APPENDIX A - DIVING INCIDENTS REPORT

FOREWARD

The 1992 Diving Incidents Report, produced by The British Sub-Aqua Club (BSAC) in the interest of promoting diving safety.

As the Governing Body of the sport of sub-aqua diving within the United Kingdom, the BSAC publishes this information and makes it freely available, subject to the bounds of medical confidentiality, for the benefit of all those concerned with the organisation and conduct of sport diving activities, and in particular, all divers.

The BSAC Incidents Reporting Scheme has been established for some 27 years, longer than some diver training organisations. It uses information gathered from a large variety of sources, including the individuals and clubs involved, H.M. Coastguard, recompression chamber operators, the Institute of Naval Medicine and a press cuttings service. All reports received are analysed and summarised in this report with the intention of highlighting any lessons that can be learnt. The BSAC uses this information to identify any trends in diving incidents in order togive its best advice and, if necessary, introduce new training prior to these trends becoming commonplace occurrences.

This year (1992) there have been 123 reports received, and it is estimated that over 1.5 million 'man-dives' have been carried out. This is an apparent 30% reduction in dives carried out when compared to 1991 , possibly due to both the depressed state of the economy and due to the inclement weather on the South Coast for most of the year. The vast majority of these dives were carried out in complete safety and attracted no publicity. This should be borne in mind by the reader because although this report focuses on those dives where something went wrong they are a tiny minority.

Unfortunately this year the Institute of Naval Medicine have been unable to supply their usual high quality information this year, due to "a catastrophic computer error", which has rendered their data inaccessible for some months. On the basis that this information usually increases the number of Decompression Incidents by some 20-30%, (those unreported to the BSAC by the divers themselves), this leaves a shortcoming in the numerical accuracy in the decompression section. They hope to resume normal service as soon as possible.

Tim Parish,
BSAC Diving Incidents Advisor,
November 1992

INTRODUCTION

The majority of statistical information contained within this report is also shown in graphical form.

Incident details have been grouped according to type under eight categories:

Fatalities, Decompression Incidents, Boating / Surface Incidents, Ascents, Technique, Equipment, Illness and **Miscellaneous**, followed by 3 historical analyses laid out in tabular form.

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:

INCIDENT REF. *MONTH/YR OF INCIDENT*

Details of Incident.....

.....

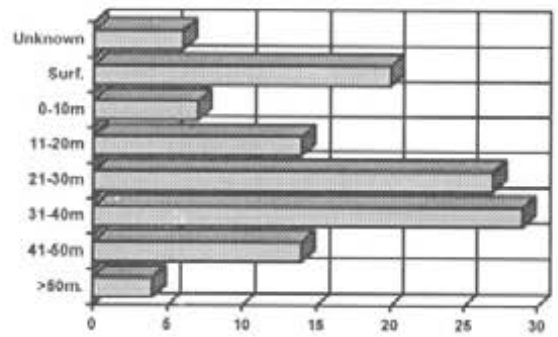
The nature of many diving incidents is such that there is usually more than one cause or effect. Where this has happened the incident has been classified under the more appropriate cause or effect. For instance an incident involving a fast ascent, causing decompression sickness will be classified under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

Although most of the reports involve BSAC members it is important to note that, with over 46,000 members, the BSAC has within its membership the overwhelming majority of sports divers within the U.K., and certainly the most active ones. It is also worth noting that the reporting of incidents is a voluntary process for sport divers and a BSAC member is far more likely to report an incident than a non-BSAC member.

OVERVIEW

1992 has , on the whole, been a fairly quiet year for diving when compared to the previous 2 years, with an indicated drop in the number of dives being carried out of around 30%. Based upon our current figures it is estimated that around 1.5 million 'man-dives' were carried out during the 1992 incident year (1st October 1991 to 30th September 1992 inclusive), with a total of 123 incidents being logged. These do not include figures for 'unreported' cases of recompression, which normally we obtain via BIGHT and the Institute of Naval Medicine. A computer failure has meant that the Institute of Naval Medicine have been unable to provide us with their data for this year. The accuracy of the number of cases of decompression incidents, therefore, should be looked out bearing in mind that the INM figures usually increase our own data capture figures by 20-30%.

