difficulty breathing and he switched to open circuit. This did not resolve the problem so he decided to make a rapid ascent to the surface. His dive duration was 27 min. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. (Coastguard report).

August 2008 08/231

Two divers entered the water to conduct a drift dive alongside a wall. They descended to a depth of 14m but visibility was poor and one of the divers seemed apprehensive so they decided to abort the dive and make their ascent. During the ascent the apprehensive diver lost the regulator from her mouth, panicked and started to rush for the surface. Her buddy caught her, gave her his pony regulator and dumped air from her BCD to control the ascent. They sank back down to 19m although they did not realise this until they hit the bottom. The buddy then lifted the troubled diver to the surface. Their total dive time was 9 min. Once back in the boat they both breathed oxygen for 5 min. The Coastguard was alerted and diving medical advice was sought. The divers were monitored and refrained from diving for 24 hours. No symptoms developed and no further action was taken.

August 2008 08/230

Two divers conducted a drift dive to a maximum depth of 20m. One of the pair had felt under-weighted on her previous dive and added 2 kg to her weights. On the descent this diver noticed that her BCD direct feed control stuck slightly but appeared to resolve itself. After about 14 min the divers were in very poor visibility and they agreed to make their ascent. The buddy of the diver with the BCD problem deployed his delayed SMB and they started to ascend. In low visibility the diver with the SMB struggled to keep the other diver in view. The other diver then had problems with her BCD control again and she lost control of her buoyancy. She disconnected the hose and dumped air from her BCD and suit but she was unable to prevent herself making a rapid ascent to the surface. The diver with the SMB looked around for her but could not see her; he then ascended as quickly as safely possible. Both divers were recovered into the boat and the diver who had made the buoyant ascent was placed on oxygen. She was symptom-free but the Coastguard was notified once the party was back on the shore. Diving medical advice was sought and she was given

fluids and monitored for 24 hours. No symptoms developed and no further action was taken.

August 2008 08/381

Brixham Coastguard received a call from dive support vessel reporting a diver had missed stops and was requesting medical connect call. DDRC doctor was connected with the vessel and advised to seek medical assistance with own doctor as a precaution. (Coastguard report).

August 2008 08/382

Falmouth Coastguard was contacted by dive support vessel reporting having a diver aboard who had missed stops and was requesting a medical connect call with DDRC Plymouth. (Coastguard report).

September 2008 08/251

Two divers conducted a dive to a maximum depth of 25m. One diver had twin 12l cylinders, the other had a single 12l cylinder. Towards the end of the dive the diver with the single cylinder indicated that he had 80 bar remaining. The other diver deployed a delayed SMB to make their ascent. Their computers indicated that 10 min of decompression stops were required. The diver with the single cylinder had difficulty ascending and when they reached 6m they kept drifting apart. It was then found that the diver with the single cylinder had only 10 bar left in his cylinder and he began to panic. His buddy gave him his octopus regulator but in doing so they drifted up to 3m. They re-descended to 6m but the SMB line became tangled around the buddy's foot. Again they drifted back up to 3m and then surfaced missing 7 min of decompression stops. They were recovered into the boat and placed on oxygen. No symptoms developed and no further action was taken.

September 2008 08/386

Portland Coastguard was alerted to a diver who had made a rapid ascent from 20m. The casualty was thought to have ingested water. The dive boat reported the diver was unwell after completing a 20m dive off Lyme Regis. The dive doctor at Poole recompression chamber was consulted and it was determined that the diver was not suffering from DCI. The diver was flown to West Dorset hospital by Coastguard helicopter rescue R-106. (Coastguard report).

September 2008 08/387

Brixham Coastguard was alerted to a diver having made a rapid ascent, the casualty was transferred to Plymouth by lifeboat, taken ashore and transferred to DDRC Plymouth by land ambulance. (Coastguard report).

September 2008 08/273

A pair of divers conducted a dive to a maximum depth of 24m. One of the divers signalled to his buddy that he was out of air. The buddy took hold of the diver and brought them both to the surface. Their dive duration was 40 min. At the surface she inflated the diver's BCD but they were unable to swim to the boat. A diver in the boat entered the water, swam to them and towed the troubled diver back to the boat. All were safely recovered.

September 2008 08/390

Shetland Coastguard was alerted to three divers making a rapid ascent from 27m. The parent vessel was met in port by an ambulance and all three casualties transferred to Stromness hospital for treatment. (Coastguard report).

Technique

January 2008

08/081

Two divers dived to a maximum depth of 17m. 9 min into the dive one of the pair experienced a regulator free flow. He swapped to his alternative regulator and then to his pony regulator. He then grabbed the regulator from his buddy's mouth. The buddy placed his own alternative air source in his mouth and purged it. The diver with the free flow then dragged the pair of them to the surface. At the surface the buddy inflated the BCD of the diver with the free flow and turned the subject air cylinder off. He then turned the cylinder back on again and they swam ashore. The buddy said that he changed regulators because he was breathing an air-water mix. He could not remember why he didn't purge the regulator nor that he had taken his buddy's main regulator from his mouth. No subsequent ill effects were reported.

