

The British Sub-Aqua Club



NDC Diving Incidents Report 2007

Compiled by

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Introduction

This booklet contains the 2007 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:

<i>MONTH/YEAR OF INCIDENT</i>	<i>INCIDENT REF.</i>
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 2007*

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:

Paul Chapman, National Diving Liaison Officer, Maritime & Coastguard Agency

**Peter Chennell, Sea Safety Manager,
Derek Scrivener, Service Information Data Quality Supervisor,
Roger Aldham, Data and Statistical Analyst,
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.

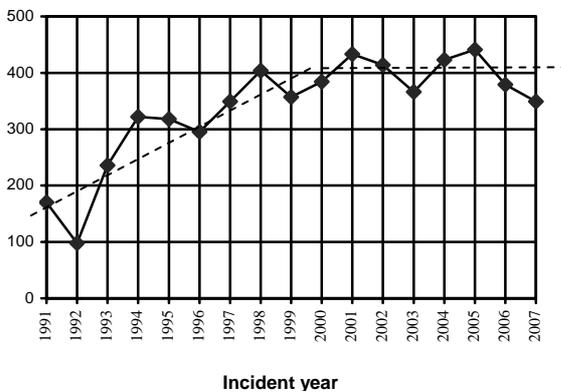
Finally, to Dr. Yvonne Couch for proof reading this report

Overview

2007 has seen a further drop back in the number of incidents reported in the UK to a total of 349.

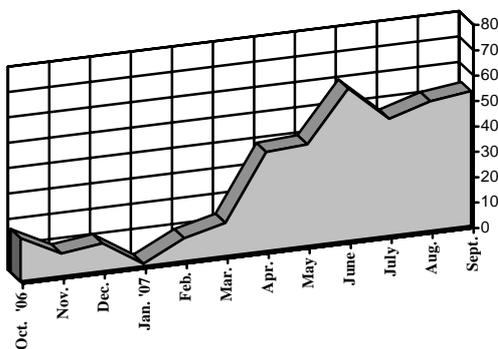
The chart below shows the total of UK incidents reported annually over the last 17 years and it can be seen that after a doubling during the 90s, there was a levelling out from 2000 onwards to a total of 400 incidents per year. It is unclear if the fall this year is marking the beginning of a new trend, if it is just part of a normal fluctuation (the last five years are similar in size and pattern to the previous five years), or was it an impact of the rather poor weather conditions experienced in the summer of 2007. Future years will provide the answer.

Number of reported incidents



The distribution of reported incidents is shown in the following chart and it conforms with the expected pattern. As can be seen, 68% of these incidents have occurred in the summer period. This is totally consistent with previous years, reflecting the increased number of dives that take place during the better weather.

Incidents by month - 2007



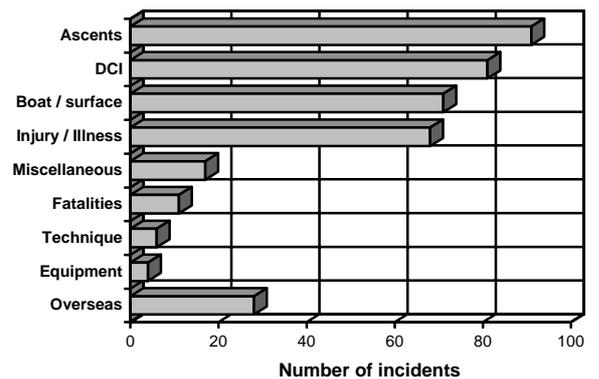
Incidents by category

The incident database categorises all incidents into one of nine major categories, and the following chart shows the distribution of the 2007 incidents into those categories. The highest number of incidents (91) relate to 'Ascents' and this represents a major change.

In previous year incidents of Decompression Illness (DCI) have always been the biggest category but the last five years have seen a continued fall in the number of these incidents. Conversely the number of Ascent related incidents has risen dramatically over the last ten years; there have been a number of minor perturbations and this year's total is slightly down over last year but, overall, the trend has been one of a strong increase. This trend has been highlighted in past reports and this year the number of Ascent related incidents overtook incidents of DCI and became the most numerous category. 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; Fatalities.

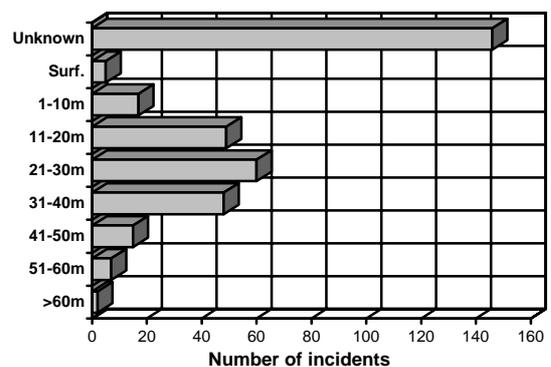
Categorisation of all the year's incidents



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 9, which is in line with previous years. One of these incidents was a fatality.

The 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.

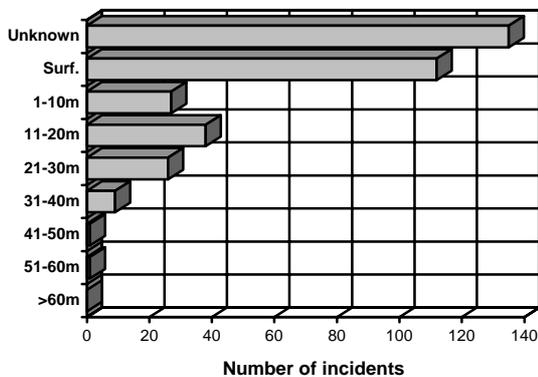
The recommended limit for divers trained to Sports Diver standard is 35m and then only when they have received appropriate training for diving at this depth.

The BSAC recommends that mixed gas diving should be to a maximum depth of 80m and then only 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

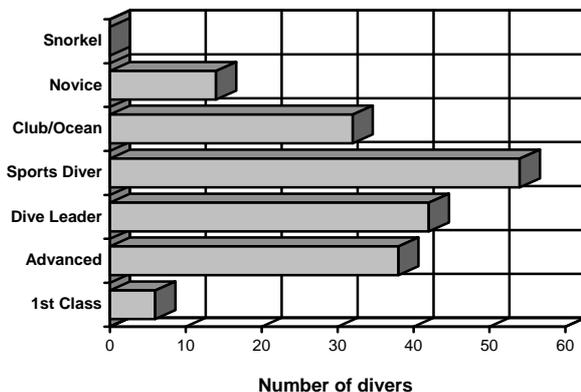


Inevitably the data are biased towards the shallower depths since many incidents happen during the ascent or at the surface. Critical among these are the DCI cases where almost always the casualty is out of the water before any problems are noted. This partially explains the large occurrence of 'Surface' 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.

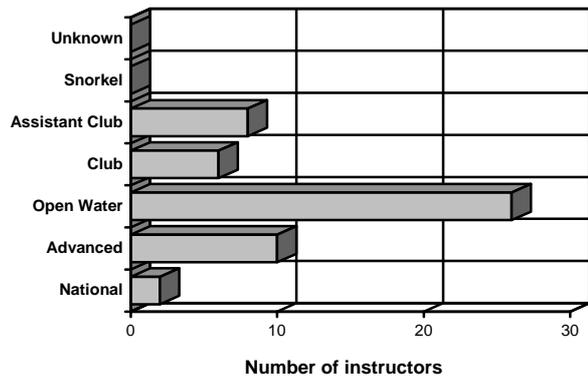
Qualification of the divers involved in incidents



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



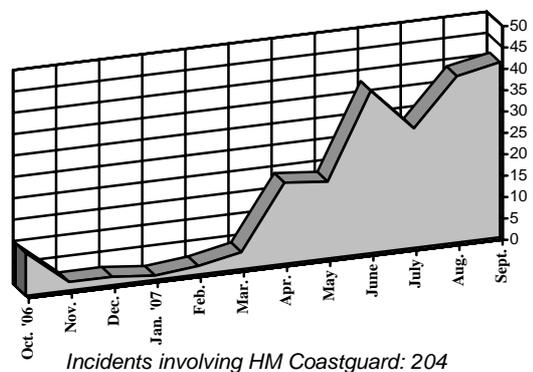
Divers' use of the Emergency Services

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.

Last year saw a dramatic drop in our demands upon the Coastguard service, but this year the numbers have risen again to a total of 204 incidents reported with a Coastguard involvement. This number is in line with the average over the last ten years.

This year the Coastguard have changed the way that they provide data to us and, as a result, we are getting more information on each event. The benefits are twofold. Firstly, it enables us to derive more information about the actual nature of an incident and what can be learned from it. Secondly, it is easier to identify and link these reports with reports from other sources and thus build a more accurate picture of an incident and avoid duplication. We are very grateful to the MCA for this information.

Incidents involving the UK Coastguard agency - Monthly breakdown

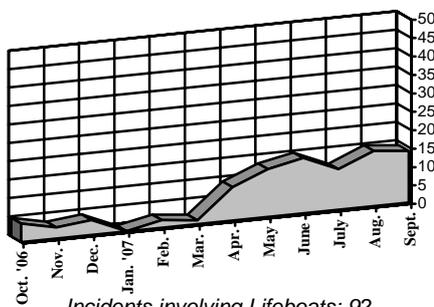


Incidents involving HM Coastguard: 204

There were 92 incidents reported that involve the RNLI and this continues the trend highlighted last year 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.

Divers' use of RNLI facilities by month

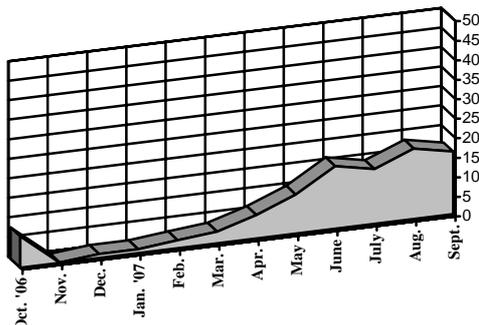


Incidents involving Lifeboats: 92

In 2007 95 incidents involved the use of helicopters. This number follows the trend of the last three years of a steady reduction from the high of 137 recorded in 2005.

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



Incidents involving helicopters : 95

Fatalities

12 fatal incidents occurred in the UK during the 2007 incident year. This is significantly below the average of 17.7 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 good that this number is way below the average of recent years it hides the sad fact that 7 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 about average.

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

- Two cases involved divers who suffered heart attacks. One of these cases involved a 79 year old man who was snorkel diving.

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.

- Four 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.
- Two cases involved divers who became trapped inside wrecks and ran out of air. One of these cases was a double fatality.
- Two cases involved three people diving together and in both these cases an underwater separation occurred. In both cases there is a lack of full information but it is very probable that the separation was a contributory factor to the outcome.
- One case involved solo diving.
- One case involved a dive to a depth greater than 50m. This was a diver who dived to 75m (using a rebreather) and surfaced, missing all decompression stops.

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

Finally there were three reported fatality overseas. Two of these involved the deaths of BSAC members. Both of these cases involved separation underwater; in one case there had been three divers together.

In the third case a BSAC member reported on the death of a non-BSAC member where the casualty had dived, using a rebreather with trimix, to a depth of 76m.

Decompression incidents

The BSAC database contains 81 reports of DCI incidents in the 2007 incident year, some of which involved more than one casualty. When these multiple cases are counted the result is 89 cases of DCI.

This number dramatically continues the decline in cases of DCI from a peak of 173 individual cases reported in 2002 and returns us to below the typical levels reported in the late 90s.

An analysis of the causal factors associated with the cases for 2007 indicates the following major features:-

- 24 involved diving to deeper than 30m
- 24 involved rapid ascents
- 28 involved repeat diving
- 13 involved missed decompression stops

Some cases involved more than one of these causes.

Whilst cases of DCI may have declined, cases of abnormal ascent (rapid ascent and/or missed stops) have significantly increased (as summarised below), and it is just good fortune that these abnormal ascents did not result in DCI.

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 2007 is at a level similar to the average of recent years.

Ascent related incidents

In previous years I have highlighted the rise in the number of incidents associated with abnormal ascents. This year's report contains 91 ascent related incidents and, while this number is slightly down on last year's peak of 99, it must be taken in context of a lower total number of reported incidents. This category of incidents is now the biggest, having suffered a dramatic rise over the last ten years.

As I have stated before, the great majority of these incidents relate to poor buoyancy control and rapid ascents, often resulting in missed decompression stops.

Better training is the key; BCD and drysuit control, and the use of associated equipment, especially delayed SMBs.

These are avoidable problems and instructors should make this a priority area for attention.

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 shown above.

Boating and surface incidents

'Boating and Surface' incidents are the third largest category.

Recent years have seen a very marked decline in the number of these incidents from a maximum of 124 in 1998. In 2007 there were 71 such incidents reported, a little up on last year but still consistent with an overall downward trend.

54% of these incidents involved engine problems and 38% involved lost divers; this is entirely consistent with previous years.

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.

This year saw one notable case where divers were safely recovered, at nightfall, having been in the water for over 9 hours.

Conclusions

Key conclusions are:-

- Reported incidents are down this year. The reason for this is unclear. Plausible explanations are: a normal perturbation in the statistics; less diving during the year due to poor weather; improved diver safety; or a combination of these factors. Future years will throw more light on this issue.
- The number of fatalities is significantly below the norm of previous years.
- No new causal factors for fatalities 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.
- Incidents associated with abnormal ascents continue to show a dramatic rise and attention must be given to training in this area and the continuous practice of ascent skills.

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 at the end of 2006), 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 on our Incident Report form, available free from BSAC HQ or via the BSAC website.

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



Fatalities

March 2007

07/026

An instructor and two trainees were engaged in a trimix training course. The instructor was using a rebreather and the students were using open circuit equipment. They dived to a maximum depth of 75m. The two students started their ascent and the instructor remained at depth some time longer. The two students were conducting their first stop when they saw the instructor making a rapid ascent up the shotline. They offered him an alternative gas source but he refused this, inflated his BCD and rose directly to the surface missing all stops. The emergency services were alerted and the diver was taken to hospital where he was declared dead.

March 2007

07/035

A diver under training entered the water to make his second open water dive. He and his instructor entered the water and dived to a depth of 6m. Underwater visibility was poor and this worsened as the divers stirred up silt on the bottom. As a result of the poor visibility they surfaced. At the surface the trainee was behind the instructor. The trainee removed his mouthpiece and shouted for help. The instructor turned round and found the trainee rolling around on the surface; he then started to sink. Another instructor who was nearby swam to help and he dived below the surface, took hold of the trainee, inflated his BCD and brought him back to the surface. At this point the trainee was breathing but unconscious. The casualty was towed to the shore and quickly recovered from the water. Once out of the water he stopped breathing. Resuscitation techniques were applied and the emergency services were called. The casualty was taken to hospital where he was declared dead. The post-mortem results were inconclusive.

April 2007

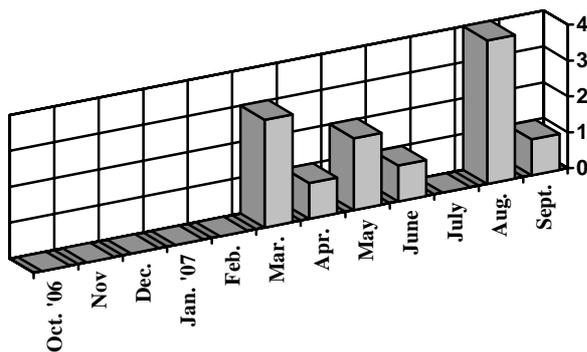
07/039

Two divers entered the water for a shore dive. One of the pair was too buoyant and experienced an octopus regulator free flow. After two attempts they decided to abort the dive. They climbed back over rocks and then sat for a while talking about the dive's problems. After about 15 min they started climbing over more rocks to get to the exit point. Without warning one of the divers slumped into a rock pool. His buddy asked if he was alright but got no response. The buddy called for assistance. The emergency services were called and resuscitation techniques were applied. He was taken to hospital where he was pronounced dead. A post-mortem revealed that the casualty had three blocked arteries and had suffered a heart attack.

BSAC Fatalities against membership 1982-2007
(UK fatalities only)



UK Fatalities - Monthly breakdown
from October 2006 to September 2007 incl.



March 2007

07/030

A rebreather diver and her buddy commenced a deep dive. She became entangled in a shotline as the supporting buoy collapsed and she started to sink. Her buddy followed her down to a depth of 40m where he tried to free her but also became entangled. He became disorientated, ran low on gas and had to surface. He was airlifted to a recompression chamber and treated for shock and possible DCI. A search was conducted for the missing diver using an ROV and her body was recovered five days later. Press reports of the coroner's inquest state that a valve diaphragm in the casualty's regulator was found to be ruptured.

May 2007

07/064

A rebreather diver entered the water ahead of his two buddies and dived to place a decompression cylinder on a shotline. He resurfaced and spoke to a fourth diver who was preparing to enter the water. Although they had planned to dive together, when the two buddies entered the water the first diver had already left the surface again. They continued their dive and, several minutes later, they saw the torchlight of the first diver. They found him lying on the bottom at a depth of 50m; he was unconscious, his mouthpiece was out of his mouth and he was tangled in some branches and other debris. They freed him and sent him to the surface. They started their ascent and met the fourth diver coming down. The fourth diver returned to the surface and found the casualty on his back with his mask off, he recovered him to the side, removed him from the water and started resuscitation procedures. 10 min later the casualty's two buddies surfaced and contacted the emergency services. The casualty was taken to hospital where he was declared dead. It is thought that the casualty was diving with a rebreather that he had built himself.

May 2007

07/065

Two rebreather divers entered the water and commenced their dive down a shotline to a wreck. They conducted a bubble check at 6m and exchanged OK signals at 20m. They reached the top of the wreck at 32m. One of the pair indicated that all was not well. The dive leader signalled that they should ascend and they started to do so. 2m into the ascent the troubled diver became agitated, closed and removed his rebreather

mouthpiece and placed his bale out regulator into his mouth. He then spat this regulator out and began to panic. His buddy placed the regulator back into his mouth and attempted to purge it; he discovered that it was not turned on. He turned the cylinder on and attempted to put the regulator into the diver's mouth, but the diver was not able to take the regulator and he fell unconscious. The pair had sunk to the bottom at a depth of 35m. The buddy dropped the casualty's weightbelt and inflated both their jackets. They made a buoyant ascent to the surface. Their total dive time was 6 min. At the surface the casualty was not breathing. The buddy called for help and tried to give rescue breaths. This was difficult to do because of their inflated BCDs and side mounted gas cylinders. Their boat reached them quickly but they could not get the casualty back into the boat. His rebreather was removed and he was held by the boat. The Coastguard was alerted and 5 min later a helicopter arrived. After some difficulty the casualty was airlifted to hospital where he died three days later. The buddy was airlifted to a recompression chamber for precautionary treatment. The casualty had had a problem with his rebreather one month earlier and had suffered from hypercapnia. (07/075 relates).

June 2007 07/073

A diver became separated from his two buddies and failed to surface. A search was initiated and the lost diver was recovered from the water 17 min later. Resuscitation techniques were applied and the emergency services alerted. He was taken by ambulance to hospital but failed to recover.

BSAC Fatalities against membership 1982-2007
(UK fatalities only)



August 2007 07/156

One pair and one trio of divers conducted a dive on a wreck in a maximum depth of 25m. The pair of divers failed to resurface and the Coastguard was alerted when it was clear that they were overdue. A surface search was conducted involving a lifeboat, a helicopter and a number of other crafts. About 1 hour 15 min later the trio of divers returned to the wreck to search for

the missing divers; they found nothing. Divers from two other dive boats came to assist and the first missing diver's body was located inside the wreck and brought to the surface. The divers waited for the underwater visibility in the wreck to clear and they then recovered the second diver's body, also from inside the wreck. It is thought that the lost divers' air supplies were exhausted.

August 2007 07/237

The Coastguard was alerted when a diver became overdue after a wreck dive. A search was initiated involving a helicopter and a lifeboat. Other divers returned to the wreck and found and recovered the missing diver's body. It seems that he had become stuck in a small gap in the wreck and had run out of air.

August 2007 07/180

The alarm was raised by people on a beach when a snorkel diver was seen to be in trouble. The snorkel diver was recovered to the shore and resuscitation techniques were applied. He was airlifted to hospital where he was declared dead. The casualty was 79 years old and it was suggested that he had suffered a heart attack. (Coastguard report).

September 2007 07/204

Two divers entered the water to conduct a drift dive at a maximum depth of 25m in a 3 knot current. At the bottom visibility was only about 2m and they deployed a buddy line. Their plan was to deploy a delayed SMB as soon as they reached the bottom. One of the divers went to deploy his SMB but discovered that the buoy had become detached and was missing. He signalled to the other diver but his signal was not understood and the other diver passed him his reel which also did not have its SMB attached. The first diver checked the buddy to see if he could locate the SMB but he couldn't. The diver was concerned that if they stayed down too long without an SMB they would lose contact with the boat so he signalled the ascent. The buddy returned the OK signal but did not ascend. The diver pulled on the buddy line and signalled again; they began to ascend. The diver leading the ascent noticed that the buddy's buoyancy control was not good and that he didn't seem to be monitoring his instruments properly. At the start of the ascent they dropped back a number of times, they then made a rapid ascent from 15m to the surface. Their dive duration was 17 min. At the surface the buddy stated that he felt sick, he then spat out his regulator and vomited. He did not replace his regulator and began to lose buoyancy. The other diver put air into the distressed diver's BCD and gave an emergency signal to the boat. The distressed diver then became unconscious. The other diver and the boat's skipper recovered the unconscious diver into the boat with some difficulty. The emergency services were alerted and divers from a nearby dive boat came to assist. The casualty was given oxygen and then resuscitation techniques were applied. The casualty was airlifted to hospital where he died. The casualty had been diving on air and with a pony cylinder containing nitrox 50 for decompression; the other diver was using a rebreather.

Decompression Incidents

October 2006 07/271

Portland Coastguard was alerted by a diving vessel to a diver aboard suffering from DCI, Portland Coastguard tasked rescue helicopter R-WB to airlift the casualty to the recompression chamber, assisted by Poole Coastguard and an ambulance. (Coastguard report).

October 2006 07/274

Rescue helicopter R-131 airlifted a diving casualty suffering from suspected DCI, the RAF helicopter made an emergency landing. The casualty was taken by land ambulance to the hyperbaric chamber for treatment, attended by Hull Coastguard. (Coastguard report).

October 2006 07/007

Diving vessel called 'Pan Pan' following two divers having been trawled up with a lobster pot. The divers made a buoyant ascent, one diver was placed on oxygen and suffered tingling in arms and legs, both divers were airlifted to a recompression chamber for treatment, the helicopter was met by Poole Coastguard and an ambulance. (Coastguard report).

October 2006 07/275

Rescue helicopter R-169 from RAF Chivenor lifted three divers from the Exmouth area for transportation to DDRC in Plymouth. (Coastguard report).

October 2006 07/278

A dive RHIB contacted Brixham Coastguard reporting having a diver aboard suffering from suspected DCI, the diving vessel returned to port where the vessel was met by Plymouth Coastguard team and West Country ambulance service, for transportation to recompression chamber for treatment. (Coastguard report).

December 2006 07/016

Two divers conducted a 52 min dive to a depth of 20m. 1 hour 20 min later they dived to 21m for 37 min. Some time was spent at the end of both dives at a depth of 6m. About 1 hour after surfacing from the second dive one of the divers began to feel unwell. He was placed on oxygen. His condition did not improve and diving medical advice was sought. He was airlifted to a recompression facility for treatment.

December 2006 07/022

Three divers conducted a dive to a maximum depth of 45m using trimix 18/45. After a dive duration of 33 min they started their ascent. They planned to make their first stop at 21m, then ascend and switch to nitrox 50 for further stops. However, one of the divers surfaced missing these stops; his buddies surfaced normally. The diver who had made the rapid ascent was placed on oxygen and given fluids. Others suggested that the Coastguard should be alerted and that he should seek medical advice but these proposals were rejected. In the following days the diver developed mild symptoms of DCI. He attended a recompression facility and was recompressed.

February 2007 07/029

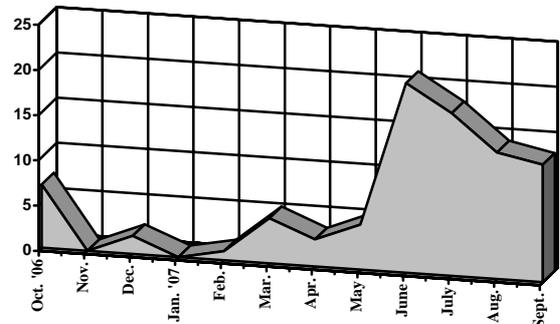
A diver conducted a dive to a maximum depth of 50m using trimix 19/34. During her ascent she made the following stops: 1 min at 31m, 1 min at 27m, 1 min at 24m, 2 min at 18m, 3 min at 15m, 4 min at 12m, 3 min at 9m, 4 min at 6m, 15 min at 4.5m.

Some of these latter stops were using nitrox 80. Her previous dive had been two weeks earlier. At the surface the sea conditions had become rough and she had some difficulty getting back in the boat. 1 hour later she developed symptoms of dizziness and nausea. 1 hour after this she developed a pain in her right elbow. She started to breathe nitrox 80 and the Coastguard was alerted. She was taken by lifeboat to a recompression facility for treatment. She was left with residual shoulder and elbow pain. She reports that she was in the first week of her menstrual cycle.

February 2007 07/032

A diver was involved in refresher training in a swimming pool. She dived to a maximum depth of 4m. Some time into the dive she experienced severe ear pain, she was instructed to clear her ears but was unsuccessful. She came to the surface, still in pain, and the lesson was aborted. The following day she awoke with a severe pain in her ears and face. She saw her doctor and was advised to rest. The pain got worse and she went to her local casualty department. She was diagnosed with a pressure related injury and possible mild DCI. She was sent home with pain killers. She then contacted a recompression facility for advice and attended for examination. She was diagnosed with sinus damage and was advised that her symptoms would resolve in two days. Two days later the symptoms persisted and the pain was getting worse. She contacted the recompression facility again, DCI was diagnosed and she was given a number of recompression treatments which resolved her symptoms.

Decompression incidents by month



March 2007 07/284

The Coastguard was alerted when a diver with symptoms of DCI was making his own way to a recompression facility. (Coastguard report).

March 2007 07/057

Two pairs of divers entered the water from the shore. It was noticed that the weightbelt of one of the divers did not 'look right'; the weightbelt was checked and the decision made to continue. They followed a line to a wreck at a maximum depth of 20m. The diver who had had the weightbelt problem moved to an upright position; the clasp of the weightbelt became undone and the weightbelt slipped down. The diver held onto the weightbelt and they made their way back along the line.

The seabed sloped gently upwards. At 18m the belt came off completely and the diver's buddy fixed it around the diver's torso. They made their way back up to 11m at which point the belt fell off. The buoyant diver was in a feet up posture and he started to ascend. His buddy went with him and managed to turn him the right way up during the ascent. They ascended to the surface at a rate of 10m per min. The buoyant diver was panicking and his buddy towed him to the shore. He was helped from the water and de-kitted. He was showed no symptoms but he was placed on nitrox 28. The following day the buoyant diver engaged in some heavy work and then noticed a lump on his wrist which he was able to easily move around. He reported to his local hospital and was placed on oxygen. The lump dissipated. That night he was taken to a recompression facility and the following day received one session of recompression therapy. The day after that the lump re-appeared. DCI was diagnosed.

March 2007 07/285

A diver conducted a dive to a maximum depth of 23m. During the dive he lost his weightbelt and he made a rapid ascent from 11m. His dive duration was about 30 min. He developed a headache and a weakness in his left arm. The following day he attended a hospital for treatment. (Coastguard report).

March 2007 07/157

A diver conducted a dive using a rebreather to a maximum depth of 36m. During the dive she became separated from her buddy but continued solo as previously agreed. Her dive duration was 48 min including a 2 min stop at 14m and a 3 min stop at 3m. She sneezed several times during the dive. Later she felt a little unwell. This feeling continued and three days later she visited her doctor with symptoms of severe lethargy and loss of balance. She was referred to a recompression facility where a severe cerebral DCI was diagnosed. She received a series of fourteen recompression treatments which fully resolved her symptoms. She was tested for a PFO and a large shunt was found.

April 2007 07/059

Two divers conducted a dive to 17m for 25 min with a 1 min safety stop at 6m and a 3 min safety stop at 3m. After a 2 hour surface interval they entered the water again, with an instructor, to conduct a navigation exercise. They dived to a maximum depth of 17m. Underwater visibility was low and, at a depth of 15m, one of the two divers became disorientated and started to feel panicky. She began to float upwards. The instructor signalled the second diver to ascend and then turned back to the troubled diver, but by this time she had gone. He again signalled to the second diver to ascend and then made his way to the surface to locate the troubled diver; at the surface he saw that she was 15m away from him. He shouted at her to keep her mouthpiece in and to inflate her BCD. He swam to her and checked that her BCD was inflated. He started to tow her to the shore. The second diver surfaced and assisted. They helped her from the water and de-kitted her. During her drive home the troubled diver noticed a pain in her knee. She spoke to the other divers by phone; they sought medical advice and arranged to meet up with her. They took her to hospital where she was given morphine and oxygen. She was then taken to a recompression chamber and given two sessions of recompression treatment. It was suggested that narcosis may have been involved.

April 2007 07/060

A trainee diver completed five dives over a weekend. On the first day he made three dives to depths between 4 and 15m. On the second day he dived twice to a maximum depth of 8m. He awoke during the night with a headache and shoulder pain.

He took painkillers which resolved the shoulder pain but not the headache. The following morning he attended a recompression facility for examination. He received recompression treatment. The following day the shoulder pain had resolved and he was given a further session of recompression therapy. It was not certain if he had suffered DCI or a muscular strain.

April 2007 07/183

An instructor and two trainees entered the water to conduct basic drills, they then conducted a dive to a maximum depth of 6m. Their dive duration was 36 min. Later that day they dived to conduct further drills in a maximum depth of 8m. The instructor demonstrated alternative air sharing with both students in turn between 6 and 3m. Both students then practiced the drill themselves from 6 to 3m and then from 6m to the surface. The same process was then repeated for a controlled buoyant lift drill. Their dive duration was 39 min. At the surface the two students both completed a 20m rescue tow. The group then made a surface swim to the exit point. The following day they descended a shotline to a depth of 8m. They then swam to a depth of 10m where they practiced buoyancy control drills. They then swam back to a depth of 8m for a few minutes and then to 6m where they made a 1 min safety stop. They then surfaced and got back into a boat. Later that day one of the trainees complained of a pain in his right elbow, he was given water to drink. He then developed a tingling sensation and pain down the outside of his right arm. He was placed on oxygen. His symptoms included a mild light headedness and elbow pain. He was taken to a recompression facility for treatment.

May 2007 07/104

Two divers conducted a dive to a wreck at a maximum depth of 34m. Towards the end of the dive they swam away from the wreck and deployed a delayed SMB. The dive leader signalled the ascent and started to reel in the buoy line. At about 16m the dive leader realised that water was leaking into his mask. He tried blowing out through his nose to clear it but he was unable to get rid of the water. His attempts to clear the mask increased the flooding. He was breathing heavily and became buoyant, rising above his buddy. He raised his cuff dump but made a rapid ascent to the surface. At the surface he looked for his buddy but could not see him. He dumped the SMB reel and inflated his BCD. He gave an emergency signal to the boat and then lost consciousness. His dive duration was 16 min. His buddy surfaced shortly afterwards, took hold of the casualty and brought him to the boat. Others in the boat helped to remove his kit and lift him out of the water. By this time he was turning blue and foaming at the mouth. Resuscitation techniques were applied and he made a quick recovery. The Coastguard was alerted and the casualty was placed on oxygen. The casualty was transferred to a lifeboat and airlifted to hospital. The lifeboat returned for the buddy who was taken to a recompression facility for treatment for DCI.

May 2007 07/083

The Coastguard was alerted when a diver developed symptoms of DCI. The diver was airlifted to a recompression facility for treatment. Lifeboats also attended.

May 2007 07/108

A diver conducted a 36 min dive to a depth of 46m with a 4 min stop at 6m and a 2 min stop at 3m. 2 hours 35 min later he dived to 45m for 28 min with a 7 min stop at 6m and a 3 min stop at 3m. During the 6m stop he felt some pain in his right shoulder and elbow. During the boat trip back to the shore the pain worsened. Once ashore he experienced a feeling of heat and itching across his chest. There was bruising and a rash on his chest. He was placed on oxygen and the Coastguard was

alerted. He was taken by helicopter and ambulance to a recompression facility for treatment. He made a full recovery. He planned to take a PFO test.

May 2007 **07/147**

Two divers dived to a maximum depth of 16m for 31 min. They used a delayed SMB for their ascent and planned a 3 min safety stop at 6m. A heavy swell made it difficult for them to hold the 6m depth and they rose and fell between 3m and 8m. One of the divers felt quite cold. Two hours later this diver developed a stiffness in her right upper arm and a tingling in her fingers. One hour later she also developed tingling in her toes. The following day she attended a recompression facility and was diagnosed with DCI. She received three treatments over a three day period which improved her symptoms.

May 2007 **07/343**

The Coastguard was alerted when a diver developed symptoms of skin DCI. He was brought ashore and taken by ambulance to hospital and then to a recompression facility for treatment. (Coastguard report).

June 2007 **07/113**

Two divers conducted a dive to 22m for 39 min with a 5 min stop at 6m. 2 hours 30 min later they dived to 30m. During the ascent one of the pair lost control of her buoyancy and they made a faster than normal ascent to 5m. They tried to conduct a stop at this depth but were not able to do so. Their dive duration was 8 min. One hour later both divers complained of a slight tingling. They were placed on oxygen and advised to seek medical help. Later that evening one of the pair was treated for DCI and the other was recompressed the following day.

June 2007 **07/344**

The Coastguard was alerted when a diver developed a pain in his left shoulder. The diver was brought ashore and seen by a doctor. He was then taken to a recompression facility for treatment for DCI. (Coastguard report).

June 2007 **07/117**

Two divers using rebreathers conducted a 90 min dive to a maximum depth of 35m; they made no specific decompression stops. 1 hour later one of the pair began to feel unwell and sick. He was placed on oxygen and taken by ambulance to hospital and then on to a recompression chamber for treatment.

June 2007 **07/116**

Two pairs of divers conducted a dive to a depth of 21m. During the dive they checked air and a diver in one pair became concerned that a diver in the other pair was becoming low on air. He took hold of this diver and gave him his octopus regulator. He then opened his own drysuit dump valve and put air into the other diver's BCD. They made a rapid ascent to the surface. The buddy of the diver who was low on air went with them; the fourth diver made a normal ascent and joined them at the surface 3 min later. Later, the diver who had been low on air experienced pain in his arm and a numbness in his left arm and leg. The other diver had a pain in his neck and both had skin rashes. They sought assistance and both divers were placed on oxygen. They were taken to a recompression chamber for treatment. The buddy, who had ascended with them, also received recompression treatment.

June 2007 **07/118**

A diver completed a series of three dives; two to 40m and another to 30m. He then developed a rash on his chest, slight discomfort on his right hand side, aching joints and a 'warm feeling' around his heart. Police notified the Coastguard and the diver was airlifted to a recompression chamber for treatment. (Coastguard report).

June 2007 **07/121**

The Coastguard was alerted when three divers developed symptoms of DCI. All three had made rapid ascents from depths between 18 and 33m. The boat returned to shore and the three divers were taken by ambulance to a recompression facility for treatment. Four of the divers' buddies were also taken to the recompression facility for precautionary treatment. (Coastguard report).

June 2007 **07/128**

A diver conducted a 40 min dive to a depth of 14m with a 3 min stop at 6m. 20 hours later he dived to 17m with three other divers. He was using a new mask and had continuous trouble trying to clear it. During the dive he felt a 'strange sensation' in his back. He returned to the shotline with the other divers and they ascended to 6m and carried out a safety stop. He surfaced with a dive duration of 40 min. At the surface he felt very fatigued. The previous day he had been bitten by an insect and thought that he might have been experiencing an allergic reaction. Once back in the boat he took two aspirins and laid down for a rest. Later that evening he felt very tired again and sought diving medical advice. He went to a recompression facility where a severe DCI was diagnosed. He received three sessions of recompression treatment over a three day period.

June 2007 **07/349**

A diver suffering from symptoms of DCI was taken by ambulance to a recompression facility for treatment. (Coastguard report).

June 2007 **07/148**

A diver conducted a series of dives over a six day period with one day off in the middle. Her last dive was to a maximum depth of 35m for 40 min. Three days later she developed altered sensation in her hands, a numbness in her finger ends and hands, and pains in her elbow and knee joints. She sought diving medical advice and was given three sessions of recompression therapy over a three day period; her symptoms were fully resolved. All her dives were within computer limits and involved little decompression. Her car journey home, which took place after her computer had cleared, took her to altitude.

June 2007 **07/129**

A diver conducted five dives over a five day period. On her last dive she descended to a maximum depth of 27m with her buddy. After 25 min they decided to surface. The diver's computer showed that she needed to make a 5 min stop at 3m and her buddy a 2 min stop at 3m. They ascended normally to 6m and carried out a 1 min safety stop and then ascended to the 3m stop. The diver who required the 5 min stop rose above her buddy and stopped at 2.5m. Her computer registered an alarm. She was unable to get back down to 3m and, after 3 min, she ascended to the surface. Shortly after leaving the water she complained of a slight feeling of 'pins and needles' in both hands. She was placed on oxygen. Her computer indicated that she had missed 8 min of stops at 3m. Her buddy had not missed stops and had no symptoms. The Coastguard was alerted and both divers were airlifted to a recompression facility. The diver with symptoms was recompressed. The diver

was advised to take a PFO test. She had commenced her menstrual cycle the day before and it is thought that this may have been a factor in her DCI.

June 2007 07/307

A rebreather diver dived to 72m. His bottom time was 18 min and his total dive duration was 98 min. 20 min after surfacing he began to feel sick. After a further 25 min he began to vomit. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. (Coastguard report).

June 2007 07/131

A pair of divers conducted a 30 min dive to a maximum depth of 20m. Shortly after leaving the water one of the divers complained of a headache and a tingling in her fingers. The Coastguard was alerted and the diver was placed on oxygen. The casualty became more distressed and she was taken by ambulance to hospital. DCI was suspected and a PFO test was planned.

June 2007 07/132

Two divers conducted a dive to a maximum depth of 32m. At 18m one of the pair lost control of his buoyancy and made a faster than normal ascent to the surface missing 4 min of decompression stops. His dive duration was 24 min. His buddy completed the stops. The diver who had missed stops experienced a 'fuzzy head' shortly afterwards. He was placed on oxygen and medical advice was sought. He was taken by ambulance to a recompression chamber for treatment.

June 2007 07/308

A diver conducted a 48 min dive to 28m including a 5 min stop at 6m and a 2 min stop at 5m. He conducted a second dive to 27m for 30 min with a 3 min stop at 6m. Back on shore he developed pains in his upper arms and shoulders. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. This diver had had DCI previously and had been diagnosed with a PFO two years earlier. (Coastguard report).

June 2007 07/127

Two divers conducted a 30 min dive to a maximum depth of 35m. Later they dived to a maximum depth of 30m. During this second dive, one of the pair experienced problems with a drysuit dump valve and started to make a buoyant ascent. He tried to release air through his cuff seals and his buddy tried to slow the ascent. They both rose to the surface quicker than normal. Their dive duration was 27 min. Their condition was monitored. At the same time another pair in the group became separated. One of the pair deployed a delayed SMB; the reel jammed and he made a rapid ascent to 15m at which point he was able to stop. However, whilst sorting out the reel he rose rapidly to the surface. Medical advice was sought and all three divers were placed on oxygen. Shortly afterwards one of the first pair complained of tingling and 'pins and needles' in his arms and hands and the other diver of that pair started vomiting. The third diver also started to vomit. The divers were airlifted to a recompression facility. (Coastguard report).

June 2007 07/165

Two divers conducted a 30 min dive to a maximum depth of 32m. A few minutes after getting back into the boat one of the pair complained of stomach pains and doubled over in pain. After a few minutes of trying to vomit he developed a pain in his knees. He was placed on nitrox 50 and then oxygen. The Coastguard was alerted and the casualty was given water. He developed back pain. On oxygen his symptoms worsened and

then became fully resolved. He was airlifted to a recompression chamber for treatment. The casualty had conducted ten dives prior to this one in the last five days.

June 2007 07/352

The Coastguard was alerted when a diver developed symptoms of DCI. The diver was brought ashore and taken by ambulance to a recompression facility for treatment. (Coastguard report).

July 2007 07/160

Two divers dived to the top of a wreck at a depth of 27m. There was a current running and they held onto the wreck and descended to 29m. One of the pair was seen to be over-weighted and they re-ascended to 27m. After 10 min the dive leader indicated to the over-weighted diver that she should deploy a delayed SMB. This diver had not done this before. As the over-weighted diver ascended she reeled in the SMB and her mask started to flood. She indicated the problem to the dive leader but was not able to clear the mask. At 14m the dive leader's weightbelt started to slip off and she held onto the belt with one hand and the other diver with the other hand. The dive leader felt her ears hurting and looked at her computer to find that they had dropped back to 20m. The over-weighted diver was panicking and could not ascend. The dive leader crossed her legs to trap the weightbelt and put some air into her BCD. At 14m she realised that her weightbelt was hanging from her crotch strap. They began a fast ascent and despite attempting to dump air they made a rapid ascent to the surface missing a planned safety stop. Back in the boat the over-weighted diver said she felt unwell. The boat's skipper refused to deploy his oxygen set until there were symptoms. The unwell diver was given nitrox 44. She developed a headache and was placed on oxygen. The dive leader developed a pain in her calf. A recompression chamber was contacted by phone and, once ashore, both divers attended for recompression treatment.

July 2007 07/353

A diver made a rapid ascent from 23m. He developed a pain in his shoulder and was placed on oxygen. The Coastguard was alerted and the boat returned to shore. (Coastguard report).

July 2007 07/143

A diver using trimix dived to 59m for a bottom time of 20 min. The following day he dived to 55m for a bottom time of 20 min. On the third day he dived to 57m for a bottom time of 20 min using trimix 17/24. He ascended to his first stop at a depth of 42m but became panicked and started to ascend. At 12m he composed himself, switched to nitrox 80 and then surfaced. His dive duration was 26 min. His computer indicated that he had missed 37 min of stops. He felt a pain in his upper arm and was placed on oxygen. He was taken to a recompression facility for treatment. On arrival he had a skin rash on both shoulders. (Coastguard report).

July 2007 07/144

A pair of divers conducted a dive to a depth of 14m. Underwater visibility was low so they decided to terminate the dive. They intended to stop at 5m for 3 min but made a fast ascent directly to the surface. Their dive duration was 12 min. One of the pair developed a nose bleed and felt an unusual sensation in her arm. The Coastguard was alerted and medical advice was sought. The casualty was airlifted to a recompression facility for treatment which resolved her symptoms. The casualty was inexperienced in diving in UK waters and thinks that she over-inflated her BCD. (Coastguard report).