May 2008

08/089

A diver was dropped next to a shot buoy but struggled against the current and was swept away. He was recovered into the boat and dropped back again. In both cases he was dropped well up current.

May 2008

08/107

A diver brought a made to measure drysuit and completed a drysuit training course. She had concern that the neck seal was too tight and always had to take care to fit it correctly. She regularly dived with the same buddy and was known to use her air faster than the buddy. On a number of occasions she had had to use her buddy's octopus regulator. This diver and her buddy conducted a wreck dive after a long RHIB ride to the dive site. They planned a no stop dive to a maximum depth of 29m. She failed to alert her buddy when she reached 100 bar as had been previously agreed. With 6 min of no stop time remaining she noticed that she only had 50 bar remaining, she indicated this to her buddy, the dive leader, and they deployed a delayed SMB to make their ascent. Their ascent was slow, with a stop at 23m to fasten a torch to the dive leader's BCD. At 20m the diver who was low on air ran out and took her buddy's octopus regulator. She got mouthfuls of water and was unable to purge it. She began to panic. Her buddy passed her her pony regulator and she was able to breathe from this. The dive leader then took hold of the troubled diver and began a controlled buoyant lift. They made a brief stop at 5m and the dive leader noticed that the troubled diver was hyperventilating and not responding rationally. The dive leader was attempting to reel in the SMB line as well as control the buoyancy of both of them. They made a rapid ascent to the surface from 5m. At the surface the troubled diver was gasping for air. The dive leader signalled the boat and they were recovered into it. The troubled diver was placed on nitrox 64 and the Coastguard was informed. The diver was conscious but not fully aware of her surroundings. Once ashore she was met by both a land and an air ambulance. She was taken to hospital and treated for potential secondary drowning. She had no symptoms of DCI. Subsequent to this event she had a larger neck seal fitted to her drysuit. It was later found that the troubled diver had not been fully trained on the use of a purge valve to clear a mouthpiece and the dive leader had not previously conducted a controlled buoyant lift with both divers in drysuits.

May 2008

08/095

To make their ascent from a dive two pairs of divers deployed two delayed SMBs. Both became tangled in the shotline and were abandoned. These SMBs were subsequently recovered.

May 2008

08/093

A rebreather diver aborted a dive when he accidentally changed the equipment's set point and used up all his oxygen.

May 2008

08/298

Three divers conducted a dive to a maximum depth of 32m. In line with the pre-dive plan the diver with least gas indicated when he reached 100 bar. The diver leader indicated that they would continue for 3 more minutes before ascending. 2 min later the diver indicated that he was down to 80 bar. The third diver deployed his delayed SMB and indicated that they should ascend. The diver who had had 80 bar was then seen inflating his BCD to ascend but then deflating it again. The dive leader indicated that he should put air into his BCD, this he did but then vented it again. The third diver then handed the SMB reel to the dive leader and started to lift the diver who was low on air using a controlled buoyant lift. During the ascent the diver who was low on air took the dive leader's octopus regulator. They arrived safely at the surface. Their dive duration was 25 min. The diver who was low on air later stated that he had been continually dumping air from his BCD because he was concerned about making a rapid ascent; it is thought that nitrogen narcosis played a part in this. No subsequent ill effects were experienced.

July 2008

08/163

A diver entered the water by jumping from a large dive boat. As he surfaced after the jump a second diver jumped in without checking that the way was clear. The second diver landed on top of the first one. The second diver was wearing a twin-set with a stage cylinder. The stage cylinder hit the control knob on the cylinder valve of the first diver and sheared it off, damaging it beyond repair. No injuries were reported.

July 2008

08/293

A pair of divers dived to a maximum depth of 35m using air. They then ascended to 20m, made a stop at 18m and ascended to 6m. They spent a total of 54 min at this depth with the last 30 min on nitrox 50. Their total dive time was 67 min. After the dive one of the divers' computers showed 'Er'; the diver was not fully familiar with the computer. They thought that they had missed 10 min decompression although the other diver's computer showed no missed stops. They were placed on oxygen, but no symptoms developed and no further action was taken.

July 2008

08/217

Two pairs of divers made an ascent up a shotline from a depth of 24m. They had no decompression stop requirements. One of the divers was over-weighted and pulled the shotline down giving them the impression that they were ascending. The small shot buoy was pulled down to 18m and both pairs descended to the seabed. A delayed SMB was deployed and both pairs used this to ascend. One of the divers was low on air and he and another diver ascended directly to the surface and the over-weighted diver was assisted to the surface by the fourth diver. The over-weighted diver was down to 20 bar when he reached the surface.