July 2007 07/145

A diver conducted a dive to a wreck at a depth of 32m using nitrox 32. The diver was wearing an additional jumper under their drysuit and had difficulty descending so the diver used the shotline to assist the descent. The diver deployed a delayed SMB to make the ascent but the reel jammed at 27m. The diver continued the ascent by winding the line around the reel, this resulted in a slow ascent. The diver struggled to maintain a stop at 9m due to excessive buoyancy and, after 2 min they made an uncontrolled ascent to the surface. The diver was placed on oxygen and the Coastguard was alerted. The diver developed a pain in their left knee and hip. The diver was airlifted to a recompression facility for treatment. (Coastguard report).

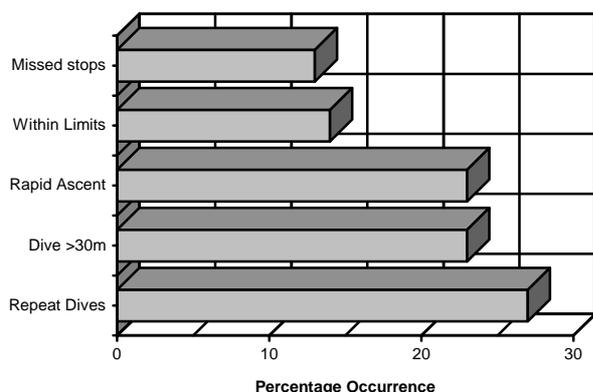
July 2007 07/151

A diver with signs of DCI was airlifted to a recompression facility. (Media report).

July 2007 07/153

A diver conducted a dive to a depth of 30m. After 26 min she conducted a 1 min stop at 9m and a 6 min stop at 6m. After this dive her left shoulder, armpit and chest felt very itchy. She took antihistamine tablets. She ate lunch, felt thirsty but didn't drink much. After a 2 hour surface interval she dived to 23m for a drift dive. A delayed SMB was deployed after 25 min and she made a slow ascent to 9m for a 1 min stop and then to 6m for a 3 min stop. During this stop she experienced a discomfort in her left breast which felt like suit squeeze. She left the water and de-kitted. Within minutes the discomfort became an intense pain which lasted for about 25 min. The following morning the breast was swollen, uncomfortable and felt as if it were on fire. Diving medical advice was sought and she was told that it was not diving related. Then advice was sought from a recompression facility and she was asked to attend for examination. She received recompression treatment which greatly eased her symptoms. (Coastguard report).

Percentage analysis of factors involved in cases of DCI



July 2007 07/357

A diver conducted a dive to 43m in the morning and to 17m in the afternoon. The diver then developed a skin rash on the chest. The Coastguard was alerted and the diver was brought ashore. (Coastguard report).

July 2007 07/315

A diver conducted a 30 min dive to 24m. After the dive he developed chest pains and had difficulty breathing. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. (Coastguard report).

July 2007 07/358

Two divers conducted a dive to a maximum depth of 60m. They experienced a free flowing regulator and made a rapid ascent to the surface missing all stops. Their dive duration was 20 min. They were recovered into their boat and placed on oxygen. One of the divers developed a pain in their arms. The Coastguard was alerted and the divers were airlifted to a recompression facility. (Coastguard & RNLI reports).

July 2007 07/154

A pair of divers conducted a dive to 30m. One of the pair experienced mask squeeze. He tried to adjust the mask. The mask flooded and he cleared it. He tried to signal to his buddy that he was uncomfortable. The buddy misunderstood the signal, panicked and dragged him to the surface without any stops. Their bottom time was 10 min. The pair were placed on oxygen for 1 hour 30 min. The following day he dived to 35m with two other divers. On the ascent from this dive he planned to make a 10 min decompression stop at 15m. He lost control of his buoyancy during this stop and made a rapid ascent from 9m to the surface missing 9 min of decompression. He was recovered into the boat and placed on oxygen. He developed a tingling sensation in his left hand and right foot. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment. (Coastguard report).

July 2007 07/359

The Coastguard was alerted when a diver developed a headache and a tingling in their arms. (Coastguard report).

July 2007 07/163

Two divers conducted a dive to a wreck in a maximum depth of 40m. Their bottom time was 30 min and they completed 10 min of decompression on nitrox 80. One of the divers was cold and shivering during the stops. Shortly after surfacing one of the pair felt unwell and complained of blurred vision and black spots in his left eye and pain in his upper left arm. He was placed on oxygen and the Coastguard was alerted. The diver and his buddy were airlifted to a recompression facility. The diver with DCI received treatment. It was suggested that alcohol consumption the previous night may have contributed.

July 2007 07/164

A diver conducted a no stop dive to a maximum depth of 30m. About 11 hours later he dived again to 30m. After the dive he developed 'pins and needles' in his side. The Coastguard was alerted and the diver was airlifted to a recompression facility for treatment.

July 2007 07/316

A diver using trimix 10/50 conducted a dive to a maximum depth of 84m. The following day he dived again to 84m for a total duration of 145 min with an extra 15 min at 6m as an additional safety stop. After this dive he developed skin DCI. He was placed on oxygen and given fluids. The Coastguard was alerted and diving medical advice was sought. The diver was monitored and, as no other symptoms developed, no further action was taken. (Coastguard report).

July 2007**07/318**

A diver conducted a dive to a maximum depth of 28m. His regulator flooded and he attempted to locate his pony regulator. Whilst doing so he lost his mask, inhaled some water, and made a rapid ascent to the surface. After the dive he was 'vague but orientated' and he had numbness in his hand and feet. He was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility. (Coastguard report).

August 2007**07/174**

A diver conducted a 42 min dive to a maximum depth of 23m with a 1 min safety stop at 6m. 1 hour 40 min later she dived to 24m for 54 min with a 1 min safety stop at 6m. Some time after this dive she noticed bruising on her right shoulder and stomach which was itchy and sore when scratched. She sought medical advice by phone and was told that she had indications of DCI and that emergency support would be organised. She was placed on oxygen and waited. Sometime later she was advised to contact the Coastguard and seek their help. The Coastguard was alerted and the diver was taken by ambulance and helicopter to a recompression facility where she was treated for DCI. Her symptoms fully resolved. This diver had had similar episodes one and three years earlier and she was told that she almost certainly had a PFO for which she was seeking medical advice.

August 2007**07/322**

A diver completed a 32 min dive to a maximum depth of 26m. After the dive he complained of pains across his chest and numbness in both legs. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression facility where the diver was treated for DCI. (Coastguard report).

August 2007**07/321**

The Coastguard assisted with a diver suffering from DCI and a back injury. (Coastguard report).

August 2007**07/360**

A diver conducted two dives in one day; the second was to about 15m. He then developed a tingling and numbness in his right hand. The Coastguard was alerted. (Coastguard report).

August 2007**07/169**

A trainee conducted a dive to 27m for 20 min. Later they conducted a drift dive to a maximum depth of 18m. During the dive the trainee became tired and out of breath and sank back down from 3m to the bottom. The trainee became panicked and put air into their BCD. The trainee's mask started to flood and caused them to gag and rush to the surface missing stops. Their dive duration was 20 min. At the surface the trainee was exhausted and coughing up fluid. The trainee's ears hurt and their hearing was muted. The trainee remained exhausted and began to feel dizzy. The Coastguard was alerted and the trainee was taken to a recompression facility for treatment. (Coastguard report).

August 2007**07/178**

A diver conducted a dive to a maximum depth of 28m using nitrox 36. He spent most of the dive at 25m and the last 10 min at 21m. He started his ascent at 41 min with 3 min of no stop time remaining. His total dive duration was 50 min. The following day he developed a dull ache in his right shoulder which he put down to a strain. Three days after the dive he experienced a tingling in his right hand and arm. His fingers were particularly sensitive to heat. He attended a recompression facility and was treated for DCI. This diver had

been recompressed 7 weeks earlier following two hard working dives. 2 years previously he had been diagnosed with and treated for a PFO, and had had a number of skin DCIs over a number of years. (Coastguard report).

August 2007**07/361**

A diver suffering from DCI was taken by ambulance to a recompression facility. (Coastguard report).

August 2007**07/170**

A diver conducted a 70 min trimix dive to a wreck at a depth of 55m. 4 hours later the diver again dived to 55m with a bottom time of 20 min and 35 min decompression. Two hours after the last dive the diver experienced a headache, abdominal pain, an abdominal rash, and numbness to their left index finger, thumb and top lip. Oxygen and fluids were administered and the diver was taken by ambulance and helicopter to a recompression facility. A spinal DCI was diagnosed. (Coastguard report).

August 2007**07/172**

A diver conducted a 45 min dive to a depth of 4m. After a 30 min surface interval he conducted a wreck dive to a depth of 27m. At 27m he lost control of his buoyancy and rose to 25m. He was able to re-gain some control and rose to 20m at which point he lost control again and made a rapid ascent to the surface. His dive duration was 15 min. The Coastguard was alerted and the diver was airlifted to a recompression facility. By the time he arrived he had a pain in his shoulder and delayed reflexes. (Coastguard report).

August 2007**07/177**

A diver conducted a wreck dive to a maximum depth of 37m. After 30 min he made a slow ascent including the required stops. He was recovered into the boat and, 10 min later, the finger tips of his right hand went cold and numb. He coughed a lot and developed a pain across the palm of his hand. He was placed on oxygen. After about 10 min the feeling in his hand returned to normal but he developed a migraine. He was taken off the oxygen for about 15 min and sat up. He felt sick and the numbness returned. He coughed a lot and his migraine got worse. He rested for the remainder of the day. That evening his migraine was better but his shoulder, back and joints were sore. He had a poor night's sleep. The following day he contacted a recompression facility and attended there for treatment for lymphatic DCI. This diver had been recompressed previously following a deep dive. (Coastguard report).

August 2007**07/175**

Two divers conducted a 24m dive. The dive duration was 24 min and it ended with a rapid ascent. One of the pair developed a pain between his shoulder blades. The Coastguard was alerted and the two were airlifted to a recompression facility for treatment.

August 2007**07/211**

The Coastguard was alerted when a diver made a rapid ascent. He developed symptoms of DCI and was airlifted to a recompression facility for treatment. (Media report).

August 2007**07/219**

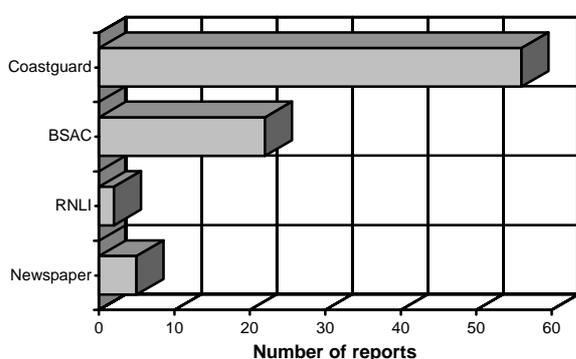
A diver completed a 42 min dive to a maximum depth of 30m. During this dive he felt negatively buoyant and so, for his second dive, 2 hours later, he removed 2 kg from his weights; he also used a smaller cylinder. His second dive was to a depth of 25m. During the ascent from this dive he became

buoyant at about 10m and was unable to prevent himself from rising rapidly to the surface. His dive duration was 39 min. Back in the boat he was placed on oxygen. 1 hour 30 min later he developed a pain in his upper left arm. The Coastguard was contacted and diving medical advice was sought. The diver attended a recompression facility for treatment. (Coastguard report).

August 2007 07/329

The Coastguard was alerted when a diver developed a pain in his shoulder and a numbness in his arm. He was airlifted to a recompression facility. (Coastguard report).

Decompression data source analysis



September 2007 07/218

Three divers conducted a dive to a maximum depth of 34m. After 25 min one of the three deployed a delayed SMB and they started their ascent. After a few metres one of the three looked down to see the diver with the SMB still on the bottom; he was having difficulty reeling in the line. As he was low on air the diver continued his ascent while the third diver descended to help the diver with the reel. The diver who was low on air left the bottom with 70 bar but used some of this up waiting for the diver with the SMB. With 50 bar remaining he started to have buoyancy problems at 17m and he ascended quickly to 5m. He then found that he had not dumped all the air from his BCD. He did this and then descended back down to 6m. He completed 10 min of a 15 min stop requirement. His computer went into error mode and he didn't know what his stop requirements were. The other two divers ascended to him and he continued to conduct stops with them. He then gave the ascend signal. The other divers responded with OK signals and he took this to mean that it was OK to ascend. He ascended to the surface then realised that the other two divers were still conducting decompression. They surfaced 20 min later. Back in the boat it was found that the diver had missed stops. The Coastguard was alerted. The diver developed a numbness in his hand and was airlifted to a recompression facility for treatment.

September 2007 07/368

The Coastguard was alerted when a diver developed a rash on his left shoulder. (Coastguard report).

September 2007 07/223

A diver conducted a 35 min dive to a maximum depth of 33m with a 3 min stop at 3m. After the dive she developed a pain in her shoulder. The Coastguard was alerted and the casualty was taken by lifeboat to a recompression facility for treatment for DCI. (Coastguard report).

September 2007 07/256

A diver conducted a 28 min dive to a maximum depth of 40m. 2 hours 36 min later she dived to 40m for 30 min. Following the second dive she felt very cold and, 2 hours after the dive, she noticed that the skin on her chest and back felt hot and itchy and she had a rash on her chest. She was placed on nitrox 60 and diving medical advice was sought. The Coastguard was alerted and the diver was taken by lifeboat to a recompression facility for treatment of skin DCI. Her condition was fully resolved.

September 2007 07/241

Three divers started down a shotline, during the descent they lost the line and reached the bottom at a depth of 28m. 20 min into the dive they deployed a delayed SMB and made their ascent including a 1 min safety stop at 6m. When they surfaced they could not see their boat. They inflated another SMB and dropped their weightbelts. The boat had another two pairs of divers in the water and recovering them took some time. It was then that they discovered that three divers were missing. The Coastguard was alerted and a helicopter was tasked to search. The helicopter located the divers and guided their boat to them. Later, once ashore, one of these divers reported pains in his legs. He was airlifted to a recompression facility for treatment for DCI. (Coastguard report).

September 2007 07/372

A diver reported to a recompression facility and was treated. (Coastguard report).

September 2007 07/264

A diver conducted a dive to a wreck in a maximum depth of 34m. Towards the end of his dive he deployed a delayed SMB to make his ascent. As the buoy ascended he let its buoyancy pull him upwards, briefly, to get him off the bottom. He then released the SMB reel again but realised that he was still ascending. He dumped air from his drysuit to stop his ascent. At 18m he checked his computer and found that the ascent rate was too fast; he continued to dump air. He reeled in the SMB line and then found that the buoy had deflated and sunk back down to him. He re-deployed the SMB and continued his ascent to the first indicated stop. He switched to nitrox 75, finished his decompression stops and surfaced. His dive duration was 75 min including 25 min of decompression stops at depths between 9 and 4m. Later that day he was helping to recover the boat onto its trailer when he started to feel dizzy. He had problems controlling his neck muscles and was sick. He was placed on oxygen and the Coastguard was alerted. He was airlifted to a recompression facility where he received three sessions of treatment for DCI.

September 2007 07/263

A diver conducted a series of two dives per day over a four day period. Her last dive was to a maximum depth of 37m and, after about 25 min, her buddy deployed a delayed SMB to make their ascent. There was a current running and the buoy line lay at an angle. The diver kept a loose contact with the line, letting go occasionally to dump air from her drysuit via a cuff dump. At 6m she let go again and attempted to dump air in order to conduct a 3 min safety stop. However, she was positively buoyant and made a slow ascent directly to the surface, missing the stop. The diver was advised to take oxygen but was told that if she did so the emergency services would be alerted and that an ambulance would be sent to assist. She was unwilling to take this course of action because she had not missed mandatory stops and had no symptoms. Later that day she undertook a second, shallow dive. That evening she developed symptoms of DCI and was taken to the local hospital and

placed on oxygen. The following day she was airlifted to a recompression facility for treatment. The diver suffers from rheumatoid arthritis and had experienced a previous DCI incident. It is thought that these factors, coupled with the fact that she conducted a number of consecutive dives, contributed to the incident.

September 2007 **07/373**

A diver reported to a recompression facility and was treated. (Coastguard report).

September 2007 **07/338**

A diver conducted a 40 min dive to a maximum depth of 32m with a 3 min safety stop at 3m. After the dive she developed an itchy rash on her upper arms and her back. The Coastguard was alerted and diving medical advice was sought. The diver was transferred by lifeboat to a recompression facility. (Coastguard report).

September 2007 **07/339**

A diver conducted a 47 min dive to 27m and then a second dive to 24m. After the dive the diver developed a rash on the arm.

The Coastguard was alerted and diving medical advice was sought. The diver was taken by lifeboat to a recompression facility. (Coastguard report).

September 2007 **07/260**

A diver conducted a 31 min dive to a depth of 30m with a 3 min stop at 6m and a 2 min stop at 3m. 10 min after the dive she developed a headache and looked pale. 10 min later the situation was unchanged, the diver was placed on oxygen and the Coastguard was alerted. 40 min after surfacing the diver developed 'pins and needles' in her right foot. The Coastguard was informed and the boat returned to harbour. When they reached shore the diver's right leg was feeling numb and she was taken by ambulance to a recompression facility where she was treated for DCI.

September 2007 **07/376**

A diver conducted a dive to 37m and a second dive to 35m. After the second dive the diver developed a shoulder pain. The Coastguard was alerted. (Coastguard report).

Injury / Illness

October 2006

07/199

A dive boat dropped a number of divers into the water to dive a wreck. The divers were requested to surface up a fixed shot and then to swim away from it so that they could be recovered. There was an RHIB tied to the shot buoy. One pair surfaced and signalled that they wanted to be picked up. Their boat came to pick them up but, due to the proximity of a harbour wall and the RHIB, it had to move away for another attempt. The divers were carried back towards the shot buoy. The dive boat returned and the divers held on to a line from the boat waiting to board. Again the boat had to move away and the divers were told to let go of the rope. They did so and the back of the boat swung over the divers. The moving propeller struck the leg of one of the divers and both were both pushed underwater. When they surfaced they were recovered into the RHIB and the skipper of this boat radioed their dive boat saying that he would take them quickly to the shore and asking that they recover his divers. The injured diver had cuts to the left leg of her drysuit and a severe pain in her right foot; her fins had been torn off. Once ashore she found extensive bruising to her left leg from foot to knee but no lacerations. She was taken to hospital for examination. At that time it was thought that there was no fracture. The following day she visited her local hospital where x rays revealed that she had suffered a broken right toe.

The pain faded and then increased over time. Early the following morning he awoke with 'pins and needles' in his right hand; he moved his hand, restored the circulation, and the sensation resolved. During the evening of the day following the dive the pain in his arm increased and he sought diving medical advice. He attended a recompression facility. Since the pain varied with wrist movement it was thought not to be DCI but he was given precautionary recompression treatment. The pain did not change and a tendon strain was confirmed.

October 2006

07/048

A trainee diver conducted two dives to a maximum depth of 7m. She was not aware of any problems during the dives. That evening blood was seen coming from one of her ears. She sought medical advice and damage to the ear was diagnosed. Fourteen years earlier she had had a skin graft in this ear to replace her ear drum; this fact was not made known to the dive organisers before the dive.

December 2006

07/050

An instructor and two trainees entered the water using a stride entry from a platform. They exchanged OK signals and descended. After 14 min they resurfaced with one of the trainees complaining of a loose fin. The fin buckle was found to be broken and the fin was replaced. The trainee had shown signs of buoyancy control problems and the instructor checked that he was happy to continue. They descended once more. 1 min later they resurfaced with the troubled trainee complaining of a pain in both ears. This trainee left the water while the other two divers continued their dive. The trainee with the ear problem reported that, during the second descent, he had experienced increasing pain in both ears with a sudden sharp pain in his right ear; he also felt slightly disorientated. After the dive the pain continued and he sought medical advice. A bruised ear drum was diagnosed.

October 2006

07/277

A diver complained of headaches and confusion following a dive to 30m, no medical treatment given. (Coastguard report).

December 2006

07/384

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

December 2006

07/018

A diver completed a 20 min dive to a depth of 22m. Later he felt unwell and dizzy. He was placed on oxygen, placed in a warm environment and given water. He recovered and no further action was taken.

November 2006

07/200

A diver conducted two dives to a maximum depth of 18m to practice controlled buoyant lifts from 18 to 10m. The following day she again engaged in controlled buoyant lift drills from 18 to 9m and then an alternative air source drill to 5m where she made a 3 min safety stop. Her dive duration was 16 min. During the second lift she felt lightheaded for a few seconds. After an interval of 1 hour 38 min she dived to a maximum depth of 17m for 26 min. The following day she awoke with a numbness and sensitivity around her right eye, with the eye being very sore. She sought advice from a recompression facility and attended for examination. No DCI was confirmed but the diver was given a precautionary recompression treatment. After the treatment the symptoms had improved but a second treatment was felt unnecessary. It was thought that the problem could be sinusitis or a nerve problem. She was following up treatment with her doctor.

December 2006

07/019

A diver under training was standing on a landing stage preparing to enter the water. He bent over to wash his mask out. He slipped and fell, hurting his right ankle. He was taken by ambulance to hospital, however, no fractures were found and he was discharged later that day.

November 2006

07/049

A diver conducted a 38 min dive to a maximum depth of 46m with a 3 min safety stop at 6m. 2 hours 16 min later he dived to 33m for 35 min with a 3 min safety stop at 6m. 21 hours 59 min later he dived to 26m for 64 min with a 22 min stop at 6m. About 90 min later he noticed a pain in his right forearm. He put this pain down to muscular strain from lifting heavy diving equipment.