August 2008

08/220

A diver entered the water and immediately signalled that he wished to be recovered. He had entered the water without fully closing his drysuit zip.

Equipment

November 2007**08/033**

Two divers entered the water to dive to a maximum depth of 27m. The octopus regulator of one of the pair began to free flow. He was able to stop it and the divers descended. At 18m on the descent the regulator started to free flow again. The divers proceeded to the bottom but the regulator continued to free flow. The diver gave the out of air signal to his buddy. The buddy gave the diver his main regulator and switched to his own alternative regulator. They ascended to 15m at which point the diver who had the free flow switched to his own pony regulator. They made a normal ascent to the surface including a 3 min safety stop at 4m. Neither diver suffered any subsequent ill effects.

February 2008**08/105**

A rebreather diver prepared his set for a dive and went through the normal checks. He noted that it was 'sluggish' to calibrate. He descended a shotline and, at about 10m, switched to a set point of 1.3 bar. He heard the oxygen valve operating but the oxygen partial pressure only rose to 0.9 bar where it stopped. 5 min into the dive he bailed out onto open circuit and returned to the surface safely. The sensor cells in the rebreather were at the end of their service life and he had planned to have the set serviced the following month.

April 2008**08/148**

Three divers were laying guide ropes on the seabed in a maximum depth of 9m. During this activity large amounts of air began to escape from the contents gauge hose of one of the divers. He switched to his pony regulator. The divers secured the lines on the seabed and made a normal ascent. The divers were safely recovered into their boat. Subsequent examination revealed that the gauge connection to the hose had become unscrewed by two full turns. The hose had been fitted five days earlier.

May 2008**08/096**

A rebreather diver conducted dive to 60m. During his ascent he was decompressing at 10m when his rebreather suffered a cell failure. He bailed out onto an open circuit backup system and completed his decompression. He surfaced without problem.

May 2008**08/097**

A diver was descending at the beginning of a dive when his computer failed to switch on at 6m. He aborted the dive.

May 2008**08/098**

A rebreather diver was diving inside a wreck. He snagged his drysuit on part of the wreck and suffered a partial flooding of the suit.

May 2008**08/100**

A diver was preparing for a dive when the diver's regulator began to free flow. The regulator was replaced.

May 2008**08/101**

A diver was deploying a delayed SMB when the reel jammed. The diver ascended safely using their buddy's SMB.

June 2008**08/154**

Two divers were diving on a wreck. One of the divers lost a 6 kg weight from his integrated weight system, but did not know that this had happened. As he reached the top of a flight of steps inside the wreck he realised that he was buoyant and he kept rolling to one side. As they rose to the top of the wreck he had to hold on to a railing to prevent himself ascending. He indicated the problem to his buddy using a slate and then fastened the line from his delayed SMB reel to the wreck. Using this line he was able to prevent a buoyant ascent and he and his buddy ascended at the correct speed and made a decompression stop at 5m. Another diver found and recovered his missing weight. He experienced no subsequent ill effects.

July 2008**08/159**

A rebreather diver entered the water and attempted to descend but then discovered that he had forgotten his weight harness.

July 2008**08/162**

At the end of a dive a diver attempted to deploy a delayed SMB. The reel jammed and was pulled from her hand. A secondary SMB was deployed without further incident.

August 2008**08/218**

A diver entered the water and attempted to descend. She was unable to do so and returned to the boat for an extra 2kg weight. She then completed a normal dive.

August 2008**08/219**

A diver planned a dive of 1 hour duration. The dive duration overran by 20 min but he had sent up a delayed SMB so his location was known. Once back in the boat he stated that he had been unable to change his computer during decompression to follow the decompression gas used and he had stayed at the decompression stop until the computer had cleared.

August 2008**08/221**

A diver deployed a delayed SMB to make his ascent. The line snagged and he released the buoy. A second delayed SMB was deployed and the diver surfaced normally.

August 2008**08/223**

A diver entered the water and immediately requested to be recovered into the boat. A large hole was found in the wrist seal of her drysuit.

August 2008**08/309**

A diver entered the water and started down a shotline. At a depth of about 6m his cylinder came loose and dropped down. He was negatively buoyant for the descent and the inflator of his BCD was pulled behind his back and out of his reach. He pulled himself back up the shotline. At about 3m the regulator was pulled from his mouth but he managed to pull himself to the surface. At the surface he struggled to get his head out of the water to breathe. His buddy gave him his octopus regulator and then supported the loose cylinder. They were safely recovered into the boat. The diver reported that the cylinder

had been correctly fastened except that the spare strap had not been tucked into its loop. He stated that he later realised that he could have inflated his drysuit or dropped his weightbelt but he thought about neither at the time.

August 2008

08/224

A diver deployed a delayed SMB from the top of a wreck to make his ascent. The SMB reel jammed and he let go of the reel. He deployed a second delayed SMB and made a normal ascent.