February 2007

07/034

Two divers conducted a 27 min dive to a maximum depth of 20m including a 5 min stop at 5m. Immediately after the dive one of the pair lost coordination and control of her arms and legs; she could not stand. She was placed on oxygen and the emergency services were called. She quickly recovered. She was examined by paramedics and, in consultation with a recompression facility, it was decided that no further action was required. It is thought that she had suffered from hypothermia; her undersuit was not very thick.

March 2007

07/037

Two divers conducted a 50 min dive to a depth of 24m. 90 min later they dived again. One of the pair was using a rebreather. After 2 min, at a depth of 6m, the rebreather diver felt unwell and changed to his bale out cylinder which contained trimix 10/50. The problem persisted. His buddy realised that there was a problem and brought him to the surface. At the surface the troubled diver had stopped breathing. The alarm was raised and

the diver was removed from the water. The emergency services were alerted and the casualty was placed on oxygen. He quickly recovered and he was taken to hospital for examination. He was discharged later the same day.

March 2007 **07/055**

A trainee and an instructor entered the water and commenced a dive. They carried out buoyancy checks at 3 and 6m. The trainee needed more weight and they surfaced after 9 min to resolve this problem. When they dived again their computers indicated a second dive. This dive was to 8m for 13 min. 2 hours 7 min later they made a further dive. During this dive they descended to 16m for 2 min then continued at a maximum depth of 12m. 15 min into the dive the trainee became buoyant and rose to a depth of 7m before he was able to regain control. He re-descended to 12m and continued the dive. At the end of the dive they made a slow ascent to 6m for a 1 min safety stop and then to 3m for a 3 min safety stop before surfacing. Later that afternoon the trainee began to feel 'pins and needles' in his left hand and forearm. This symptom progressed to include his right hand and forearm. The diver thought that this was due to an old injury that had been aggravated by the dives. During the evening of the following day he noticed some chest discomfort which he put down to eating spicy food. The symptoms persisted and the following evening the diver sought medical advice. Tests were conducted and it was concluded that the problems were unlikely to be diving related. Three days later the diver still had the symptoms although they were less intense.

March 2007 **07/058**

Two divers were walking down some steps towards their dive entry point. One of the pair slipped and sustained a suspected broken ankle. He was taken to hospital for treatment.

April 2007 **07/061**

A diver conducted a series of dives over a three day period. On day two he dived to 37m for 34 min with a 4 min stop at 6m. 4 hours 50 min later he dived to 17m for 53 min with a 3 min stop at 6m. 17 hours later, on day three, he dived to 43m for 80 min including a 35 min stop at 3m. After these dives the diver made a ferry journey and then started his drive home. That evening, on the way home, he noticed a pain in his left shoulder and, shortly afterwards, in his right shoulder too. He breathed oxygen and sought medical advice by phone. He went with his buddy to hospital and was transported to a recompression facility. He and his buddy were given recompression treatment. During this treatment the pain fluctuated but did not ease. Some time later he was given a second session of recompression treatment with the same result. A neck injury was diagnosed and not DCI. He was given painkillers and kept in hospital overnight. The following morning the pain had gone.

April 2007 **07/091**

A diver conducted a dive to 16m for 45 min. After a surface interval of 3 hours 30 min he dived, with a buddy, to 15m and undertook a drift dive which took them to a maximum depth of 19m. During this dive the buddy had problems with a surface current pulling on the marker buoy. After a while they heard their RHIB and felt a tugging on the line. The first diver took the reel and they started their ascent. At 6m they stopped for a 3 min safety stop. However the SMB line was not vertical as it was still being pulled by the surface current; this made it difficult for the diver to maintain his depth control. His depth fluctuated between 3 and 8m. The diver became increasingly concerned that there might be a problem in the boat and began to experience ear problems. After 3 min the diver indicated to his buddy that all was not well and they surfaced. At the surface the diver immediately experienced a bad headache; he informed his buddy and they were recovered into the boat. The diver was

placed on oxygen and they returned to the shore. Once ashore he sought medical advice and was driven to a recompression facility for treatment. (Coastguard report).

April 2007 **07/068**

A diver was climbing down a ladder to get to the access point for a quarry dive. She fell from the ladder and dropped head first onto rocks from a height of 4m. A mountain rescue team recovered her to a point where she could be airlifted to hospital. She suffered a fractured skull and vertebrae.

April 2007 **07/072**

A diver was engaged in a drysuit training course. The group started its descent and at about 3m the diver felt breathless and returned to the surface. He settled down and re-descended. At about 19m he felt breathless again and signalled that he wanted to ascend. The instructor brought him to the surface, making an ineffective attempt to complete a safety stop on the way. At the surface the instructor ditched the trainee's weightbelt. It is thought that the weightbelt narrowly missed another diver who was below them. This diver brought the belt back to the surface. The troubled diver was placed on oxygen but no subsequent ill effects were experienced.

April 2007 **07/075**

Two divers conducted a dive to a maximum depth of 20m. One was using a rebreather and the other an open circuit air system. They spent 15 min at about 6m and then descended to 20m. After a dive time of 24 min they started to re-ascend. As they did so the rebreather diver began to feel short of breath; he thought that this was due to the cold water. At 6m he felt more out of breath. He checked his oxygen partial pressure and it was correct. The condition worsened and he attempted to use his buddy's octopus regulator and then rose quickly to the surface. His dive duration was 28 min. At the surface he inflated his BCD, closed the rebreather loop and lay back gasping for air. Two other divers assisted him from the water. His buddy surfaced safely a few min later. The rebreather diver believes that he suffered from hypercapnia. The rebreather scrubber had not been changed for 5 weeks although it had only been used for 1 hour. He suffered no subsequent ill effects. (07/065 relates).

April 2007 **07/076**

A trainee made a stride entry into a swimming pool, holding his regulator and mask correctly, as instructed. As he entered the water he felt a knock to his teeth, but there was no apparent injury and he continued training. The following day he began to feel unwell, he slept during the afternoon and awoke feeling cold and shaking. He ate a meal but immediately vomited it back again. He continued to feel unwell and four days later he saw a doctor. The top of his mouth and gums were covered in ulcers. Two days later he saw his own doctor; a viral infection was diagnosed and he was given antibiotics. His top teeth are bridged and he visited his dentist for a check; no damage was found. It is thought that the regulator may have cut his mouth allowing an infection to set in.

April 2007 **07/077**

A diver conducted a 31 min dive to a maximum depth of 11m. 6 hours 15 min later he dived to 6m for 36 min. After this dive he felt dizzy and nauseous. He drank some water then vomited repeatedly; some of the vomit was bloody. Diving medical advice was sought and he was taken to hospital. He was placed on oxygen and a full medical examination was conducted. No treatment was found to be necessary. The diver suffers from migraine with aura. He had previously tested negatively for a PFO but intended to have the test repeated.

May 2007**07/100**

Two divers had completed a dive to 17m for 20 min including a 3 min stop at 6m. The shotline on which they were ascending was 30m long in a depth of 20m. As the line was slack the divers were not underneath the shot buoy. When the divers were at a depth of 1m the boat drifted back over them. The cox did not realise that the divers were there and restarted the engine. Despite the buddy's attempts to assist, the propeller hit one of the divers' head. Back on the boat the injury was examined and, once ashore, the diver was taken to hospital. The wound was treated with stitches and glue.

airlifted to shore where he was met by a diving doctor. After a full examination the casualty was released with suspected indigestion.

June 2007**07/119**

A diver lost consciousness on the seabed at a depth of 20m. Her buddy brought her to the surface. She was taken back to the shore where she regained consciousness. She was then taken by ambulance to hospital. A lifeboat and a helicopter were also tasked to assist. (Coastguard & RNLI reports).

May 2007**07/102**

A diver entered the water and descended a shotline. He equalised his ears at 2 to 3m. He tried again at around 5m; his right ear cleared but his left ear was painful at first. He tried again at about 8m and again his left ear was painful. He ascended a little to try to resolve the problem and then descended to about 11m. His left ear was still a problem so he aborted the dive and surfaced. His left ear continued to give trouble; it felt as if it was pressurised from the inside. He was seen by a medical specialist and diagnosed with a perforated eardrum.

June 2007**07/202**

A boat with twin propellers was manoeuvring towards a wreck marker buoy. Two divers jumped into the water ahead of a signal from the skipper. The engines were cut but not before one of the divers had been dragged onto one of the propellers by his BCD. Other divers entered the water but the diver managed to cut himself free, cutting himself in the process. He was recovered into the boat. The Coastguard was alerted and the boat returned to shore. The diver's injuries were not serious and he reported to hospital for treatment.

May 2007**07/084**

A trainee was practicing an emergency ascent from a depth of 6m. At the surface she attempted to orally inflate her BCD as part of the training drill. She began to panic; the instructor attempted to assist but the trainee inhaled water and panicked more. She was removed from the water and placed on oxygen. Initially she recovered well but 2 hours 30 min later she began to panic again. She was taken by ambulance to hospital.

June 2007**07/112**

A diver made his first dive of the year to a depth of 24m for 30 min using nitrox 32. The following day he dived to a wreck in a maximum depth of 34m. He expected to find the shot on the wreck at about 24m and became unnerved when he found himself at 34m. He began to panic and to hyperventilate. His buddy assisted him to make a normal ascent to the surface. The diver experienced difficulties getting back onto the boat. Once aboard he seemed to be in distress, his nose was bleeding, and he stopped breathing for a while but remained conscious. He was placed on oxygen and the Coastguard was alerted. He was airlifted to a recompression facility but recompression treatment was not deemed necessary.

June 2007**07/190**

Two divers were launching an RHIB from a trailer on a slipway. They untied the rope securing the boat to the trailer and tried to unhook the winch hook from the boat. The winch line was too tight so they unwound the winch to provide some slack. They were still unable to unhook the clip as it fouled the rollers on the winch support so they pushed the boat a short distance to clear the rollers. This caused the handle of the winch to spin round and it struck one of the pair in the eye. The casualty was taken to hospital and from there to a specialist eye unit. After some checks he was returned to hospital from where he was finally released.

June 2007**07/347**

The Coastguard was alerted when a diver began to feel unwell after swallowing some water. Once ashore the diver was taken to a doctor. (Coastguard report).

June 2007**07/114**

A diver was engaged in a series of dives over a 5 day period. He conducted one dive on day one, then missed two days because of bad weather. On day four he undertook two dives. On the last day he dived to 28m for 40 min with a 5 min stop plus an additional 3 min safety stop at 6m. Then 1 hour 44 min later he dived to 20m for 53 min with a 4 min stop plus an additional 3 min safety stop, at 6m. Back on the boat the diver complained of 'pins and needles' in his left foot. He was placed on oxygen and the Coastguard was alerted. The symptoms subsided but then returned to his hands and fingers, chest and stomach. The diver became distressed. The boat returned to harbour and was met by an ambulance which took him to a recompression facility. On arrival his symptoms had resolved but he was given precautionary recompression treatment. It was finally concluded that DCI was unlikely. It is thought that tiredness and dehydration may have been contributing factors.

June 2007**07/348**

The Coastguard was alerted when a diver surfaced and was placed on oxygen. A helicopter was tasked to assist but no further action was found necessary. (Coastguard report).

June 2007**07/110**

A 66 year old diver completed a 40 min dive to a depth of 35m. After surfacing he complained of chest pains. The Coastguard was alerted and medical advice was sought. The diver was

June 2007**07/135**

A diver surfaced beside an SMB and seemed to be in distress. A line was thrown to her from a boat but she made no attempt to take hold of it. Another diver entered the water to assist but he did not make any attempt open her airway. The casualty was frothing from the mouth and her lips were turning blue. A member of the dive boat's crew jumped into the water to assist; this crew member was not wearing any protective clothing. The crew member took hold of the diver and turned her face up; she then gave five rescue breaths. She tried to inflate the casualty's BCD and suit but there was no air so she orally inflated the casualty's BCD. Once buoyancy had been achieved she dropped the casualty's weightbelt. The boat's skipper attempted to pick them up but sea and wind conditions plus other divers on the surface prevented this. Another boat came to assist and a line was clipped to a D ring on the casualty's equipment. She was lifted by this line but the clip broke and she fell back into the water. A second attempt was successful. The rescuer then boarded the boat and gave further rescue breaths. CPR was started and after four cycles the casualty started to breathe without assistance. She was placed on oxygen. The boat

returned to shore and a lifeboat assisted. The casualty was taken to hospital and made a full recovery.

June 2007

07/191

A dive boat, which had just finished its diving, was hailed by another dive boat in the area. This other boat contained a diver who was unwell. The first boat offered to take the unwell diver to shore. The Coastguard was alerted and the unwell diver was taken ashore to be met by an ambulance. She was given fluids en route. It was a very warm day and the diver, who had not been in the water, was found to be suffering from dehydration and seasickness.

June 2007

07/310

Two divers completed a dive to a maximum depth of 42m. After the dive they began to feel unwell. The Coastguard was alerted and the divers were taken by lifeboat to a recompression facility for a check up and from there they were taken to hospital for observation. (Coastguard & RNLI reports).

June 2007

07/408

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

June 2007

07/192

A trainee diver conducted a 33 min dive to 11m. 4 hours 13 min later she dived to 14m for 29 min. After this dive she complained of a sore right elbow. When the boat returned to shore the diver was feeling better although the soreness was still present. Medical advice was sought and a muscular strain was diagnosed. She was advised to re-hydrate.

June 2007

07/139

A pair of divers conducted a 19 min dive to 21m with a 3 min safety stop at 6m. 5 min after this dive they dived to 6m for 26 min to practice diving skills. After this second dive one of the pair began to feel unwell and an ambulance was called. The casualty vomited and became unresponsive at times. She was taken by ambulance to hospital.

July 2007

07/252

A diver conducted a 60 min dive to a maximum depth of 36m including a 2 min stop at 9m and a 6 min stop at 6m. About 1 hour later the diver started to feel dizzy. He lost all sense of balance and had to lie down. Diving medical advice was sought. The diver was placed on oxygen and taken to hospital. From hospital he was taken to a recompression facility where he received three sessions of treatment. His symptoms did not change and it was suggested that he had suffered a middle ear barotrauma as a result of an existing ear infection, although the diver was unaware of this infection. He made a full recovery.

July 2007

07/312

A diver conducted a 44 min dive to a depth of 27m. 2 hours 25 min later he dived to 33m. As he entered the water for the second dive he hurt his back. When he left the water from the second dive he twisted himself and the pain in his neck increased. The Coastguard was alerted and diving medical advice was sought. The diver was taken to a recompression facility but no symptoms of DCI were found. The diver was transferred to hospital for observation. (Coastguard report).

July 2007

07/152

A pair of divers were diving in a quarry. They became disorientated and moved into deeper, darker, colder water. One of the pair became tangled in his SMB line and whilst trying to

sort this out they sank into deeper water. Their actions stirred up the silt and the visibility dropped to near zero. One of the pair panicked and made an emergency ascent to the surface. He arrived at the surface unconscious with his regulator out and his mask off. His buddy had tried to hold him but he too began to panic and also made a rapid ascent to the surface. At the surface the buddy shouted for help. The unconscious diver did not seem to be breathing but the buddy was too distressed and had chest pains that prevented him from helping. The pair were recovered to the side of the quarry. The unconscious diver was resuscitated and the pair were taken to a recompression facility for treatment. (Coastguard report).

July 2007

07/234

An instructor took three trainees to a depth of 15m to carry out mask clearing drills. One of the students breathed water up her nose and started to cough; her mask was on but not fully cleared. The trainee began to panic and the instructor took hold of her to calm her. She again inhaled water and the instructor used a controlled buoyant lift to bring her to the surface; the other trainees followed. The instructor towed the trainee to the side and she left the water. She was placed on oxygen and the emergency services were alerted. Initially a helicopter was tasked but then stood down. The trainee was taken by ambulance to hospital. She was discharged the same day and given antibiotics.

July 2007

07/355

A diver developed chest pain and a sore muscle at the back of his shoulder having completed two dives two days previously. The Coastguard was alerted and the diver was brought ashore. (Coastguard report).

July 2007

07/356

After a dive to 12m a diver developed chest pain and began coughing up blood. The Coastguard was alerted and he was brought ashore. (Coastguard report).

July 2007

07/162

A diver using a modified rebreather surfaced rapidly from a depth of 16m, leaving his rebreather on the seabed. He surfaced under an RHIB and struck his head on the hull, knocking himself out and severely injuring his head. He was recovered into the boat and the Coastguard was alerted. The casualty was airlifted to hospital. He was given precautionary recompression treatment.

July 2007

07/415

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

July 2007

07/167

A trainee conducted three ascents from 5m practicing alternative air source drills and then dived to a maximum depth of 13m for 34 min. 2 hours 20 min later he dived to 20m. He spent 2 min at this depth and then ascended slowly up a wall to a depth of 6m. He then made two ascents from 6m practicing further drills. On surfacing from the last ascent the trainee complained of a pain in his left ear. The pain worsened and the divers left the water. Once out of the water a small amount of blood was seen coming from the diver's ear. He sought medical advice and a perforated eardrum was diagnosed.

July 2007

07/235

An instructor and two trainees were engaged in navigation and delayed SMB deployment training. The three conducted their planned compass swims to a maximum depth of 21m. One of

the trainees used her air faster than expected. All three deployed their delayed SMBs and they started their ascent. The trainee who was lowest on air had problems winding her reel in as it was very small in size. The instructor swapped reels with her. This trainee then lost a fin; the other trainee saw it go and caught it. The instructor refitted the fin. Their ascent was slow and at 15m the trainee indicated that she had run out of air. The instructor gave the trainee her octopus regulator and took hold of her. The trainee took the regulator into her mouth but breathed an air-water mixture and so she spat it out. The instructor gave her the regulator again but again she spat it out. The trainee tried to struggle free but the instructor kept hold of her. They sank back to the bottom and the trainee became unresponsive. The instructor and the other trainee took hold of her and swam to the surface. At the surface the other trainee shouted for help and helped the instructor to drop the casualty's weightbelt. The casualty was unconscious and not breathing. The instructor gave her rescue breaths. She was recovered into a boat and brought to the shore. The casualty was placed on oxygen and she recovered consciousness. A helicopter and an ambulance were called but the casualty elected not to go to hospital.

July 2007 **07/417**

Lifeboat launched to assist injured diver. (RNLI report).

August 2007 **07/236**

A diver conducted a 26 min dive to a depth of 21m. 90 min later he dived to 21m for 38 min. He dived on air but used trimix 18/37 between 20 and 10m on the second dive. An hour after the second dive he began to feel unwell. He was placed on oxygen and was sick twice. Diving medical advice was sought and he was told to continue to monitor for other symptoms. These were the diver's first dives after being recompressed six months earlier.

August 2007 **07/319**

A diver conducted a 20 min dive to 17m and a 25 min dive to 20m. The following day he dived to 24m for 28 min and then 28m for 28 min. After this last dive he felt a pressure on his chest and had difficulty breathing. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression facility. It is not thought that the diver had DCI. (Coastguard report).

August 2007 **07/325**

A diver conducted a 50 min dive to a maximum depth of 10m. At the end of his dive he made a rapid ascent. The diver injured his hand and the Coastguard was alerted. The boat returned to shore and the diver was treated at the scene by the ambulance crew. (Coastguard report).

August 2007 **07/210**

A trainee diver undertook a short dive to a maximum depth of 14m. At about 4m he experienced some discomfort in his right ear which felt like a 'bubbling sensation'. When the diver removed his hood a small amount of blood was seen coming from his right ear. Medical advice was sought and a burst eardrum was diagnosed. It is thought that a large amount of wax in the diver's ear had caused a reversed ear.

August 2007 **07/238**

A diver was participating in a deep diving course. At 25m the diver started to ascend and at 22m signalled that he wanted to go up. This diver then started to remove his equipment. The instructor took control and brought the diver to the surface with a controlled buoyant lift. The diver was placed on oxygen but experienced no subsequent ill effects. He stated that he had not

had much sleep the night before. It is thought that narcosis played a part in this incident.

August 2007 **07/261**

Two divers completed a wreck dive and surfaced using the shotline. At the surface they moved away from the shotline to allow the boat to recover them. The boat approached them at speed and was rolling in the swell. One of the pair was able to grab hold of the boat's ladder and she started to climb. The other diver was hit on the shoulder by the ladder, as the boat rolled, and she was pushed underwater. The injured diver was able to climb the ladder onto the boat. She was assisted to remove her kit. She was extremely distressed, hyperventilating, shaking and crying. Her shoulder was found to have been bruised.

August 2007 **07/227**

A diver conducted a 38 min dive to a depth of 37m with a 12 min stop at 4m. 1 hour 20 min later he dived to 6m for 31 min. About 3 hours after this dive he experienced a slight pain in his left forearm muscle. The following morning he had a dull ache in his left elbow and it was painful when bent. He sought medical advice and was taken, on oxygen, to a recompression facility for treatment. Recompression treatment did not change the symptoms and it was concluded that he had suffered a muscle injury not DCI. Two days after the dive his elbow was almost back to normal.

August 2007 **07/213**

A diver conducted a 29 min dive to a depth of 35m. 1 hour 42 min later she dived to 20m for 41 min. 1 hour 45 min later she made a third dive to 20m. 10 min into this dive she ran out of air. She made a fast free ascent to the surface. It is thought that she took in some water during this ascent. The diver was placed on oxygen and diving medical advice was sought. The diver was taken to hospital for treatment for suspected lung damage. The diver had run out of air because she had entered the water using her pony regulator by mistake.

August 2007 **07/366**

The Coastguard was alerted when a diver became ill. He was taken to hospital and kept under observation. (Coastguard report).