Miscellaneous

- October 2007** 08/311
Lifeboat launched to assist dive boat. False alarm. (RNLI report).
- November 2007** 08/316
Two lifeboats launched to assist dive boat. False alarm. (RNLI report).
- December 2007** 08/023
Three divers commenced a dive to a maximum depth of 40m. At the surface one of the three experienced problems with a stuck open dump valve but was able to rectify it. At 25m the same diver had problems with his main regulator and he switched to his octopus regulator. He had the second stage of this regulator upside down but that did not create a problem. Below 30m the visibility was poor and one of the three became separated from the other two. The pair ascended into clearer water but could not find the third diver. They returned to the surface following a sloping bottom upwards. The missing diver deployed a delayed SMB and made his ascent. At the surface it was discovered that this diver's computer indicated that he had missed 4 min of decompression stops. The computers of the other two divers did not indicate a problem. Their total dive time was 40 min. No symptoms developed and no further action was taken. It was thought that the computer of the diver who had apparently missed stops may have been in error or set incorrectly.
- February 2008** 08/392
Lifeboat launched to assist diver. Found to be a hoax. (RNLI report).
- May 2008** 08/087
Two divers descended a shotline in a maximum depth of 20m. At 10m one of the pair became unhappy and signalled that she wanted to ascend. Both divers were recovered without further problems.
- May 2008** 08/329
Diver with no symptoms reported being transferred to hospital for investigation. (Coastguard report).
- May 2008** 08/091
A diver attempted to deploy a delayed SMB to make his ascent from a wreck at a depth of 45m. The reel of the SMB jammed and the diver let it go. A second delayed SMB was deployed and the diver made a normal ascent. The abandoned SMB was later recovered.
- May 2008** 08/336
Two divers reported as being in trouble on the surface. Rescue units were despatched, but the divers subsequently made it back to shore unaided. (Coastguard & RNLI reports).
- June 2008** 08/404
Lifeboat launched to assist dive boat. False alarm. (RNLI report).
- June 2008** 08/405
Lifeboat launched to assist dive boat. False alarm. (RNLI report).
- June 2008** 08/131
A solo diver was diving near the launch point of a lifeboat without an SMB. The lifeboat crew received a 'Mayday' call but were unable to launch because of the presence of the diver's bubbles. The lifeboat crew tried to signal the diver by banging on the structure of the station but the diver did not respond to this signal. Another diver, who had been diving nearby, dived down to the problem diver and indicated to him to surface. The problem was explained and both divers cleared the area.
- July 2008** 08/409
Lifeboat launched to assist diver. False alarm. (RNLI report).
- July 2008** 08/158
A pair of divers entered the water from a dive boat and attempted to swim to a shot buoy. They missed the buoy but dived anyway and they were carried down current away from the target wreck. The divers then deployed a delayed SMB and were safely recovered into the boat.
- July 2008** 08/160
A rebreather diver entered the water but aborted the dive when he experienced a high breathing rate.
- July 2008** 08/356
Brixham Coastguard was informed of a diver in difficulties close to shore, the diver was assisted ashore by Looe Coastguard team and Looe lifeboat. (Coastguard & RNLI reports).
- July 2008** 08/357
Aberdeen Coastguard received a call of a diver in difficulty off Eyemouth the casualty was recovered by Eyemouth lifeboat. (Coastguard & RNLI reports).
- July 2008** 08/169
A diver was reported to be recovering after an incident. (Media report).
- August 2008** 08/413
Lifeboat launched to assist dive boat. False alarm. (RNLI report).
- August 2008** 08/374
Clyde Coastguard received a call from Stornoway Coastguard to assist with chamber readiness for a diver being airlifted to Dunstaffnage chamber by Coastguard rescue helicopter R-100. (Coastguard report).
- August 2008** 08/222
A diver descended without a shotline to investigate an object detected on sonar. At a depth of about 6m she began to feel uneasy and she aborted the dive.
- August 2008** 08/379

Shetland Coastguard received a request for medical advice for a diver who was diving with two computers, one saying he was alright the other saying he should have DCI. The diver wanted to get himself checked out. (Coastguard report).

September 2008

08/385

Dover Coastguard was alerted to two divers in difficulty following a dive to 33m. The divers were transported to Whipps Cross hospital by ambulance. (Coastguard report).

An instructor and two trainee instructors planned a wreck dive to a maximum depth of 29m. A comprehensive brief was conducted and the divers entered the water and made their descent down a shotline. One of the trainee instructors led the descent and checked regularly that the group was together during the descent. However, at the bottom of the shotline the trainees discovered that the instructor was missing. They re-ascended and found the instructor back in the boat. The instructor had let go of the shotline to adjust his equipment and, in low visibility with a current running, he lost contact with the shotline and deployed a delayed SMB to make his ascent.