September 2007 **07/215**

A diver used a lift to get back into a dive boat at the end of her dive. Sea conditions were rough and as she stepped off the lift she grabbed for a rope, missed it, her leg slipped and she fell twisting and injuring one of her knees severely. The heavy diving equipment that she was using made the injury worse. She was taken to hospital for treatment.

September 2007 **07/230**

A trainee diver conducted a stride entry from a harbour wall. During the jump he let go of his mask, spare regulator and gauges that he had been holding. As he hit the water either the spare regulator or one of his gauges hit his chin causing a cut. The injury was not noticed at first but was subsequently identified during the dive. After the dive the trainee sought medical attention for the cut. The following day the trainee reported an ear pain. An ear infection was diagnosed.

September 2007 **07/221**

A diver conducted a dive with two others. He became separated from them and surfaced in an area busy with boat traffic. He struck his head on the hull of an RHIB and became unconscious.

He was recovered into this boat and the Coastguard was alerted. The diver regained consciousness and was airlifted to hospital for treatment.

September 2007**07/262**

An instructor prepared his rebreather for a planned dive to a depth of 30m. The scrubber canister had been recently refilled and had been used on two previous dives of 30 min duration each to a maximum depth of 10m. On entering the water he suffered a significant flooding of his drysuit. He pulled on the front entry zip to check that it was closed. His respiration rate became very fast and he thought that he might be suffering from hypercapnia. He switched to his bale out cylinder. This regulator appeared to free flow and he was unable to get enough air from it. He gave the distress signal, his buddy inflated his BCD, and he was recovered into the boat. His respiration rate was still very fast and he was placed on oxygen. The Coastguard was alerted. Once ashore he was taken to a recompression facility; he was not recompressed and was discharged 1 hour later. Subsequent examination found no problem with the rebreather.

September 2007**07/336**

A diver conducted a 25 min dive to a maximum depth of 18m with a 3 min stop at 5m. After the dive he complained of a tightness in his chest, difficulty breathing and he coughed up blood. The diver was brought back to the shore and the Coastguard was alerted. The diver was taken by ambulance to hospital. (Coastguard report).

September 2007**07/245**

A trainee diver conducted a 40 min dive to a maximum depth of 4m. She did not wear a hood as she found it claustrophobic. After the dive she developed a headache. She was given fluids and her headache started to ease.

September 2007**07/265**

A diver conducted a dive to a maximum depth of 35m. He equalised his ears normally at about 6m and 10m. He experienced some discomfort but felt that his ears had cleared. At 20m he felt that his hood was too tight and then had an intense pain in his left ear. After about 10 seconds the pain went and he completed a dive of 33 min duration with a 1 min stop at 9m and a 5 min stop at 6m. After the dive blood was seen to be coming from his ear and there was blood in his mask. The Coastguard was alerted and diving medical advice was sought. He made no further dives that day and visited his doctor for further attention.

September 2007**07/247**

A dive boat was returning to harbour after a day's diving. One of

the divers caught her foot on a hose and felt heavily, landing on her right knee and hand, and hitting her face on the steel decking. The Coastguard was alerted and, once ashore, the diver was taken by ambulance to hospital. She was treated for a fractured right wrist, a broken nose and various cuts and bruises.

September 2007**07/266**

Two pairs of divers conducted a drift dive in a maximum depth of 28m. One of the divers had forgotten his ankle weights and, whilst trying to deploy a delayed SMB, he became inverted. Both his fins came off and he was not able to right himself. His buddy attempted to assist him but he remained inverted. The other pair of divers passed close and saw that there was a problem. One of these divers came to assist and found that the inverted diver was unresponsive, apparently unconscious. The inverted diver's mask was flooded but he retained his regulator, although, as he was inverted, he was struggling to get enough air and it is thought that he swallowed water. The assisting diver from the other pair managed to right the troubled diver and he brought him to the surface using a controlled buoyant lift. The troubled diver's buddy surfaced with them and the rescuing diver's buddy deployed a delayed SMB and made her own ascent. At the surface the rescuing diver gave a distress signal and the troubled diver was recovered into the boat. His total dive duration was 9 min. He was placed on oxygen and the Coastguard was alerted. The casualty, his buddy and the rescuer were airlifted to hospital. The casualty was given a number of tests and released later that evening.

September 2007**07/367**

Two divers dived to 40m. One of the divers panicked and made for the surface; his buddy followed. At the surface the panicked diver was found to have blueness of the lips, froth coming from his mouth, he had breathing difficulties and he was semiconscious. Their dive duration was 7 min. They were recovered from the water and the panicked diver was placed on oxygen. The diver had swallowed a lot of water. His buddy developed a headache. The Coastguard was alerted and the divers were taken by helicopter and ambulance to hospital. (Coastguard report).

September 2007**07/249**

Two divers conducted a 43 min dive to a maximum depth of 28m with a 3 min safety stop at 5m. 3 hours 30 min later they dived to 20m for 43 min with a 3 min safety stop. An hour after this dive one of the pair started to feel unwell and was sick. He was placed on oxygen and the emergency services were alerted. The diver was taken to hospital for tests.



Boating & Surface Incidents

October 2006 **07/233**

Two divers conducted a dive to a maximum depth of 31m. They deployed a delayed SMB, from a depth of 28m, to make their ascent. They were conducting decompression stops at a depth of 6m when their boat ran over the SMB, pulling the line. The diver released line and then wound it in again as the boat moved away. 8 min later the boat again ran over the SMB; this time it caught on the boat's ladder and the diver was forced to let go of the reel. The divers were safely recovered into the boat.

October 2006 **07/273**

Portland Coastguard was alerted by a member of the public to a diver adrift from a diving vessel, Portland Coastguard and rescue helicopter R-WB responded. The diver was recovered by the helicopter. (Coastguard report).

October 2006 **07/272**

A member of the public called Portland Coastguard on a 999 call reporting seeing two divers adrift. At approx the same time a dive vessel called 'Mayday' informing the Coastguard that they had two divers missing. With the aid of the member of the public and Portland Coastguard rescue team, Rescue helicopter R-WB was able to locate the two divers and return them to the parent vessel. (Coastguard report).

October 2006 **07/378**

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

October 2006 **07/379**

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

November 2006 **07/280**

Belfast Coastguard coordinated the recovery of a broken down dive RHIB with four persons onboard. Belfast Coastguard tasked Bangor Lifeboat to tow the stricken vessel ashore. (Coastguard report).

November 2006 **07/383**

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

December 2006 **07/385**

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

December 2006 **07/386**

Lifeboat launched to assist dive boat with fouled propeller. (RNLI report).

February 2007 **07/387**

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

March 2007 **07/388**

Lifeboat launched to assist dive boat with engine problems.

(RNLI report).

April 2007 **07/288**

The Coastguard was alerted when a dive boat broke down with two divers in the water. A fishing vessel recovered the two divers and another boat towed the disabled dive boat back to harbour. (Coastguard report).

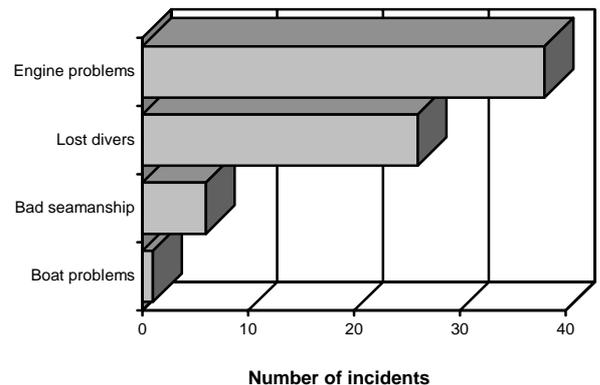
April 2007 **07/390**

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

April 2007 **07/290**

The Coastguard was alerted when a dive boat broke its driveshaft when returning from a dive. The boat crew managed to secure the boat to a navigational buoy. A police launch towed the RHIB back to harbour. (Coastguard report).

Analysis of boating & surface incidents



April 2007 **07/391**

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

April 2007 **07/090**

The Coastguard was alerted when an RHIB broke down with three divers in the water. A lifeboat was tasked to assist. The boat and all divers were safely recovered to the shore. (Coastguard & RNLI reports).

April 2007 **07/291**

A dive boat alerted the Coastguard when two divers became overdue from their dive. It was foggy and a lifeboat was tasked to search. The divers were recovered by their own boat about 40 min later. (Coastguard & RNLI reports).

April 2007 **07/293**

The Coastguard was alerted when the crew of a dive boat were

unable to re-start the engine with a diver in the water. A lifeboat was tasked to assist and they recovered the diver and returned him to the boat. He was able to re-start the engine and they returned to shore. It is thought that inexperience had led to flooding of the engine. (Coastguard report).

April 2007 **07/392**
Lifeboat launched to assist dive boat with engine problems. (RNLI report).

May 2007 **07/393**
Two lifeboats assisted in the search for missing diver(s). (RNLI report).

May 2007 **07/342**
A lifeboat recovered a diver who had been swept away by the tide. He was returned to the shore. No medical attention required. (Coastguard & RNLI reports).

May 2007 **07/395**
Lifeboat assisted in the search for missing diver(s). (RNLI report).

May 2007 **07/096**
Three divers entered the water from an RHIB. The single crew in the RHIB realised that the boat was drifting away from the divers' SMB and she attempted to start the engine. She repeatedly pulled on the start cord but the engine would not start. During these attempts she lost her glasses overboard. She became panicked and was unable to use the radio. She attracted the attention of a passing yacht by waving a flag. They came to her aid. They alerted the Coastguard and a helicopter and two lifeboats were tasked to assist. The yacht took the RHIB in tow and then recovered the divers who had been located by the helicopter. The yacht then brought boat and divers safely to the shore. (Coastguard report).

May 2007 **07/095**
A dive boat placed five pairs of divers on a wreck in a maximum depth of 24m. Their plan was to spend some time on the wreck and then to drift off the wreck for the rest of the dive. The divers planned to deploy delayed SMBs when they started the drift. A diver from one pair abandoned his dive during the descent as he was concerned about his weighting. He left the water and reported that his buddy had continued his descent to join another pair that had descended before him. Unknown to those at the surface this diver failed to find the other pair and continued his dive alone. The surface party were now expecting to see four delayed SMBs. They followed the four SMBs but as the divers surfaced they discovered that one SMB had a single diver under it, not the expected trio. The missing pair could not be seen. The Coastguard was alerted and a helicopter was tasked to search. The boat recovered the divers and continued down stream. The missing pair were then spotted and safely recovered. They had been at the surface for about 30 min. They had deployed a delayed SMB but it had not inflated correctly and was not spotted by the boat. (Coastguard report).

May 2007 **07/187**
A dive boat dropped a pair of divers in the water. The divers were carrying an SMB. 19 min later a second pair entered the water to carry out training drills. First they practiced lifting the shot and then controlled buoyant lift drills. While recovering the shot, the boat crew lost sight of the first pair's SMB. They recovered the second pair of divers and a surface search was

initiated involving other boats. The dive boat's radio was faulty and they could not transmit. Another craft alerted the Coastguard. The lost divers managed to attract the attention of a passing yacht which in turn directed the rescue craft to them. No subsequent ill effects were reported.

May 2007 **07/397**
Lifeboat launched to assist dive boat that was out of fuel. (RNLI report).

May 2007 **07/400**
Lifeboat launched to search for missing diver(s). (RNLI report).

May 2007 **07/399**
Lifeboat launched to assist dive boat with engine problems. (RNLI report).

May 2007 **07/301**
The Coastguard was alerted when a diver was found to be missing. During the call the diver was located and recovered. An ambulance attended. The missing diver suffered no ill effects. (Coastguard report).

May 2007 **07/109**
Two divers were engaged in a shore dive. One diver was able to make it back to the shore but heavy breakers prevented the other diver from doing so. The diver who made it to the shore rang the Coastguard on his mobile phone. The Coastguard tasked a lifeboat and helicopter to assist. The diver was airlifted to the shore and the lifeboat recovered equipment that he had dumped. No subsequent ill effects were experienced. (Coastguard & RNLI reports).

June 2007 **07/401**
Two lifeboats launched to assist dive boat with engine problems. (RNLI report).

June 2007 **07/402**
Lifeboat launched to assist dive boat with engine problems. (RNLI report).

June 2007 **07/403**
Two lifeboats launched to assist dive boat with engine problems. (RNLI report).

June 2007 **07/303**
The Coastguard was alerted when a dive boat broke down in foggy conditions. The boat had suffered a fuel blockage due to lack of servicing. Another boat assisted and towed the disabled craft back to harbour. (Coastguard report).

June 2007 **07/404**
Lifeboat launched to assist dive boat with engine problems. (RNLI report).

June 2007 **07/305**
The Coastguard was alerted when a solo diver did not surface at the time expected. A search was initiated involving a helicopter, a lifeboat, a ferry and other craft. The diver was found about 30 min later by a fishing vessel into which he was recovered safe and well. (Coastguard report).

June 2007 07/123
 The Coastguard was alerted when a dive boat broke down with six divers in the water and two on the shore. A lifeboat and coast rescue team were tasked to assist. The lifeboat recovered ten divers and towed the boat back the shore. (Coastguard report).

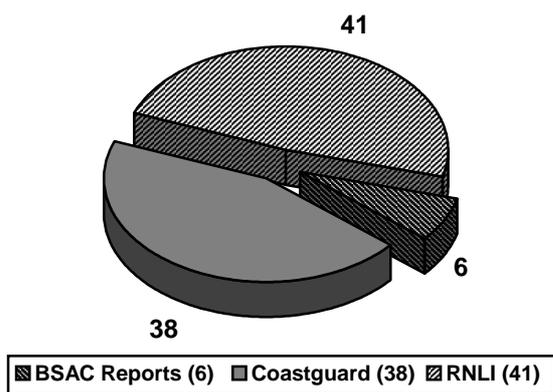
June 2007 07/306
 The Coastguard was alerted when a dive boat suffered an engine failure. Another vessel towed the disabled boat back to harbour. (Coastguard report).

June 2007 07/107
 Filling restrictions at a fuel station prevented the auxiliary tank of an RHIB from being fully filled. The cox felt that there was enough fuel for the planned dive. However, one diver later became seasick resulting in the divers diving in three waves rather than the planned two. The divers also spent some time searching for a lost shotline. When they started their final return journey the sea state worsened and they had to travel against wind and tide. The slave tank ran out during the return journey and the main tank also ran dry when they were 0.5 miles from the harbour. They anchored the boat and alerted the Coastguard. A lifeboat was tasked to bring them to the shore.

June 2007 07/409
 Lifeboat launched to assist dive boat with engine problems. (RNLI report).

July 2007 07/411
 Lifeboat assisted in the search for missing diver(s). Others coped. (RNLI report).

Boating & surface incident report source analysis



July 2007 07/146
 An RHIB with eleven people onboard ran out of fuel. The Coastguard was alerted and another dive boat assisted, towing the disabled boat back to harbour. (Coastguard report).

July 2007 07/412
 Lifeboat launched to assist dive boat with engine problems. (RNLI report).

July 2007 07/158
 An RHIB with six divers onboard suffered an engine failure. The Coastguard was alerted and another vessel towed them back to harbour.

July 2007 07/413
 Lifeboat assisted stranded dive boat. (RNLI report).

July 2007 07/416
 Three lifeboats launched to assist dive boat with engine problems. (RNLI report).

July 2007 07/418
 Lifeboat launched to locate missing diver(s). False alarm. (RNLI report).

August 2007 07/173
 Two rebreather divers conducted a dive on a wreck in a maximum depth of 30m. They were the last pair from the boat so, at the beginning of the dive, they sent the shotweight to the surface. There was a current running over the site. To make their ascent they both deployed delayed SMBs. Their ascent took 17 min and they arrived at the surface with a total duration of 52 min. At the surface they could not see their boat. After some delay the boat party alerted the Coastguard and a search was initiated involving a helicopter, three lifeboats and other craft. The divers could see the searching helicopter but it was at least a mile from their position. They also saw lifeboats and other craft but they could not attract their attention using SMBs, whistles and torches. The divers roped themselves together, dropped their weights and attempted to swim to the shore which was 3 miles away. They were finally located 5 hours and 20 min after surfacing by a fishing vessel. The fishermen had heard the reports on the radio, plotted where they thought the divers would be and found them within 500m of their estimated position. The divers were recovered into the fishing vessel, transferred into a lifeboat and brought ashore. Neither diver suffered any subsequent ill effects.

August 2007 07/320
 A group of divers were diving in a channel leading to a port. They had deployed a delayed SMB and were surfacing when a ferry passed over the top of them. Their dive boat was in attendance and was displaying flag Alpha. The Coastguard and the harbour control were alerted. The port control had no knowledge of the divers' activities and the divers did not have permission to dive there. No injuries resulted. (Coastguard report).

August 2007 07/362
 The Coastguard was alerted when a dive boat lost battery power with six divers in the water. All divers were safely recovered into the dive boat and a lifeboat towed the disabled craft back to harbour. (Coastguard & RNLI reports).

August 2007 07/171
 A dive charter boat developed a fuel problem. All the divers had been recovered. Another charter boat towed the disabled boat back to harbour. Five other vessels from the same harbour had fuel problems that day; investigations into the fuel supply were being conducted. (Coastguard report).

August 2007 07/363
 A lifeboat was launched to assist two divers who had become exhausted and had climbed onto rocks at the end of a

breakwater. (Coastguard & RNLI reports).

August 2007 07/176

Three divers entered the water from an RHIB and commenced their dive. The bilge pump in the boat was not working so the RHIB was driven round with the transom drainage trunk lowered to clear it of water. Once this was done the boat returned to cover the divers. At this point the engine cut out and would not restart. The Coastguard was alerted and a helicopter, a lifeboat and other craft were tasked to assist. The disabled boat was taken in tow by a harbour master's boat and another dive boat. The divers were recovered by the lifeboat when they surfaced. The helicopter spotted a rope trailing from the back of the RHIB. It was then found that a rope from the boat had been washed through the trunk when the water was being drained and that this had then become wrapped around the propeller preventing the engine from being started. The rope was removed and the engine restarted allowing the RHIB to continue under its own power.

August 2007 07/179

Nine divers in two RHIBs planned a wreck dive. One boat was anchored over the site and the other stood by to recover the divers. All divers entered the water and the last pair to do so sent up the shotline. While the divers were underwater the weather conditions worsened with wind strengthening and wave height increasing. When the divers surfaced they had lost contact with the boats. The Coastguard was alerted and a helicopter and two lifeboats were tasked to search. Seven of the divers were found within about 15 min and the last two were located 20 min later. All were safely recovered by the lifeboats.

August 2007 07/419

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

August 2007 07/420

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

August 2007 07/326

A dive boat experienced an engine electrical fire. The fire was extinguished but the engine would not restart. The Coastguard was alerted and other vessels responded. One of these boats towed the disabled craft ashore. (Coastguard report).

August 2007 07/421

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

August 2007 07/327

The Coastguard was alerted when two divers were missing from a dive. A lifeboat and a helicopter were tasked to assist. The divers were found by their own party before the emergency services arrived. (Coastguard & RNLI reports).

August 2007 07/207

The Coastguard was alerted when a dive boat suffered an engine failure. A nearby sailing vessel assisted and the engine was restarted. (Coastguard report).

August 2007 07/330

A dive RHIB suffered engine failure. A yacht took them in tow then contacted the Coastguard for assistance. The yacht's draft prevented them from bringing the RHIB to its launch point and a

failure of the lifeboat's launch equipment delayed its departure. Another dive boat brought the disabled craft to shore. (Coastguard report).

August 2007 07/422

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

September 2007 07/214

The Coastguard was alerted when a diver became overdue from a wreck dive. A search was initiated involving two lifeboats, a helicopter, two military vessels and associated aircraft, and other craft that were in the area. The diver was located safe and well 2 hours 30 min after he had entered the water, 2.5 nautical miles from his entry point. (Coastguard report).

September 2007 07/216

An RHIB contacted the Coastguard when two divers were overdue from a drift dive. Neither diver had deployed an SMB and their dive was 10 min longer than planned. When they surfaced they could not see their boat. A search was conducted involving two lifeboats, a helicopter and other vessels. The divers were located by the helicopter and safely recovered into their boat. (Coastguard report).

September 2007 07/332

The Coastguard was alerted when a diver was seen holding on to a pot marker. A lifeboat was tasked to assist. The diver was recovered and his two buddies were found safely ashore. (Coastguard report).

September 2007 07/222

Three divers entered the water, descended to about 20m and began to drift with a current. One of the pair sent up a delayed SMB and heard the boat's engine start, indicating to him that the boat was following. After 20 min the current had picked up significantly and they had reached their agreed maximum depth of 30m. The dive leader signalled the ascent and they started upwards. They were then caught in a series of down-currents and were pulled down to 39m. They put air in their BCDs and finned upwards. They were then caught in up-currents and started to ascend rapidly. One of the three required stops at 20m, the other two were caught in an up-current and were forced to leave him. They reached the surface after 32 min, 2 min longer than their planned dive duration. At the surface the two divers saw the third diver surface about 0.5 miles away from them. The divers inflated their BCDs and waited for pick up. The current carried them away from the boat. They attached their weightbelts to a large lifting bag to increase their visibility and clipped themselves together. The boat located and recovered the third diver but could not locate the other two. Bright sunlight made it more difficult for those in the boat to see the two missing divers, although the divers could see the boat. The divers blew compressed air powered whistles but to no avail. The boat crew alerted the Coastguard as soon as they realised that two were missing. A search was conducted involving three lifeboats, three helicopters, two oil tankers, a ferry and many other vessels. As darkness approached the lost divers dumped their weights and cylinders and switched on a torch and a strobe light. After they had been in the water for 9 hours 15 min a helicopter spotted the strobe and the divers were airlifted to hospital from where they were later released.