September 2008

08/260

Overseas Incidents

Fatalities

March 2008 08/056

A party of ten divers was diving in the area of some underwater caves. Two divers failed to surface. A extensive search was made involving surface craft, a helicopter and an ROV but the divers were not found. (Media reports).

May 2008 08/068

Four pairs of divers entered the water from an RHIB to dive in an area with a maximum depth of 15m between an island and some off lying rocks. During their dive one pair realised that they were in the wrong place and moving in the wrong direction so they surfaced. They made a normal ascent and spoke normally to each other at the surface. Their dive duration was 16 min. One of the pair then disappeared. Her buddy climbed onto some rocks and signalled the boat. The skipper was in the process of recovering other divers; he abandoned this task and went to assist. After a brief search the skipper recovered the remaining divers and they returned to the diver who was on the rocks. This diver confirmed that he was alright and explained what had happened. The boat made a search of the immediate area then took up a position where a 'Mayday' call could be made. The boat then returned, picked up the diver from the rocks and continued the search. They were joined by a lifeboat, a helicopter and other craft. A snorkel search and then a search by divers was made but the missing diver was not found. The following day the missing diver's body was recovered by police divers, from the seabed, close to where she had gone missing.

May 2008 08/070

A guide and four divers started down a shotline to a wreck. One of the divers realised that he had forgotten his computer and he returned for it. Once back underwater they continued the dive. The guide led them into the wreck, through some tight passages and down a ladder. They then re-ascended a ladder way and re-entered the engine room. Here they discovered that two divers had become separated from the rest of the party. The guide returned to look for them but came back. The guide and remaining divers left the wreck through a damaged area and searched around for the missing pair, they then returned to the shot and made their ascent which included 8 min of decompression stops. The divers who had separated from the others had become disorientated in low visibility inside the wreck, due to disturbed silt. They became separated from each other and one of the pair ran low on air. He switched to his pony regulator and was then able to see daylight through a hole in the wreck. He made his way through this hole and ascended without any stops. The missing diver did not surface and the guide re-descended with a spare cylinder to search for him. The diver was not found and the guide had to be treated for DCI. Subsequent searches failed to find the missing diver.

May 2008 08/079

A number of pairs of divers entered the water and descended a shotline to a wreck. Their plan was to swim along the wreck at a depth of 36m to 40m. On entry, a diver from one pair missed the shot buoy and had to be brought back by boat; his buddy waited at the shot buoy. Once the diver was back at the buoy they started their descent. The buddy went down first and the diver who had been swept from the buoy was slower because he had trouble with his ears. When he reached the wreck he

could see his buddy swimming around the wreck some distance from the shotline, but he was not looking in his direction. Due to the problems at the surface the diver who had descended slowly was quite low on air so he conducted a short dive in the vicinity of the shotline and then made his ascent; he expected his buddy to join him at the decompression station. However the buddy failed to appear. Another diver from the group had missed the wreck and was surfacing under a delayed SMB. The surface cover thought that this would be a pair of divers and it was not until this lone diver surfaced that they realised that one of the party was missing. A surface search was organised down current from the wreck. Two other divers entered the water to search around the wreck site. The authorities were alerted and an air search was conducted over the following two days. Other divers found the missing diver's body caught in netting near the propellers twelve days later and it was recovered after a further two days. The missing diver and his buddy had agreed before the dive that they would not necessarily wait for each other. The cause of death was found to be due to a serious heart condition which led to heart failure during the dive.

Decompression Illness

October 2007 08/300

A diver conducted a 31 min dive to a maximum depth of 35m including a 1 min stop at around 4m. About 3 hours later he dived to 35m for 36 min with a 1 min stop at about 4m. Some time later he complained of blurred and tunnel vision. He was placed on oxygen and diving medical advice was sought. After 20 min the symptoms had resolved and no immediate further action was taken. The diver made no further dives until he had seen a diving medical specialist. He was found to have a large PFO and at the time of reporting was waiting for an operation to close it.

October 2007 08/186

A diver conducted a series of dives over a 5 day period. On the fifth day she dived to 33m for 66 min with a 4 min stop at 6m. Later that day she dived to 27m for 55 min with a 7 min stop at 6m. 1 hour later she noticed an itching and a rash on her upper arms. This progressed to become red patches on her stomach, kidney area, upper thighs and shoulders. She was placed on oxygen when the first symptoms appeared and the symptoms were fully resolved after 6 hours. Subsequent tests revealed that she had a large PFO. She had had previous skin related DCI.

December 2007 08/025

Two divers conducted a dive to a maximum depth of 85m using trimix 14/50. At the end of the dive they ascended to 36m using trimix making a total of 10 min of stops at depths between 54 and 36m. They switched to nitrox 36 and ascended to 15m making a total of 13 min of stops at depths between 33 and 15m. They then switched to nitrox 70 and ascended to the surface making a total of 47 min of stops at depths between 12 and 6m. Their total dive duration was 113 min. About 20 min after leaving the water one of the pair felt some discomfort in his left shoulder. 30 min later this developed into a light joint pain in his shoulder and elbow. At first he thought that this was muscular strain but an hour later the pain worsened. He was

placed on oxygen and diving medical assistance was sought. The diver attended a local hospital but they were inexperienced in diving problems and he did not get the attention he required. He then transferred to a naval facility where he was treated for type 1 DCI. His treatment commenced 7 hours after he left the water. The divers reported that they were well rested and hydrated before the dive.

June 2008**08/207**

Two divers using trimix rebreathers conducted a 55 min dive to a maximum depth of 56m including 20 min of decompression stops. After this dive one of the pair developed a rash across his chest and stomach. Later this diver became confused and he was laid down, placed on oxygen and given fluids. He was pale and sweating, a large patch of skin on his right-hand side had a marbled appearance and he was clenching his left fist. An ambulance was called. The oxygen and fluids improved his condition. He was taken to hospital and recompression was not thought to be required. The rash faded but his skin remained sore and his blood pressure remained low. Heat exhaustion and dehydration were diagnosed. On discharge from hospital he felt bloated and his lymph nodes were enlarged and sore. Further diving medical advice suggested that he may have suffered a lymphatic DCI and recompression was being considered.

Illness / Injury

October 2007**08/012**

A diver conducted a 48 min dive to a maximum depth of 18m. After this dive she developed a headache but didn't inform anyone. She had had difficulty clearing her ears at the start of this dive. 2 hours later she made a second dive. 30 min into this dive she indicated that she had a headache and wanted to ascend. They started their return to the shore and made a safety stop at 6m. During this stop the troubled diver removed her mouthpiece and vomited. The stop was abandoned and both divers surfaced. The diver was removed from the water. She was shivering and she was wrapped in dry towels. She was placed on oxygen and after about 45 min she had made a good recovery.

January 2008**08/071**

Two divers entered the water from an RHIB to dive on a wreck, there was a current and they descended quickly; one above the other. They were some distance from the wreck and had to swim to it. The wreck had an upper and a lower portion and the dive plan was to dive the upper portion at a depth of less than 40m. However, the divers had mistakenly arrived on the lower portion of the wreck in a depth of 38m. Once on the wreck the lower of the two divers looked around for his buddy but could not see him; in fact he was directly above him. He assumed that the diver had proceeded down the wreck and he swam down to find him. He swam down so quickly that his buddy felt that he would not be able to catch him. After a while the diver realised that there was no lower portion. At this point the dive guide, who had chased down after him, arrived and signalled that they should ascend and the guide inflated the diver's BCD. He made a buoyant ascent and, surrounded by bubbles, was unable to read his computer. He looked at the depth gauge on his other arm and thought that it read less than 0m. This gauge was calibrated to a maximum depth of 40m and was, in fact, well off the scale at about 70m; almost all the way around the dial back to zero. The diver reached the surface after a dive to 71m for 11 min. He was recovered into the boat and placed on oxygen. The other divers made a normal ascent. The diver stayed on oxygen for 4 hours with a 10 min break every hour.

He also drank a lot of water. He suffered no subsequent ill effects. The diver was using nitrox; two instruments recorded the mixture as 32% another as 27%. It is thought that nitrogen narcosis played a large part in this incident.

March 2008**08/146**

An instructor and two trainees were engaged in alternative air source and controlled buoyant lift training. The water surface was choppy and, at the surface after their second ascent using alternative air sources, one of the trainees suffered a panic attack and did not inflate his BCD as briefed. The instructor calmed the trainee down and they agreed to continue. They re-descended to 6m and they commenced controlled buoyant lift practice. After completing his lift the diver who had had the panic attack started to become distressed again. The instructor aborted the session and they began a surface swim to the shore. During this swim the distressed diver complained that he was having difficulty breathing. The instructor assisted and ditched the troubled diver's weights. The instructor then towed him to a jetty and assisted him from the water. Once out of the water the diver slowly recovered.

June 2008**08/153**

Two divers conducted a series of three dives. The first was to 33m for 57 min with an 8 min decompression stop. The second, after a surface interval of 1 hour 35 min was to 36m for 50 min with a 5 min decompression stop. The third dive, after a second surface interval of 1 hour 35 min, was to 31m for 51 min. The first two dives were conducted using air and one of the divers used nitrox 28 on the last dive. After the last dive the diver who had remained on air complained of feeling tired and of aches. He was placed on oxygen and kept under observation. The diver's condition improved and no further action was taken. It was thought that his problem was due to the challenging nature of the day's diving.