September 2007 07/335

A lifeboat was launched to assist three shore divers who were

being swept away by a current. All three were safely recovered. (Coastguard report).

September 2007

07/253

The skipper of a dive boat alerted the Coastguard by mobile phone when four divers were not seen after a dive. Whilst the divers had been underwater the sea conditions had deteriorated making it hard for them to be seen. A helicopter and another dive boat assisted in the search. The other dive boat recovered two of the divers and located the other two on the shore. The divers on the shore were picked up by the helicopter and all divers were safely returned to their boat.

September 2007

07/244

The skipper of an RHIB lost sight of his divers' SMBs in deteriorating weather conditions. He commenced a call to the Coastguard but a nearby lifeboat radioed him to tell him that his divers were in the entrance of a harbour from where a ferry was about to leave. There was some confusion between the RHIB

crew and the lifeboat. The RHIB went to recover the divers but could not find them because they had been picked up by the lifeboat. All were safely returned to the shore.

September 2007

07/337

A dive boat with two divers in the water suffered engine failure. The Coastguard was alerted and two lifeboats were tasked to assist. The dive boat managed to restart its engines before the lifeboats arrived and they recovered their divers. (Coastguard report).

September 2007

07/242

The Coastguard was alerted when a group of three divers became overdue after a drift dive. The dive boat had lost sight of their SMB and had conducted a brief search. The divers had been spotted on the surface by an observer on a nearby cliff top and the Coastguard was able to direct the boat to the missing divers who were safely recovered. (Coastguard report).

Ascents

October 2006 07/270

Rescue Helicopter R-131 airlifted a diving casualty from a dive vessel following a dive to 30m. The diver had made a rapid ascent from depth missing 7 min of stops, the casualty was medi linked to a diving doctor prior to evacuation. Seahouses lifeboat also attended the scene. (Coastguard & RNLI reports).

October 2006 07/276

Two divers were airlifted from a diving vessel following a dive to 21m, the dive went well until the ascent when buoyancy problems were experienced whilst deploying the delayed SMB, and the helicopter was met at the HLS by Poole Coastguard team. (Coastguard report).

November 2006 07/279

Two divers made a rapid ascent after becoming entangled in fishing nets, the divers were medi linked with the DDRRC, the duty doctor advised that no medical assistance was required. (Coastguard report).

November 2006 07/012

Two divers conducted a no stop dive to a depth of 24m in very poor underwater visibility. They deployed a delayed SMB to make their ascent. Due to the poor light condition they struggled to read their computers as they ascended. At about 13m both divers started to become concerned that the light level was not increasing. They lost buoyancy control and made a rapid ascent to the surface. Their dive duration was 35 min. They were recovered into the boat and placed on oxygen. Once ashore they went to hospital and spent another 4 hours on oxygen. Neither developed any symptoms of DCI and no further action was taken.

November 2006 07/013

A diver was engaged in a deep diving training course at a depth of 34m. He was close to an underwater structure and his delayed SMB became caught on part of it. He panicked and rushed for the surface. His dive duration was 12 min. His instructor followed and raised the alarm at the surface. The diver was recovered into a boat and brought ashore. He was placed on oxygen and an ambulance was called. However, no symptoms of DCI were experienced and no further action was taken.

November 2006 07/014

A diver had just finished a drysuit training course and undertook his first non-training dive. At a depth of 18m he lost control of his buoyancy and made a rapid ascent to the surface. His dive duration was 20 min. He was placed on oxygen. No adverse effects were experienced.

December 2006 07/015

Two divers conducted a dive to a maximum depth of 20m. One of the divers was filling her delayed SMB when her regulator began to free flow and she was not able to stop it. She tried to deploy her pony regulator but made an uncontrolled ascent to the surface before she could use it. Her dive duration was 13 min. She was placed on oxygen. No subsequent adverse effects were experienced.

December 2006 07/052

Two divers descended a shotline to a wreck. One of the pair lost control of her buoyancy and ascended rapidly from 17m to the surface. She arrived at the surface feet first and lay motionless, face up. She was recovered into the boat. She was unresponsive and was placed on oxygen. The diver's buddy surfaced 2 min later. The Coastguard was alerted and diving medical advice was sought. After about 3 min the diver began to respond and soon recovered. Once ashore the diver was taken to hospital where no problems were found. The diver had been wearing an undersuit under a neoprene drysuit and had developed buoyancy problems.

January 2007 07/282

The Coastguard was alerted when a diver made a rapid ascent from 30m after a dive to a maximum depth of 56m. The diver was airlifted to hospital. (Coastguard report).

February 2007 07/023

A diver conducted a 25 min dive to a depth of 22m with a 4 min stop at 6m. 1 hour 15 min later he dived to 28m. At this depth his regulator began to free flow and he made a rapid ascent to the surface. His dive duration was 4 min. He was placed on oxygen. No subsequent ill effects were experienced.

February 2007 07/024

Two divers were engaged in a deep diving course. At a depth of 28m one of the divers lost a fin and began to panic. She made a rapid ascent to the surface and her buddy followed. Their dive duration was 10 min. Both divers were placed on oxygen. No subsequent ill effects were experienced.

February 2007 07/028

Two divers conducted a dive to a maximum depth of 36m. They ascended to a depth of 7m. At this point one of the pair was unable to vent air from his drysuit. He made a fast ascent to the surface. His dive duration was 34 min. He was placed on oxygen but suffered no subsequent ill effects.

February 2007 07/036

The Coastguard was alerted when a diver lost consciousness in a boat. The diver and her buddy were airlifted to a hospital and then transported to a recompression facility for treatment. (Coastguard report).

February 2007 07/033

Two divers descended to a depth of 20m at which point the regulator of one of the divers began to free flow. The diver's buddy started to lift him using a controlled buoyant lift. The diver with the free flow used his buddy's octopus regulator. Their vision was obscured by a lot of bubbles and they ascended quickly to 12m. Both divers dumped buoyancy and they then descended back down to 25m. At this point they regained buoyancy and they rose directly to the surface. Their total dive duration was 7 min. They swam to the shore and left the water. No subsequent ill effects were reported.

March 2007 07/283

Two divers dived to a maximum depth of 30m. One made a rapid ascent from 25m and the other from 15m. The divers were placed on oxygen and the Coastguard was alerted. The

divers developed no symptoms but they were airlifted to a recompression facility for treatment. (Coastguard report).

March 2007 07/124

Two divers descended a shotline to a wreck in a depth of 24m. They exchanged OK signals and moved off the shotline. One of the divers then developed a buoyancy problem, became inverted and ascended rapidly to the surface. His buddy surfaced shortly afterwards. His dive duration was 3 min. He was placed on oxygen and then nitrox. He developed no symptoms and no further action was taken. He was using a new undersuit and subsequently planned to use straps to prevent air migrating into the feet of his drysuit.

April 2007 07/287

A diver conducted a dive to a maximum depth of 32m. At the end of the dive he made a rapid ascent to the surface. His dive duration was 20 min. He complained of dizziness. He was placed on oxygen and the Coastguard was alerted. He was taken by lifeboat to a recompression facility and from there to a hospital. (Coastguard & RNLI reports).

April 2007 07/087

A diver ran out of air during a dive to 32m. He made a rapid ascent to the surface missing 12 min of decompression stops. He was using nitrox 32 and his dive duration was 60 min. The Coastguard was alerted and he was placed on oxygen. The boat returned to shore and the diver was taken by ambulance to a recompression facility for treatment. (Coastguard report).

April 2007 07/289

A diver using nitrox 27 conducted a 30 min dive to a maximum depth of 40m. At the end of the dive he made a rapid ascent to the surface missing 6 min of stops. On surfacing the diver felt very sick, vomited and coughed. The Coastguard was alerted and diving medical advice sought. The boat returned to shore and the diver was taken by ambulance to hospital. (Coastguard report).

April 2007 07/088

A diver conducted a dive to 21m for 40 min using a twin cylinder set. Approximately 1 hour later he dived to 16m for 40 min. At the end of the dive he attempted to deploy a delayed SMB but the reel jammed so he let it go. One of his two buddies then deployed their SMB and they started to ascend. The cylinders of the diver with the twin-set were now nearly empty, after two dives, and he was unable to control his buoyancy. He made a rapid ascent to the surface despite attempting to dump air. This was the first time that he had used this system in salt water and he was not carrying enough weight. The Coastguard was alerted and he was airlifted to a recompression facility for treatment. (Coastguard report).

April 2007 07/066

Two divers were participating in a training course in a larger group of divers. One was engaged in drysuit training and the other was undergoing nitrox training. The drysuit trainee descended to a depth of 36m and the other diver to a slightly shallower depth. During their ascent, at a depth of 10m, they lost control of their buoyancy and made rapid ascents to the surface. Their dive duration was 21 min. Both were placed on oxygen but no subsequent ill effects were experienced.

April 2007 07/089

A diver descended a shotline to a wreck at a depth of 13m. He had been on the wreck for 2 min when his weightbelt fell off. He

tried to grab hold of the wreck but was unable to do so and he made a rapid ascent to the surface. His dive duration was 35 min. At the surface he was recovered into a boat and the Coastguard was alerted. The diver was airlifted to a recompression facility for treatment. The weightbelt was found by another group and the buckle was fastened; the belt must therefore have slid off. (Coastguard report).

April 2007 07/067

Two divers planned a dive to allow one of them to gain experience with her new drysuit. They planned to check at 6m and 25m if the diver was comfortable to continue and, if so, they would descend to a maximum depth of 35m. The dive proceeded without problems and they descended to 35m. At this point the diver with the new drysuit began to feel very anxious and a little panicked. At this point the troubled diver had 90 bar and her buddy had 140 bar. The buddy signalled a direct ascent to the surface but the troubled diver indicated that she wanted to follow the sloping bottom back up to the surface. They started to swim back. At 20m the troubled diver had only 30 bar remaining. The buddy gave the troubled diver his pony regulator and used a controlled buoyant lift to bring them to the surface. At 6m the ascent became too rapid and the buddy dumped some air. They sank back down to 9m and then rose to 6m again. They then made a rapid ascent to the surface missing an indicated 2 min of decompression stops. Both divers were placed on oxygen but no subsequent ill effects were experienced. Narcosis was thought to have contributed to their problems at depth.

April 2007 07/069

Two divers made a dive to a depth of 20m. At this point one of the pair felt that her air tasted bad. She told her buddy of the problem by writing on her slate. Her buddy tasted her air and agreed that it was not right. She switched to her buddy's alternative air supply and they started to ascend. At 9m a lanyard started to pull the alternative air supply from the diver's mouth and she received a water-air mix. They made a fast ascent to the surface and raised the alarm. Their dive duration was 10 min. The troubled diver complained of a tightness in her chest, she was placed on oxygen and an ambulance was called. Medical checks indicated no significant problems and she was not taken to hospital. The air cylinder was retained for air quality checks.

April 2007 07/070

Two divers dived to a maximum depth of 22m. Towards the end of the dive they deployed a delayed SMB from a depth of 20m. They then realised that one of the pair was down to 50 bar. They started to ascend an underwater cliff face but, at 10m, the diver who was low on air started to sink back down. The buddy managed to get them both to the surface but there was insufficient air to inflate the troubled diver's BCD. The buddy just managed to keep the diver at the surface until a boat arrived to assist. Once in the boat the troubled diver was in panic and took some time to calm down. He was placed on oxygen. No subsequent ill effects were experienced. The troubled diver retained his weightbelt throughout.

April 2007 07/092

A pair of divers conducted a dive to a maximum depth of 30m. During the ascent one of the pair rose rapidly to the surface from 10m. He was placed on oxygen and the Coastguard was alerted. The party returned to the shore. Medical advice was sought but no further action was deemed necessary. (Coastguard report).

April 2007 07/184

Two divers conducted a dive to a wreck in a maximum depth of 30m. During the ascent one of the pair lost control of his buoyancy and made an uncontrolled ascent from 20m to the surface. His buddy followed at a more normal rate. When the buddy surfaced he gave a distress signal and supported the buoyant diver. They were recovered into the boat and the diver who had made the buoyant ascent was placed on oxygen and given fluids. The Coastguard was alerted and the boat returned to harbour, having arranged for another boat on the site to collect their remaining divers. The diver developed a slight 'pins and needles' in his hand but this subsided once his drysuit wrist seal was released. The diver and his buddy were transported by ambulance to a recompression facility. Neither developed symptoms of DCI but the buoyant diver was given a precautionary recompression treatment.

April 2007 07/097

The Coastguard was alerted when a diver made a rapid ascent from 30m. His dive duration was 23 min. He was airlifted to a recompression facility. (Coastguard report).

April 2007 07/296

The Coastguard was alerted when two divers made a rapid ascent from 41m. Diving medical advice was sought and the divers were taken to hospital for observation. (Coastguard report).

April 2007 07/295

A diver became tangled in his SMB line and made a rapid ascent to the surface. He was placed on oxygen and the Coastguard was alerted. Diving medical advice was sought and the diver was airlifted to a recompression facility. (Coastguard report).

April 2007 07/079

Two divers conducted a dive to a wreck in a maximum depth of 28m. The underwater visibility was low and it was dark. With 6 min of no stop time remaining one of the pair deployed a delayed SMB. His buddy then signalled that the diver's octopus regulator was free flowing. He tried to stop it but could not do so. He became disorientated in a mass of bubbles. He realised that he was ascending and tried to slow himself down. He rose to the surface and summoned help from the boat. His dive duration was 23 min. He was recovered into the boat, laid down and was placed on oxygen. His buddy made a normal ascent, including a safety stop. The Coastguard was alerted and the boat returned to shore. Once ashore the group were met by the Coastguard and the diver was airlifted to a recompression facility. No symptoms were found but he was given precautionary recompression treatment.

May 2007 07/185

An instructor and two trainees dived to a maximum depth of 13m. During the ascent, at a depth of 12m, the instructor noticed that the weightbelt of one of the trainees was slipping loose. He held onto the weightbelt and signalled that the trainee should adopt a horizontal position so that he could refasten the belt. Whilst attempting to do this all three rose to the surface at a faster than normal rate. Their dive duration was 24 min. No symptoms developed and no further action was taken.

May 2007 07/101

Two divers were diving at a depth of 21m when one of the pair experienced a free flow from his regulator. During his ascent he lost control of his buoyancy and made a rapid ascent to the surface. His dive duration was 8 min. He was placed on

oxygen. No subsequent ill effects were reported.

May 2007 07/298

A diver conducted a dive to a maximum depth of 11m. After about 8 min she lost her weightbelt and made a rapid ascent to the surface. She developed a slight 'pins and needles' in her toes. The Coastguard was alerted and the diver was airlifted to a recompression facility and then taken from there to hospital. (Coastguard report).

May 2007 07/103

Two divers conducted a dive to a maximum depth of 21m. During their ascent they deployed a delayed SMB at a depth of 14m and then rose to a depth of 6m to carry out a 3 min safety stop. At 6m, one of the pair was unable to release air from his cuff dump and he ascended rapidly to the surface. He could see his buddy below and signalled that he was OK. His buddy completed the stop and ascended normally. No subsequent ill effects were experienced.

May 2007 07/299

The Coastguard was alerted when a diver surfaced having missed 7 min of decompression stops. An ambulance was tasked to assist but then stood down when it became clear that the diver was not developing symptoms. Later the diver went to hospital for a check-up but no problems were found. (Coastguard report).

May 2007 07/105

Two divers conducted a wreck dive to a maximum depth of 27m. They gradually ascended to 20m where they spent most of the dive. After about 20 min one of the pair developed leakage problems with his mask and she tried a few times to clear it. Then she signalled that all was not well and that she wanted to ascend. Her buddy deployed a delayed SMB and they started to ascend. At 7m the troubled diver could no longer dump air from her drysuit and she ascended directly to the surface missing a planned 3 min safety stop. Her dive duration was 28 min. No subsequent ill effects were experienced.

May 2007 07/081

A trainee diver conducted a 22 min dive to 19m. Later that day she dived to 18m. Early in the dive she panicked and made a rapid ascent to the surface. Her dive duration was 6 min. She was recovered from the water and placed on oxygen. She slowly recovered and within 1 hour was back to normal.

May 2007 07/093

A diver conducted a dive to 22m for 30 min. Later that day he dived to 17m for 26 min. He made a rapid ascent from this second dive and showed signs of DCI. He was airlifted to shore and examined by a diving doctor. He was not found to require recompression treatment. These dives were his first this year in salt water and he was underweighted. (Coastguard report).

May 2007 07/188

Two divers conducted a dive to a maximum depth of 17m. About 28 min into the dive one of the pair developed buoyancy problems with air migrating into the feet of her drysuit. She was about 3m above her buddy and attempted to dump air and swim back down. The divers lost contact with each other and the buoyant diver ascended directly to the surface, arriving feet first. She was recovered into the boat and placed on oxygen. Her dive duration was about 32 min. Her buddy surfaced normally. The Coastguard was alerted and medical advice was sought.

The boat returned to shore. No symptoms developed and no further action was required.

May 2007 **07/300**
Two divers conducted a dive to a maximum depth of 50m. One of the pair missed stops at 15, 12, 9 and 6m. The second diver missed stops at 3m. The Coastguard was alerted and the divers were airlifted to a recompression facility. (Coastguard report).

May 2007 **07/085**
Two divers conducted a dive to a depth of 30m. At this depth the regulator of one of the pair began to free flow. They made a faster than normal ascent to the surface. Their dive duration was 5 min. Both were placed on oxygen. No subsequent ill effects were reported.

May 2007 **07/189**
An instructor and two trainees dived to a maximum depth of 14m. They left the bottom after 22 min to practice delayed SMB deployment. One trainee lost control of his buoyancy while doing this and rose rapidly to the surface. The other trainee also rose upwards while deploying the SMB but he managed to stop himself at about 5m. He re-descended to 8m and then ascended normally with the instructor making a 3 min stop at 6m as planned.

June 2007 **07/345**
The Coastguard was alerted when a diver made a rapid ascent from 20m. (Coastguard report).

June 2007 **07/115**
Two divers conducted a dive to a maximum depth of 28m. At a depth of about 5m they are thought to have been practicing rescue skills. One diver inflated the other's drysuit instead of his BCD and this caused the diver to make an inverted ascent to the surface with his feet out of his drysuit boots. The divers left the water and were given oxygen. No subsequent ill effects were reported.

June 2007 **07/311**
The Coastguard was alerted after a diver surfaced having made a rapid ascent from 18m. The diver was placed on oxygen and landed ashore. Diving medical advice was sought. (Coastguard report).

June 2007 **07/302**
A diver conducted a dive to a depth of 43m. During his ascent he lost control of his buoyancy and failed to conduct decompression stops. The Coastguard was alerted and diving medical advice was sought. The diver was placed on oxygen and taken to hospital for observation. The diver discharged himself later that day. (Coastguard report).

June 2007 **07/111**
A pair of divers completed a dive to a depth of 31m. They planned to decompress using a shared cylinder. One of the pair had a new mask which was very tight and it prevented her from inserting the mouthpiece of the decompression regulator into her mouth. She started to swallow water. She replaced her main regulator but, whilst doing so, she ascended to the surface with her buddy, missing a 4 min stop. Their dive duration was 28 min. The Coastguard was alerted and medical advice was sought. The divers were monitored and no further action was reported.

June 2007 **07/205**
Three divers conducted a wreck dive to a maximum depth of 30m. Prior to the dive they had not discussed their dive plan nor agreed a dive leader. 20 min into the dive one of the three noticed that his computer was approaching the end of the no stop time and he signalled this to the other two. The signal was acknowledged but no action was taken. The diver ascended to 25m. He continued to try to attract the attention of the other divers but received no response. After a total of 40 min they deployed a delayed SMB and made an ascent. All three stopped for 4 min at 6m. At this point one diver had only 20 bar remaining and the other two 50 bar. The group surfaced with a total dive duration of 52 min. All of their computers indicated missed stops. All three were placed on oxygen and the Coastguard was alerted. A helicopter attended and the boat took the divers ashore. The divers were taken by ambulance to a recompression facility where they were given precautionary treatment. No adverse effects were experienced. One of the divers was not aware of the meaning of the decompression warnings given by his computer.

June 2007 **07/120**
The Coastguard was alerted when a diver made a rapid ascent from 20m. The dive boat was met by the Coastguard and a diving doctor when it reached shore. No emergency actions were considered necessary; the diver was advised to go to a hospital A&E department for a check up. (Coastguard report).

June 2007 **07/304**
A diver conducted a dive to a depth of 12m. 3 min into the dive she panicked and made a rapid ascent to the surface. The diver complained of feeling weak, tingling in her fingers and pain in her legs. The diver was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility. It is reported that the diver had been drinking heavily the previous night and had gone to bed late. (Coastguard report).

June 2007 **07/346**
A diver conducted a dive to a maximum depth of 42m. The diver ran out of air and ascended rapidly to the surface missing all decompression stops. His total dive time was 33 min. He had a slight headache. He was placed on oxygen and the Coastguard was alerted. Diving medical advice was sought. The diver was brought ashore and taken by ambulance to a recompression facility. It is reported that he switched to nitrox 70 on the bottom before surfacing. (Coastguard report).

June 2007 **07/130**
Two divers were at a depth of 19m. One of the pair put air into her BCD, however the valve appeared to stick in the 'on' position and air continued to flow. Her buddy disconnected the hose which continued to free flow. He gave the diver his alternative air source and turned her air off. They started to ascend. At about 11m the alternate air source, which was still clipped to the donor diver, was pulled to one side and out of the diver's mouth. The buddy gave her his other alternative air source which was attached to his pony cylinder. However the exhaust valve of this regulator had become unseated and it provided an air-water mixture. During this time they sank back down to 19m. The diver then switched back to the first alternative air source and they started to ascend again. At about 11m the ascent became rapid. At the surface the buddy raised the alarm. He struggled to keep the diver at the surface and dropped her weightbelt. Once out of the water the diver was given oxygen. No subsequent ill effects were reported.

June 2007**07/423**

A diver was brought ashore by lifeboat after surfacing too quickly. He was taken to a recompression facility for treatment. (Media report).

June 2007**07/126**

A pair of divers conducted a dive to a depth of 36m. They deployed a delayed SMB to make their ascent. One of the pair developed cramp at this point and this delayed them. They made a very slow ascent and this added to their decompression requirement. When they reached the surface their computers were indicating that they had missed 2 min of decompression stops. They were placed on oxygen and the Coastguard was alerted. Medical advice was sought. The divers were monitored and no further action was required. (Coastguard report).

June 2007**07/351**

A diver surfaced from a dive to 24m missing decompression stops. His dive duration was 20 min. The Coastguard was alerted and diving medical advice was sought. The diver was airlifted to hospital. (Coastguard report).

June 2007**07/206**

A pair of divers descended a shotline to a wreck at a maximum depth of 34m. One of the pair had a new delayed SMB and wanted to practice deploying it at the end of the dive. The divers ascended to a higher part of the wreck to make their ascent and the diver with the new SMB started to deploy it. At this point he developed buoyancy problems with air migrating into the feet of his drysuit. He hung onto the wreck and struggled to right himself. The other diver took the reel and deployed the SMB. The buoyant diver managed to get the right way up and dumped all the air from his BCD. He tried to dump air from his suit but he still remained very buoyant. He realised that he would not be able to hold depth at a stop and he looked around for the shotline. He could not see the shotline and, as his decompression requirements were mounting, he decided to ascend as slowly as he could. He made a rapid, buoyant ascent to the surface missing 14 min of decompression stops. He was placed on oxygen and the Coastguard was alerted. His buddy made a normal ascent including 17 min of decompression; his dive duration was 56 min. The buoyant diver was airlifted to a recompression facility. He developed no symptoms of DCI but was given precautionary treatment. It was subsequently concluded that his undersuit had blocked his drysuit dump valve thus preventing him from controlling his buoyancy.

June 2007**07/309**

Two divers made a rapid ascent from 30m missing a total of 6 min of stops. The Coastguard was alerted and the divers were airlifted to a recompression facility. They showed no signs of DCI. (Coastguard report).

July 2007**07/140**

Three divers were conducting a dive to a maximum depth of 28m. They became disorientated and started to ascend to an area with a depth of 22m. One of the divers then lost his mask. The three divers then made a rapid ascent to the surface. Once out of the water they were placed on oxygen and diving medical advice was sought. They were monitored for signs of DCI. No subsequent ill effects were reported.

July 2007**07/149**

An instructor and two trainees conducted a dive to a depth of 14m. Towards the end of the dive one of the trainees lost control of his buoyancy and surfaced without any stops. The instructor and other trainee could see that he was safely at the surface and they completed a 3 min safety stop. The lone diver was seen at the surface by others and the alarm was raised. No subsequent related ill effects were experienced.

July 2007**07/150**

The Coastguard was alerted when a diver made a rapid ascent from 22m. Medical advice was sought and the diver was kept under observation. No symptoms developed and no further action was reported. (Coastguard report).

July 2007**07/142**

Two nitrox divers conducted a wreck dive to a maximum depth of 28m. To make their ascent they deployed a delayed SMB from a depth of 20m. At 17m the ascent became fast and, despite dumping air from their drysuits they made a rapid ascent to the surface without any stops. Their dive duration was 22 min. The divers were placed on oxygen. They did not develop any symptoms of DCI but reported to a recompression facility for a check up. (Coastguard report).

July 2007**07/099**

A trainee diver was leading an instructor on a training dive with a second instructor observing. They dived to a depth of 16m. As planned, after 6 min, the trainee indicated that they should ascend and that they should make a simulated 1 min stop at 9m. The trainee inflated a delayed SMB with planned assistance from the instructor. As they started to ascend the trainee knocked her own mouthpiece out whilst trying to wind in the SMB line. She immediately replaced it but she had swallowed some water. She started to panic and indicated that she wanted to ascend. The instructor tried to calm her but she was breathing heavily and her panic grew. She then fully inflated her BCD. The instructor and the observer attempted to slow the ascent but they rose rapidly to the surface. At the surface the trainee continued to panic. She was removed from the water, and together with the instructor, was placed on oxygen. No subsequent ill effects were reported.

July 2007**07/269**

Three divers conducted a wreck dive to a maximum depth of 35m. One of the three had felt a little seasick prior to the dive, but a lot better just before they entered the water. About 12 min into the dive this diver indicated that she did not feel right and that she wanted to ascend. The divers had attached a line to the bottom of the shotline and as they turned to move back to the shot the current carried them quickly towards it. The diver with the reel was unable to wind the line in fast enough and the troubled diver became entangled in it. The dive leader got back to the shotline and unclipped the line and the tangled diver and the diver with the reel were carried past the shotline. The dive leader let go of the shotline and went with them so that they did not become separated from each other. The troubled diver was a little buoyant and, convinced that she was making a fast ascent, she dumped air by pulling at her neck and wrist seals. The dive leader indicated that they were still on the bottom but the troubled diver was still agitated and panicky. The dive leader tried to find the shotline but was unable to, so he deployed a delayed SMB and handed the reel to the third diver. They were 22 min into the dive when they started their ascent. The dive leader ascended with the troubled diver; the third diver was slightly below them reeling in the line. At 23m the troubled diver began to descend again and, at 28m, the dive leader helped her to re-ascend. At 16m the dive leader and the

troubled diver became tangled in the line but managed to free themselves. The dive leader indicated that the third diver should stop reeling in the line and leave the reel; she did this and joined the other two. At 8m, 28 min into the dive, the troubled diver began to ascend very quickly; she took hold of the third diver and they rose to the surface. The dive leader was also dragged upwards but he managed to control his ascent at about 2m. Concerned about the other two, he too surfaced. The dive leader had missed 8 min of stops, the troubled diver 7 min and the third diver 3 min. At the surface they gave the emergency signal and were quickly recovered into the boat and placed on oxygen. The Coastguard was alerted and diving medical advice was sought. Once ashore the divers were taken to hospital where they were placed on oxygen and subjected to a number of tests. None of the divers displayed any symptoms of DCI and they were later released.

July 2007 **07/354**
The Coastguard was alerted when two divers surfaced missing 2 min and 3 min of stops respectively. The divers were placed on oxygen and brought ashore. (Coastguard report).

July 2007 **07/314**
The Coastguard was alerted after a diver made a rapid ascent from 34m. The diver was airlifted to hospital. (Coastguard report).

July 2007 **07/159**
A diver accompanied an instructor and a student on a drift dive to a maximum depth of 24m. During the ascent the accompanying diver lost control of his buoyancy and made a rapid ascent to the surface from about 15m. His dive duration was 23m. At the surface he was disorientated. All three were recovered into the boat. The computer of the diver who had made the rapid ascent indicated missed stops. He was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility but did not require treatment.

August 2007 **07/168**
A diver was ascending from a dive to 40m. Due to a tangle in the SMB line the diver surfaced missing 20 min of decompression stops. The Coastguard was alerted and medical advice was sought. The boat returned to shore and the diver was advised to see his doctor. (Coastguard report).

August 2007 **07/323**
A diver conducted a 22 min dive to a maximum depth of 51m. During the ascent he became entangled and made a rapid ascent to the surface from 6m. After the dive he experienced muscle spasms and the Coastguard was alerted. Diving medical advice was sought. (Coastguard & RNLI reports).

August 2007 **07/208**
Two divers planned a wreck dive to a maximum depth of 48m. They arrived on the seabed at 53m and then ascended to 44m where they remained for about 20 min. Both divers deployed delayed SMBs and they started their ascent after about 27 min into the dive. At 15m one of the divers was horizontal and air migrated into his drysuit legs. He was unable to right himself and he rose directly to the surface at a slightly faster than normal rate, missing all decompression stops. His dive duration was 32 min. He was recovered into the boat and breathed nitrox 80 and then oxygen. The Coastguard was alerted and the diver was airlifted to hospital and from there he was taken by ambulance to a recompression facility. No signs of DCI were found but he was given precautionary recompression treatment.

August 2007 **07/364**
The Coastguard was alerted when a diver surfaced missing 7 min of decompression stops. The diver was placed on oxygen. (Coastguard report).

August 2007 **07/324**
A diver conducted a dive to a maximum depth of 42m. Towards the end of the dive he experienced a regulator problem and switched to his pony cylinder. He then ran out of air and surfaced missing 12 min of decompression stops. The Coastguard was alerted and diving medical advice was sought. The boat returned to shore and the diver was taken to hospital. (Coastguard report).

August 2007 **07/226**
An instructor and two trainees conducted a dive to a maximum depth of 19m. The two trainees were to be assessed on their ability to conduct controlled buoyant lifts from 19m to 6m. Both trainees conducted lifts and the three then conducted a 10 min drift dive. The instructor carried the SMB and became aware that she was underweighted. She dumped all the air from her suit and BCD. When the three reached 6m the instructor was unable to maintain depth, she gave the SMB to the other two and ascended feet first to the surface, but at a normal rate. The two trainees conducted a 3 min stop and then surfaced. The instructor had changed from a neoprene to a membrane drysuit prior to the dive due to a leak in the neoprene suit and had not made correct weight adjustments. No subsequent ill effects were experienced.

August 2007 **07/365**
A dive boat contacted the Coastguard when a diver surfaced missing 5 min of decompression stops. The diver was placed on oxygen, brought ashore and taken to hospital. (Coastguard report).

August 2007 **07/239**
A diver was diving on a wreck at a maximum depth of 33m. About 10 min into the dive the diver made her way up the wreck to a depth of about 20m. At this point she began to feel buoyant. She hung onto the wreck and vented air from her suit by curling herself up into a ball. She took an upright posture and dumped all the air; this appeared to be successful as she felt suit squeeze. A little later she became positively buoyant again. She tried to fin back to the wreck but the current was too strong and she lost one of her fins trying to swim against it. She dumped as much air as she could but made a rapid ascent to the surface. At the surface she inflated her BCD, dropped her weights and gave the distress signal. She felt breathless. Back in the boat she was placed on oxygen and given water to drink. The Coastguard was alerted and the boat returned to shore. The diver was taken by ambulance to hospital from where she was discharged later in the day with no further action required.

August 2007 **07/212**
Two divers dived to a wreck in a maximum depth of 52m. They could not find the wreck so they aborted the dive. They deployed a delayed SMB at about 30m and this caused a loss of buoyancy control. One of the divers made a rapid ascent; at the surface he had a nose bleed but no other symptoms. His buddy made a normal ascent with stops. The diver who made the rapid ascent was airlifted to a recompression facility for treatment. (Coastguard report).

August 2007**07/328**

Two divers conducted a dive to a maximum depth of 42m. They surfaced missing 20 min of stops at 3m. They were placed on oxygen and the Coastguard was alerted. The divers were airlifted to a recompression facility. (Coastguard report).

September 2007**07/254**

Two divers conducted a wreck dive to a maximum depth of 26m. After 24 min they ascended to the deck of the wreck in a depth of 20m and one of the divers deployed a delayed SMB. Underwater visibility was low and the divers became separated. The diver with the reel descended to the seabed to look for his buddy and then began his ascent alone. He used the reel to wind himself up the SMB line. At 16m he checked his instruments. To do this he transferred the reel to his other hand and then back again. He did not realise that in doing so he had accidentally changed the ratchet setting on the reel. He was then unable to reel in further line. He put some air into his BCD, but he was still not able to wind in line so he put more air into his BCD. He began a rapid ascent. He attempted to dump air from his BCD but was unable to prevent himself being carried directly to the surface. His dive duration was 28 min. He was placed on oxygen for 20 min; no symptoms developed and no further action was taken. He later discovered that the reel had four ratchet positions giving different functions; at the time he thought that there were only two.

September 2007**07/331**

Two divers conducted a 15 min dive to a depth of 34m. 2 hours 30 min later they dived to 25m but missed 10 min of decompression on their ascent. The divers were placed on oxygen and the Coastguard was alerted. (Coastguard report).

September 2007**07/220**

Two divers conducted a dive to a maximum depth of 35m. One of the pair began to suffer from nitrogen narcosis, lost control of his buoyancy and made a rapid ascent to the surface. He breathed out all the way. His dive duration was 14 min. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression facility for treatment. This was the diver's first dive to this depth for several months. (Coastguard report).

September 2007**07/229**

An instructor took two trainees on a training dive to a maximum depth of 6m. One of the trainees experienced a pain in the right side of his mouth. He ascended and re-descended, however the pain was still present and he aborted the dive, leaving the others to continue. It was subsequently established that he had suffered a sinus problem. The second trainee was conducting mask clearing drills when he panicked and made a rapid ascent to the surface without his mask. The instructor calmed the diver and the dive continued.

September 2007**07/369**

Two divers conducted a wreck dive to a maximum depth of 49m. After about 45 min they began their ascent. During the ascent one of the divers became agitated and his buddy found that this diver's diluent hose was disconnected; he re-connected it. The ascent continued normally to about 15m where the agitated diver went directly to the surface. The buddy completed the required stops. The Coastguard was alerted. The diver developed a tingling in his left shoulder and he was taken to hospital. He had been using a rebreather with a 14/35 mix. (Coastguard report).

September 2007**07/370**

A diver ran out of air and surfaced missing stops. He was placed on nitrox 30 and the Coastguard was alerted. (Coastguard report).

September 2007**07/255**

A diver conducted a dive using a new twin cylinder and BCD system. At the start of his dive he was unable to descend and he added 2 kg to his weights. He descended to 29m and then moved down an underwater wall to a depth of 45m. When he had 2 min of decompression indicated on his computer he started to ascend. He had 110 bar remaining. He deployed a delayed SMB. He started to reel in the SMB line but the line remained slack and he could feel that he was buoyant. He tried to dump air from his suit and BCD but could not see air coming out. At 23m he swam back down to his buddy and gave him the reel so that he had more freedom to control his buoyancy. At 30m he was still unable to control his buoyancy, he released the direct feed hoses in case these were free-flowing air and he pulled his neck seal open. He was unable to prevent himself being carried to the surface missing decompression stops. His dive duration was 26 min. He was recovered into his boat, placed on oxygen and the Coastguard was alerted. Once ashore he was taken by ambulance to a recompression facility. He experienced no symptoms of DCI but was given precautionary recompression treatment. He later discovered that the automatic dump valve on his drysuit was not fully open although this could have been moved after the dive. The diver believes that he was at least 3 kg underweighted.

September 2007**07/371**

Two divers dived to a maximum depth of 41m for 56 min and they surfaced missing 6 min of stops. They were placed on oxygen and the Coastguard was alerted. (Coastguard report).

September 2007**07/246**

Two divers conducted a dive to a maximum depth of 34m. One of the divers lost a fin and they decided to abort the dive. They made their ascent during which one of their computers registered an emergency situation as they had missed decompression stops. One of the divers was given oxygen but no subsequent ill effects were experienced.

September 2007**07/257**

Two divers conducted a wreck dive to a maximum depth of 19m. One of the pair had problems descending due to his buoyancy and he used the shotline to pull himself down. During the rest of the dive his feet felt buoyant. Towards the end of the dive he deployed a delayed SMB to make the ascent. During deployment he drifted up to about 14m and then tried to swim back down. He became inverted, lost control of his buoyancy and made a rapid feet first ascent to the surface. His dive duration was 28 min. He was recovered into the boat and placed on oxygen. The Coastguard was alerted but no symptoms developed and no further action was taken. It was subsequently determined that the diver was 3 kg underweighted.

September 2007**07/375**

The Coastguard was alerted when a diver surfaced from a dive to 28m missing 8 min of decompression stops. (Coastguard report).

September 2007**07/267**



Two divers descended a shotline to a lake bed at a depth of 33m. They planned to make a circular search around the shotweight with the line fastened to the shotline 5m off the bottom. They completed one circuit at a radius of 15m and started a second circuit at a radius of 20m with one of the pair holding the line loosely, 2m away, towards the shotline. Part way through this second sweep the inner diver noticed that the line had become slack, he pulled on the line and found more slack. He became entangled in this line and stirred up silt on the lake bottom. He lay still on the lake bottom so that the other diver could try to release him. He became inverted with his head sunk into the silt. He was able to right himself but visibility reduced and the tangle became worse. The divers decided to abort the dive and ascend a few metres to get better visibility and resolve the tangle. The tangled diver noticed that he had 12 min of decompression stops to complete. The tangled diver cut the line and the other diver who was holding the reel started a buoyant ascent to the surface. The diver who had been tangled managed to catch hold of him and he dumped air to try to slow the ascent. They ascended buoyantly to the surface missing all stops. Their dive duration was 30 min. Both divers were recovered from the water and placed on oxygen. The

Coastguard was alerted and diving medical advice was sought. The divers were taken by ambulance to hospital. They remained on oxygen for 6 hours; they developed no symptoms and were discharged from hospital.

September 2007

07/341

A diver conducted a 21 min dive to a maximum depth of 31m. 3 hours later he dived to 29m. When surfacing from this second dive he missed 2 min of stops at 3m. He was placed on oxygen and the Coastguard was alerted. Diving medical advice was sought and the diver was kept under observation. (Coastguard report).

September 2007

07/340

A diver ascended from a dive to 37m missing 20 min of stops. His dive duration was 46 min. The Coastguard was alerted and the diver was brought ashore by lifeboat and then taken by ambulance to a recompression facility. (Coastguard report).

Technique

April 2007

07/062

Two divers had just left the surface when one of them became inverted and lost her regulator. Back on the surface she was face down and not breathing. Her maximum depth was 3m and the dive duration 2 min. Other divers helped to recover her from the water. She quickly recovered and was placed on oxygen. No further ill effects were reported.

May 2007

07/082

A diver conducted a 32 min dive to a depth of 21m with a 3 min safety stop at 5m. 1 hour 56 min later she dived again, to a maximum depth of 15m. During this dive the diver and her buddy met some other divers coming towards them. The two pairs came very close together and the diver was concerned that her mask was going to be knocked off. She then felt sick and took the regulator from her mouth. Her buddy offered his alternative air source, he purged it and tried to place it in her mouth. He then used a controlled buoyant lift to bring her to the surface. Their dive duration was 16 min. She was recovered from the water and placed on oxygen. She slowly recovered. It is thought that eating between the dives may have contributed to her feeling sick.

May 2007

07/094

Five pairs of divers entered the water for a dive on a wreck. The maximum depth was 32m and the agreed dive duration was 40 min. One pair planned a 50 min dive but failed to let the skipper of the boat know this. After 40 min four pairs had surfaced but there was no sign of the last pair. After a further 10 min the skipper alerted the Coastguard. Some minutes later the remaining pair deployed a delayed SMB and two sets of bubbles could be seen from the surface. As the pair ascended, at a depth of about 17m, they realised that they had incurred a 27 min decompression requirement. They completed most of the stops at 6m and then ascended to 3m for the final 10 min in an attempt to make their air supplies last. One of the pair was preparing to switch to his buddy's octopus regulator when they completed their stops. They surfaced safely with a dive duration of 77 min. Narcosis is thought to have played a central role in this incident; both divers had checked their air during the dive but not decompression requirements.

June 2007

07/134

A pair of divers conducted a buddy check and then entered the water to dive to a maximum depth of 24m. One of the pair had unknowingly entered the water with his pony regulator in his mouth rather than his main regulator. After 17 min he ran out of air. He realised the problem and switched to his main regulator. They completed the dive with no further problems. Both the regulators were black with black hoses. The diver planned to provide some means of clear differentiation between the two.

September 2007

07/259

Two divers descended a shotline to a wreck. At about 30m they let go of the shotline and dropped onto the wreck. There was a

current flowing. They planned to stay on the wreck for about 6 min in a depth of 35m. They headed back towards the shotline, but this was difficult because they had to swim against the current. They saw the shotline lying at an angle above them. They ascended to the line at a depth of 30m. One of the pair then descended again while the other diver stayed on the line. The first diver then let go of the line and dropped back to 35m. She struggled against the current to get back to the line. Another diver in the party was on the line and she grabbed hold of this diver's fin to help her back to the line. The shotline was sinking due to the pull of the divers and the diver found herself at a depth of about 40m. She started to feel panicked, she was moving along the line but remained at 40m. She could see her buddy but could not get to him. She let go of the shotline and tried to ascend. Her buddy was above her and seemed to be ascending, but the current was carrying her away. She was still at 40m and concerned that she would run out of air. She started to ascend and, at 30m, tried to deploy her delayed SMB. She was unable to do so and ascended to 20m where she was able to launch the buoy. She conducted an 11 min stop at 6m and arrived at the surface with 20 bar remaining in her main cylinder and her pony cylinder unused. No subsequent ill effects were reported. She believed that narcosis played a part in this incident. (Relates to incident 07/250).