August 2008**08/227**

A diver was in a boat resting between dives; another similar boat was tied up alongside. There was no wind or current and the sea was calm. The diver moved forward to his kit bag and while doing so he put one hand on the boat's gunwale to steady himself. The other boat rubbed alongside trapping the diver's fingers. His fingers were quickly freed but his middle and ring fingers were found to be fractured and nearly severed and his index finger was cut. First aid treatment was given and the diver was taken to a medical facility and then by ambulance to hospital. All three fingers had sustained multiple fractures and an operation was conducted to re-attach the two severed fingers.

Boating and Surface

April 2008**08/085**

A group of divers were launching a boat into a river. There was a loud explosion and the engine cover was lifted into the air and landed on the deck in a small fireball. The fire was quickly extinguished. Subsequent investigations found that one of the fuel hose clamps had become loose. Fuel leaked into the engine housing and ignited when the engine heated up. No injuries resulted.

May 2008**08/193**

A dive boat was returning from a dive when a whale shark was seen and the boat moved towards it. Divers rushed to enter the

water to snorkel dive with the shark. After about 30 min the snorkelers were recovered and the boat returned to the shore. Once ashore it was discovered that one of the divers had been left behind. He was recovered by another dive boat in the area. He suffered no ill effects.

May 2008 08/152

Two dive boats, one larger than the other, each with four divers aboard, were returning to harbour after a dive. Travelling at speed, the larger boat was positioned to overtake the smaller boat. As the distance between them closed the smaller boat turned towards the larger boat. The cox of the larger boat attempted a tight turn to avoid a collision. The cox of the smaller boat then also made a tight turn and the larger boat ran into the stern of the smaller one. The small boat was capsized and divers were thrown into the water. The divers were recovered from the water and the group then tried to right the capsized boat but were not able to. They then started to tow the small boat back to the harbour. One of the divers who had been in the smaller boat complained of pain. The smaller boat was anchored and the casualty was taken ashore. The Coastguard was alerted and the casualty was taken to hospital by ambulance. The casualty was treated for three broken ribs. Another boat was used to recover the capsized craft.

Ascents

January 2008 08/035

Two divers conducted a wreck dive to a maximum depth of 20m. At 20m the visibility was poor and the light was low. One of the divers had a panic attack and started a rapid ascent. His buddy tried to calm him but this increased his panic. The panicking diver got caught on part of the wreck which slowed his ascent but increased his anxiety. His buddy continued to try to slow the ascent and he guided him up the boat's anchor line. At the surface he was recovered into the boat and placed on oxygen. No subsequent ill effects were experienced and no further action was taken.

March 2008 08/147

An instructor and two trainees descended a shotline to conduct a wreck dive at a depth of 15m. During the descent one of the trainees had a problem with his mask flooding. He cleared the mask but it flooded again. He was unable to resolve the problem and signalled that he wanted to ascend. He made a fast ascent to the surface and the instructor and the other trainee followed at a slower pace. They were all safely recovered into their boat. It was subsequently found that the diver had unknowingly been using someone else's mask.

July 2008 08/165

A pair of divers dived on a reef to a maximum depth of 33m. There was a strong current flowing and they made their way around a rock into the current. They used reef hooks to pull themselves along and once in the current they hung on to watch the passing wildlife. They found it hard work to retain their position and the divers' breathing rates were faster than normal. After 20 min they made their way back around the rock into a more sheltered position. After a 25 min dive time they found a sheltered area at a depth of 12m. One diver signalled

to his buddy that his air was approaching 50 bar and that they should ascend. The buddy indicated that they should move further into the lee of the rock where he started to deploy a delayed SMB. The diver with 50 bar moved around his buddy

to watch him deploy the SMB. In doing so he moved away from the rock and into an area of rapid water movement. He was swiftly carried away from the rock and downwards. The water movement was so turbulent that he was lost in a cloud of his own bubbles. He realised that he would not be able to get back to his buddy and decided to make a solo ascent. However he was still being carried downwards and at 20m he was finning hard but not ascending, despite fully inflating his BCD. Initially he held onto his weightbelt to enable him to control his ascent, but he was still not able to ascend and his regulator was becoming harder to breathe from; he realised that this meant he only had a few more breaths. He ditched his weightbelt and finned hard. He made a rapid ascent to the surface. He was picked up by the boat and placed on oxygen. His buddy surfaced close by. The diver noted after the dive that he had been carrying 2 kg too much weight. His dive duration was 35 min and he used his last 50 bar in 3 min.

Technique

April 2008 08/084

Two divers conducted a dive to a maximum depth of 25m. They started their ascent when one of the divers reached 50 bar. They made a safety stop at 10m, then deployed a delayed SMB and started another safety stop at 6m. During this stop the diver who had had 50 bar ran out of air. He attempted to use his buddy's alternative air source but experienced problems with water in the regulator. They both surfaced. The diver who had run out of air stated that his computer had gone into an error mode and he asked to be put on oxygen. The other diver's computer was showing only a fast ascent warning. No symptoms developed and no further action was taken. The diver believes that in his panic he may have placed the buddy's alternative air source in his mouth upside down.