September 2007

07/250

A rebreather diver and an open circuit air diver commenced a wreck dive to a maximum depth of 40m. They planned to ascend when the air diver had 5 min of no stop time remaining or she was down to 100 bar. The divers completed their exploration of the wreck and returned to the shotline to make their ascent when the 5 min limit was reached. They met two other divers on the shotline. There was a current and one of these other divers was struggling to get back to the shotline; the diver on open circuit air stopped to help her. The pull of the divers on the line caused the buoy to sink and the divers also started to descend; they sank back down to 40m. The first two divers let go of the shotline and one of the pair deployed a delayed SMB. By this time the air diver's computer indicated that she had a total time to surface of 20 min. The rebreather diver completed a stop at 22m and had a further 1 min to complete at 13m. The rebreather diver signalled the air diver to ascend to 6m to start her stops and he then joined her there later. When the air diver's main cylinder was down to 25 bar she switched to her pony cylinder and when this got to 25 bar she used the rebreather diver's nitrox 50 cylinder. The air diver was in a semi-drysuit and she was getting very cold. They completed 30 min of stops at 6m and, with 3 min remaining on the air diver's computer, they decided to surface. Their dive duration was 53 min. They were both safely recovered into the boat and no subsequent ill effects were experienced. (Related to incident 07/259)

Equipment

May 2007

07/106

An instructor and three trainees entered the water from a jetty to carry out alternative air source training. They made a surface swim to a depth of 10m where the instructor deployed a weighted SMB as a reference point. The divers descended and started the drills. One trainee donated his alternative air source to another trainee and they ascended to 6m with the instructor and the third trainee ascending with them. At 6m they stopped and the diver receiving air reverted to her own primary regulator. The released octopus regulator then began to free flow and neither the diver nor the instructor could stop it. The air in the donor's cylinder had dropped to less than 60 bar and he switched to his pony regulator. All divers then returned to the surface. The diver with the free flow was able to inflate his BCD. A boat came to their assistance and the diver with the free flow was taken to the shore. The boat then returned and followed as the other three swam back. No subsequent ill effects were experienced.

May 2007

07/136

A cylinder had just been filled and the operator lifted it from the water bath. As he turned away the valve exploded from the cylinder. The valve, with filling hose still connected, struck and damaged the roof of the shed. The cylinder inverted, shot through the roof of the shed and landed in a campsite some 60m away, damaging a car. The flailing filling hose badly bruised the operator's legs and damaged the mixing panel. Another cylinder which had lost its pressure hose broke the wall of the water bath. Flying slates are thought to have damaged another car. The operator reported subsequent visual and aural disturbances. At a recent service a new valve had been fitted to this cylinder and it was subsequently determined that this new valve's thread was different to the thread in the cylinder.

July 2007

07/203

A group of divers entered the water and commenced their dive. One of these divers, who was in a group of three, experienced problems with his mask at a depth of 6m. The dive leader helped by tightening the strap. The diver then signalled that he was ready to continue. By this time the three divers had lost contact with the others so they continued with the plan. They descended to 14m and the dive leader spotted a rope that she thought led in their intended direction. They followed the line down to 28m. At this point there was no bottom in sight and

they realised that they had gone in the wrong direction. They ascended to 18m at which point the diver who had had earlier problems with his mask lost his mask completely. He attempted to grab it but it sank away from him. The dive leader placed the diver's hand on the rope and tried to indicate that they would follow it upwards and surface. The diver began to panic and attempted to rush for the surface. The other two attempted to stop him and calm him down. In the struggle he knocked the mask off one of the other divers. This diver refitted her mask and the dive leader took hold of the panicked diver and began a controlled buoyant lift. All three ascended and at about 12m the ascent became fast. The other diver dumped air from the panicked diver's drysuit by opening his neck seal. However the diver conducting the lift did not see this and she also dumped air from the diver's BCD. This made them negatively buoyant and they sank back down to 19m before the diver conducting the lift was able to regain control. At about 16m the diver without his mask lost consciousness, his regulator fell from his mouth and his head rolled back. The buddy replaced the regulator, held it in his mouth and pressed the purge. The diver conducting the lift then made them positively buoyant and all three made a rapid ascent to the surface. Their dive duration was 16 min. At the surface they inflated the casualty's BCD and rolled him into a towing position. The other two made themselves positively buoyant and signalled for assistance. The rescuing diver prepared to give rescue breaths when the casualty was heard to groan. He was recovered into a boat and regained consciousness. All three were recovered from the water and placed on oxygen. No subsequent ill effects were reported.

September 2007

07/334

Two divers entered the water to conduct a shore dive. After 60 min one of the divers discovered that her BCD was dumping air and she could not maintain her buoyancy. She tried to remove her weightbelt but it became entangled around her wrist. The divers were at the surface in 6m of water. The divers called for assistance, the Coastguard was alerted and a helicopter and a lifeboat were tasked to assist. The divers managed to move to shallower water and release their weights. A local fishing boat helped them to the shore. Neither diver suffered subsequent ill effects. It is thought that the BCD valve was faulty or jammed open. (Coastguard report).

Miscellaneous

October 2006 07/377
Lifeboat launched to assist divers. Others coped. (RNLI report).

October 2006 07/380
Lifeboat launched to assist divers. (RNLI report).

November 2006 07/381
Lifeboat launched to assist divers; ambulance and doctor called. (RNLI report).

December 2006 07/281
Falmouth Coastguard was alerted by a member of the public to an unattended boat which appeared to be adrift, Falmouth inshore lifeboat were tasked together with Porthoustock Coastguard team, the vessel was being used for diving purposes. the single diver subsequently surfaced after the arrival of the lifeboat, a safety message was passed to the occupant. (Coastguard report).

April 2007 07/389
Lifeboat launched to assist divers. (RNLI report).

April 2007 07/292
An emergency phone call reported two divers in difficulty at the entrance to a harbour. The Coastguard was alerted and a lifeboat and an ambulance were tasked to assist. The divers made their own way to the shore and no further action was required. (Coastguard & RNLI reports).

April 2007 07/201
A guest attended a pool training session. She asked to participate in a try-a-dive session but she had recently been in hospital with breathing difficulties and the request was declined. She was swimming in the pool when she was seen to get into difficulties and a diver entered the water to assist. The casualty was helped from the water. No subsequent ill effects were reported.

April 2007 07/071
Two divers made a shore dive. They swam around a small island into a gulley where there was a heavy swell. They became disorientated, backed out of the gulley and surfaced. They found themselves on the seaward side of the island, in rough water and out of sight of their shore party. They dumped their weightbelts and climbed onto the island from where they were seen by their shore party. They crossed the island and re-entered the water on the sheltered side and swam ashore. They suffered no ill effects.

May 2007 07/297
The Coastguard was alerted when two divers were thought to be in difficulties. Two lifeboats were tasked to assist. The divers

were found, on rocks, having resolved their problems. They were escorted ashore but no further action was required. (Coastguard & RNLI reports).

May 2007 07/396
Lifeboat launched to assist dive boat. False alarm. (RNLI report).

May 2007 07/398
Lifeboat launched to assist dive boat. (RNLI report).

June 2007 07/406
Lifeboat launched to assist dive boat. (RNLI report).

June 2007 07/407
Lifeboat launched to assist diver. False alarm. (RNLI report).

July 2007 07/410
Lifeboat launched to assist diver. False alarm. (RNLI report).

July 2007 07/317
The Coastguard was alerted when divers were thought to be in distress. Two lifeboats were tasked to assist. The divers reached the shore safely. (Coastguard & RNLI reports).

September 2007 07/333
The Coastguard was alerted when two divers were seen waving and shouting. A lifeboat was tasked to assist and a nearby dive RHIB also went to help. But this RHIB suffered engine failure and the divers made the shore safely before the lifeboat arrived. (Coastguard report).

September 2007 07/224
Two divers conducted a dive to a maximum depth of 48m using trimix 21/35. After a bottom time of 32 min they ascended to 21m and switched to nitrox 50. They tried to read dive planning notes from a waterproof notebook that they had but found that the pages were stuck together. They spent 10 min at 21m and then ascended to 18m. They were still unable to read their notes and they realised, from the three computers that they had with them, that they were running over the planned dive time. They decided to write a note for the boat crew to let them know that there was no problem but the dive would be longer than planned. They sent this note to the surface using their emergency/distress delayed SMB. The emergency SMB was seen by the surface team, but the attached note was not. The Coastguard was alerted and a helicopter was sent to assist. The divers surfaced after a dive duration of 92 min. No subsequent ill effects were experienced. (Coastguard report).

Overseas Incidents

Fatalities

February 2007

07/025

A diver became separated from his buddy in the early stages of a dive. The alarm was raised when the diver failed to surface. An extensive search was conducted over a number of days but the diver was not found.

July 2007

07/155

Two pairs and one trio of divers planned to explore a wreck at a maximum depth of 76m using trimix 10/52. One pair descended the shotline to the wreck and checked each other as they descended. Each diver left a tally on a ring on the shotline at 55m. One of the pair descended to the seabed and the other diver stopped at about 55m. The diver on the seabed assumed the diver at 55m was aborting the dive and returning to the surface. On ascent the last diver removed the last tally and cut the decompression system free from the shotline. The group of six divers completed their decompression and left the water with a total dive duration of 160 min. When they were back in the boat it was discovered that the seventh diver, the one who had stopped at 55m, was missing. The Coastguard was alerted and an extensive search was conducted involving 2 helicopters, 2 lifeboats, 1 warship and 12 other vessels. The search was continued the following day. The diver's body was located underwater the following day and recovered. The rebreather was switched on and appeared to be working; its gas cylinders were not empty but the counter lung was believed to have been flooded.

September 2007

07/231

At a depth of 24m three divers stirred up the silt on the bottom and one of the three became separated from the other two. The alarm was raised when this separated diver failed to surface. A surface search was conducted involving a helicopter and two lifeboats over a period of two days. The following day, the diver's body was located, at a depth of 31m, close to the point where he had gone missing. It was reported that the diver's gas cylinder was empty.

Decompression Illness

November 2006

07/021

A diver was engaged in the third day of a cave diving training course at an inland site. He dived to 21m for 55 min with a 2 min stop at 6m. 1 hour 34 min later he dived to 20m for 71 min with a 3 min stop at 6m. He was diving with nitrox 32. 3 hours later he noticed a slight itching on the back of his left hand. The following morning the symptoms were still present and he noticed a slight pain in his left shoulder when lifting things. He sought diving medical advice and went to a recompression facility for treatment.

February 2007

07/031

A diver conducted a dive to a depth of 40m. After surfacing she developed symptoms of DCI and was taken to a recompression facility. Initially she was paralysed from the neck down but began to recover with medical treatment.

April 2007

07/125

A diver conducted a 13 min dive to a depth of 25m with a 3 min stop. 1 hour 45 min later she dived to 28m for 38 min with an average depth of 16m. Later that day she developed a rash across her stomach and the skin down the side of her body was a deep purple. She was placed on oxygen and taken by helicopter to a recompression facility where she received two sessions of treatment.

April 2007

07/078

A diver conducted a 33 min dive to a maximum depth of 31m using nitrox 32 as his dive gas. He conducted a 1 min stop at 10m and a 3 min stop at 5m on nitrox 50. The following day he discovered a rash on both arms and had aching elbows. He sought medical advice and was recompressed; the following day he received a second session of recompression treatment. Three days later he flew home and developed further symptoms of DCI during the flight. He received a third session of recompression treatment.

July 2007

07/161

A diver made a dive to a maximum depth of 58m using air. He ascended slowly to about 5m where he spent 20 min. His total dive duration was 50 min. An unspecified time later he dived to 39m and then ascended to about 5m where he spent the next 75 min. His total dive duration was 105 min. For part of his decompression he held onto a line from the boat, mainly with his right hand. The motion of the boat pulled on his arm. Once back on the boat he began to notice a pain in his right shoulder. The pain slowly increased and later that day he attended hospital. Diving medical advice was sought and the diver was placed on oxygen and a drip containing an anti-inflammatory drug. 8 hours later he was examined again and he was given recompression treatment which resolved his symptoms.

August 2007

07/209

A diver dived to a maximum depth of 42m. After a surface interval of 2 hours 45 min she dived to 36m. She experienced total left side paralysis whilst still in the water. She was recovered into the boat. She was confused and unresponsive with slurred speech. She was placed on oxygen and, at first, her condition improved but then worsened again. The emergency services were alerted and the boat returned to a harbour where the casualty was taken by ambulance to a recompression facility. She began recompression therapy 10 hours and 30 min after the incident and received a series of 6 treatments. At the time of reporting she had made a 95% recovery.

Illness / Injury

December 2006

07/051

A diver conducted a 20m dive for 37 min including 3 min at 6m. 16 hours 30 min later he dived to 26m for 33 min including a 2 min safety stop at 6m. He climbed a ladder to get back on the boat and whilst doing so felt a 'click' in his back. He experienced intense pain in his middle thoracic vertebrae. He had experienced a previous back injury and it was thought that this was related. The pain eased, but 24 min after surfacing he

started to experience a burning sensation in both thighs followed by a tingling down to his big toes. He also had a weakness in his legs. He was placed on oxygen and medical advice was sought. The symptoms quickly eased and were fully resolved 45 min later. He was taken, with his buddy, to a recompression facility but no treatment was considered necessary. He was given anti-inflammatory drugs and advised not to dive for 24 hours. After this he continued diving with no further problems.

January 2007 07/053

A diver conducted a 24 min dive to 20m with a 3 min safety stop at 6m. On surfacing he reported an intense toothache. The party returned to the shore and medical advice was sought. He was given pain killers. It was found that the diver had been suffering from tooth pain before the dive due to a filling that had become displaced; he had not declared this. The following day a temporary replacement filling was made and further pain killers were given.

March 2007 07/181

A diver conducted a 25 min dive to a depth of 15m. The diver had experienced problems clearing his ears and on surfacing it was discovered that he had suffered a nose bleed.

March 2007 07/182

A diver conducted a 38 min dive to a depth of 9m. At the end of the dive he had to fin hard against a current. After the dive he complained of a tightness and pains in his chest. There was some blotching and tenderness on his chest. He was placed on oxygen and medical advice was sought. He went to hospital and a number of tests were conducted. It was concluded that he had suffered stress induced high blood pressure.

May 2007 07/186

An instructor and a trainee conducted a dive to a maximum depth of 10m. During the descent, at about 6m, the trainee indicated that he was having problems clearing his ears. They ascended to 5m and then descended slowly. The majority of the dive was at a depth of 5m and no further problems were experienced. Upon surfacing blood was discovered in the trainee's face mask. It is thought that he had had a nose bleed and he sought medical advice.

July 2007 07/193

A trainee was engaged in a diving course in a swimming pool with a maximum depth of 3m. During the course he mentioned that he had a 'ringing' in his left ear. He spent 3 hours underwater in total during the course and continued to experience the sensation intermittently, although there was no pain. The following day he said that there was some loss of hearing but he was happy to continue. That day he completed two open water dives of 35 min and 45 min duration to a maximum depth of 5m. At the end of this second day the symptoms were worse and medical advice was sought. The following day he underwent a medical examination and a hearing impairment was the only problem found. The trainee was given three sessions of recompression treatment over a three day period. A previous medical examination had diagnosed a leaking heart valve and a slight heart murmur but he was cleared to dive.

July 2007 07/194

A diver completed a 45 min dive to 30m with a 3 min safety stop at 6m. 3 hours later he dived to 25m. During the dive he developed a sinus pain and headache and indicated this to the dive leader. After a further 5 min he signalled that all was not

well and the pair ascended to 6m for a 3 min safety stop and then ascended very slowly to the surface. At the surface the dive leader signalled for assistance and two snorkel divers from the boat came to assist. Back on the boat the diver complained of a severe headache. He was placed on oxygen and medical advice was sought. The boat returned to the shore and the diver was taken by ambulance, with his buddy, to hospital. From here he was airlifted to a recompression facility. The cause of his problem was found to be dehydration. The dive took place in hot conditions.

August 2007 07/225

A diver was engaged in a training programme and had completed a number of dives during the week. On his last dive he cleared his ears at 3m but at 7m he was unable to clear his right ear. He ascended with his instructor to 5m where he was able to clear his ear. At this point he developed a nose bleed into this mask. He cleared his mask but the bleeding continued. The dive was aborted and he sought diving medical advice. It is thought that the problem was related to a previous cold and infection that he had had.

August 2007 07/240

A diver reported to others that he was able to blow cigarette smoke out of his ear. He sought medical advice and a ruptured eardrum was diagnosed. The diver had been hit on the side of the head as a child and had subsequently been very close to an explosion. It was thought that one of these events had caused the rupture.

Boating and Surface

February 2007 07/027

A group of divers dived from a boat. The plan was for the boat to follow the divers and pick them up when they surfaced under a delayed SMB. At the end of the dive the divers surfaced and found that the boat was not there. They spotted the boat some distance away from them but it did not move to them. They swam 1.5 to 2 km to get back to the boat where they were safely recovered. They discovered that the boat's engine had failed 10 min after the dive began. After the engine failed the bilge pump also failed and the battery room was flooded. They eventually managed to restart the engine. Further diving was cancelled and the boat returned to the marina.

April 2007 07/217

A diver rolled into the water from an RHIB in rough sea conditions. He then realised that he had forgotten his weightbelt, decided to abort the dive, and climbed back into the boat. He then leaned over the side of the boat to help his buddy with her kit. At that point a large wave broke over them, flooding the boat. The boat was turned over and all the equipment and passengers were thrown into the water. The diver who had been leaning over the side was pushed underwater with his lungs only partially filled. He was disorientated and struggled to find the surface as other waves broke over them. He came close to drowning but finally made the surface, regrouped with his buddy and the boat's skipper and climbed onto a coral reef. The boat was upside down and it blew away from them. They used a radio to call for help and were recovered into another dive boat.

August 2007 07/228

An RHIB left shore for a dive trip. After 10 min the engine stopped and could not be restarted. The divers reported their



situation by radio and then tried to find and rectify the fault. They concluded that the battery was fully discharged. They radioed for assistance and were towed back to their launch point.

Ascents

November 2006 07/009

Two divers swam on the surface from the shore and then made a slow descent to a wreck at a depth of 19m. One of the pair had not dived for a year and, at 19m, began to panic. There were a lot of bubbles in the water and the other diver could not see what the problem was. He offered her his octopus regulator, which she took, and they started a rapid ascent. The supporting diver was able to dump air from both their BCDs and brought the ascent under control at 8m. They reached the surface safely and swam back to the shore. Their dive duration was 11 min. They had an uneventful dive 2 hours later.

November 2006 07/010

An instructor and three students were engaged in a training session in a swimming pool. They were practicing the use of alternative air sources in a depth of 3m. One of the students took the alternative air source of one of the other students but put it into her mouth upside down. She inhaled water, panicked and rushed for the surface. The instructor took hold of the student and slowed her ascent. He offered his own alternative air source but this was refused. At the surface the student quickly recovered. The students had been briefed to check for the correct orientation of the regulator.

February 2007 07/054

Two instructors and two trainees were engaged in a training course. Their task was to lift a shot and to deploy a delayed SMB mid-water. During the mid-water deployment of the delayed SMBs both trainees lost control of their buoyancy and started to ascend. The instructor signalled them to stop but they failed to do so. The instructor followed them up. He saw that they were safe at the surface, completed a safety stop at 6m and then ascended to the surface. Their maximum depth was 16m and their dive duration 27 min. No subsequent ill effects were experienced and no further action was taken.

March 2007 07/251

Two divers conducted a wreck dive to a maximum depth of 35m using nitrox 27. Their plan was to ascend using a shotline that was off to one side of the wreck. Towards the end of their dive they attempted to return to the shotline but swam away from the wrong side of the wreck. They then spotted the shotline in the distance but one of the pair was low on air. They

decided to ascend using a delayed SMB. At about 15m the diver who was low on air realised that she was down to 50 bar. She panicked and made a rapid ascent to the surface; her buddy ascended at a normal rate. The panicked diver was placed on nitrox 50 and then oxygen. No subsequent ill effects were experienced and no further action was taken.

April 2007 07/063

Two divers dived to a maximum depth of 27m. At 20m one of the pair lost control of his buoyancy and made a fast ascent to the surface. His buddy tried to slow him but lost him at 8m. The diver then re-descended to 20m followed by his buddy. They moved to the edge of a reef at 15m where they checked air. The diver who had made the buoyant ascent was found to be out of air. They surfaced using the buddy's octopus regulator and completed a 3 min stop at 6m. The divers were recovered from the water and the diver who had been out of air was placed on oxygen. No subsequent ill effects were experienced.

Technique

July 2007 07/166

A relatively inexperienced diver led two trainees on a dive. The dive plan was for them to follow the boat's anchor line down to 18m, where it crossed a ridge, and then follow the seabed gradually upwards with a safety stop at 6m. The divers descended, mistook their direction, and followed the line all the way down to the anchor at a depth of 30m. They then swam in the wrong direction and ended up at a depth of 46m. The dive leader then realised the mistake and led a controlled ascent including a 3 min safety stop. Their dive duration was 15 min. The divers were monitored for DCI but no ill effects resulted.

Equipment

March 2007 07/056

A diver conducted a dive to a maximum depth of 29m. He was using a twin cylinder setup with independent regulators. After 23 min he was at 25m. At this point, the pressure gauge of the regulator that he was not using exploded, shattering and expelling the face glass, and forcing the dial outwards. He states that the gauge had not been damaged before the event. He completed his dive safely.

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.

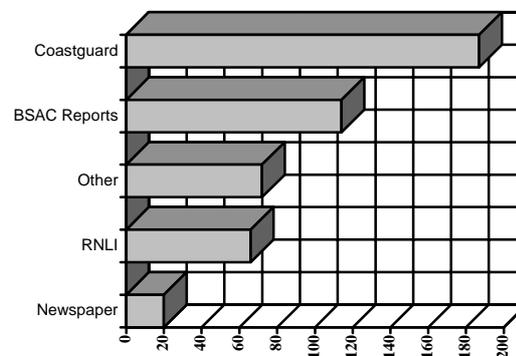
Incident Report Forms can be obtained free of charge by phoning BSAC HQ on **0151 350 6200**
or from the BSAC Internet website.

Numerical & Statistical Analyses

Statistical Summary of Incidents

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

UK Incident Report Source Analysis



Total Reports: 459
Total Incidents: 349

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

LIST OF ABBREVIATIONS USED IN THIS AND PREVIOUS INCIDENT REPORTS

A&E	Accident and emergency department at hospital
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