May 2008 08/149

Two divers conducted a wreck dive for 40 min to a maximum depth of 29m. After a surface interval of 1 hour 45 min they made a second dive on the wreck. They retrieved an anchor from a depth of 28m and then, 17 min into the dive, they entered the wreck. However, they did not enter the wreck in the planned location and found themselves in an enclosed part of the wreck. They continued into the wreck and then they became disorientated which led to a separation. One of the pair found a narrow opening in the wreck and removed his cylinder and BCD to get through. Once outside he refitted his kit and swam to their initial entry point. He attached a line and started to search inside the wreck for his missing buddy. After a dive duration of 38 min his gases were running low and he made a rapid ascent to the surface to alert the surface party. The second diver had been unable to find an exit and was forced to switch to his decompression cylinder. His torch battery then ran out. His eyes then became accustomed to the darkness and he was able to see a faint light which led him to an exit. He made a three minute ascent to the surface. The first diver's dive duration was 44 min and the second diver's dive duration was 60 min. As the second diver surfaced other divers were about to enter the water to search for him. Both divers were placed on oxygen and taken to hospital. Neither diver suffered any subsequent ill effects.

Equipment

June 2008 08/206

A diver was at a depth of 28m when his regulator started making 'bubbling' noises. He indicated the problem to the dive leader and moved closer to his buddy. The regulator then

Once out of the water the rubber cover of the first stage was found to have developed a large bulge. The regulator was returned to the manufacturer and the diver was awaiting their report.

began to free flow. He shared air with his buddy and they made a safe 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

<http://www.bsac.org/page/548/incident-report-form.htm>

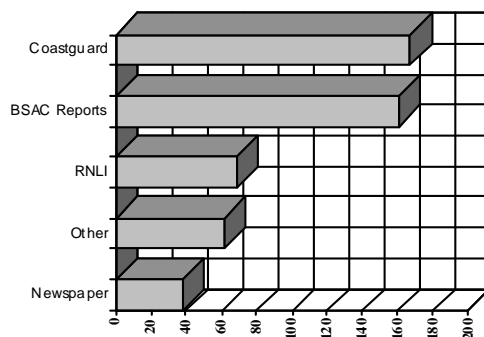
or by phoning BSAC HQ on **0151 350 6200**

Numerical & Statistical Analyses

Statistical Summary of Incidents

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Incidents Reported	385	351	315	397	452	397	439	465	453	409	498	499	437	401	416
Incidents Analysed	385	351	315	370	431	382	417	458	432	392	445	474	418	377	381
UK Incidents	322	318	295	349	404	357	384	433	414	366	423	441	379	349	359
Overseas Incidents	9	33	20	21	27	25	33	25	18	26	22	33	39	28	22
Unknown Locations	54	0	0	0	0	0	1	0	0	0	0	0	0	0	0
UK Incident - BSAC Members	164	157	136	101	135	128	113	122	149	162	154	160	148	120	129
UK Incident - Non-BSAC Members	8	20	4	29	52	47	52	94	55	74	72	65	50	61	65
UK Incident - Membership Unknown	213	178	175	219	217	182	219	217	211	130	197	216	181	168	165

UK Incident Report Source Analysis



Total Reports: 497
Total Incidents: 359

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	9
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

LIST OF ABBREVIATIONS USED IN THIS AND PREVIOUS INCIDENT REPORTS

A&E	Accident and emergency department at hospital
AED	Automated External Defibrillator
ARI	Aberdeen Royal Infirmary (Scotland, UK)
AV	Artificial ventilation
AWLB	All weather lifeboat
BCD	Buoyancy compensation device (e.g. stab jacket)
CAGE	Cerebral arterial gas embolism
CG	Coastguard
CPR	Cardiopulmonary resuscitation
DCI	Decompression illness
DDRC	Diving Diseases Research Centre (Plymouth, UK)
ECG	Electrocardiogram
EPIRB	Emergency position indicating radiobeacon
FAWGI	False alarm with good intent
GPS	Global positioning system
Helo	Helicopter
HLS	Helicopter landing site
HMCG	Her Majesty's Coastguard
ILB	Inshore lifeboat
INM	Institute of Naval Medicine
IV	Intravenous
LB	Lifeboat
MCA	Maritime & Coastguard Agency
m	Metre
min	Minute(s)
MRSC	Marine rescue sub centre
PFO	Patent foramen ovale
POB	Persons on board
QAH	Queen Alexandra Hospital (Portsmouth, UK)
RAF	Royal Air Force
RHIB	Rigid hull inflatable boat
RN	Royal Navy
RNLI	Royal National Lifeboat Institution
ROV	Remotely operated vehicle
SAR	Search and rescue
SMB	Surface marker buoy
999	UK emergency phone number