Depth Ranges & Incident Occurrences - 1992



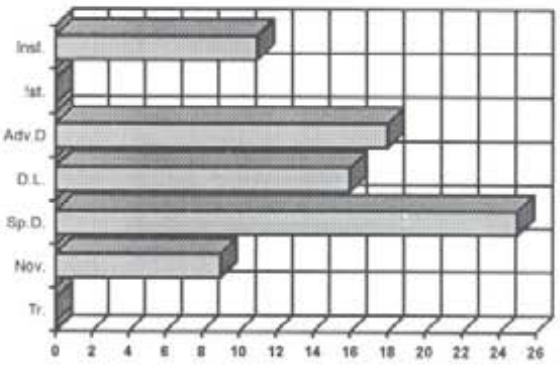
Considering the reduced number of dives undertaken and the much reduced number of incidents reported overall it is distressing to note that 17 fatalities have occurred this year (9 BSAC members, 8 independent), one more than last years total.

Three of these fatalities were actually victims of heart attacks, all three of which were not actually caused by diving, but occurred to divers either while diving or just after a dive.

It is difficult to spot any specific trend in any of the fatal incidents that have occurred this year, they have all occurred for different reasons. It is apparent in many of them, however, that basic training is being forgotten and the advice given in 'Safe Diving Practices' is being ignored. Sound dive planning and dive practice has got to be followed in order to conduct dives safely, especially if the dive is deep or requires decompression stops. Lack of training has also been a factor in at least two of the incidents this year (not BSAC members). One of the fatal incidents involved an untrained person whose only attempt at gaining proper training was to attend a 'Come and Try It' evening at a local club. At least one other incident this year has ended up as a fatality partly because basic rescue training had not been a part of that particular diver's training program.

The sudden occurrence of four fatalities in one month off the Poole / Swanage coast has led to a large amount of bad publicity for the sport as a whole in the national press and television. In most cases the reports have been inaccurate and very distressing for relatives and friends of the deceased.

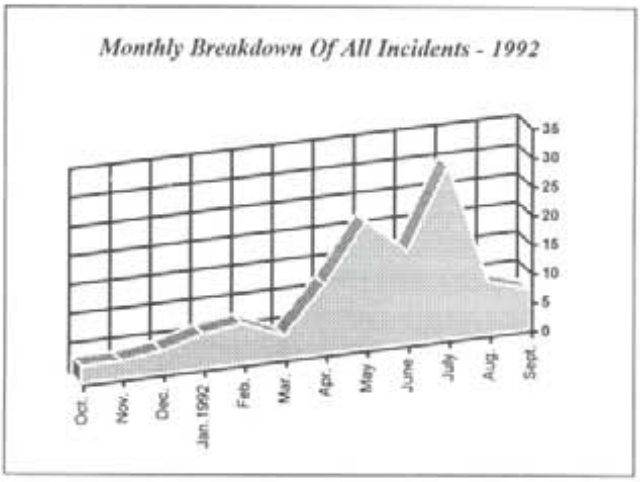
Qualification of Divers



There appears to be a continuing trend towards deeper, more adventurous diving, and this is borne out by the types of treatment being carried out by recompression chambers around the country. There has been a continued increase in the number of treatments given for Type II DCS during this year. It is a sobering thought, perhaps, that the INM and other chamber operators are reporting that 10-15% of those divers being treated for neurological symptoms are left with permanent injury or paralysis.

Once again it is becoming apparent that many of these dives are being carried out without the necessary skills to conduct this type of dive in safety. In many cases divers have carried out ascents without a datum line, having been unable to find the shotline, either because of poor visibility or because they have had insufficient air reserves to return to the shot. In these cases this shows a lack of planning and, dare one say it, common sense. Any deep dive is a serious undertaking and needs to be planned properly, particularly with regard to air consumption, decompression and methods of regaining the shotline to carry out any required stops.

Monthly Breakdown Of All Incidents - 1992



A further trend appears to be an over-reliance on a dive computer's ability to return a diver to the surface safely. It is important to remember that a computer is a very sophisticated instrument, but it is really little different to a watch, set of tables and a depth gauge. Dive planning still needs to be carried out properly and allowances made for general health and fitness to dive.

Think before you sink!

FATALITIES

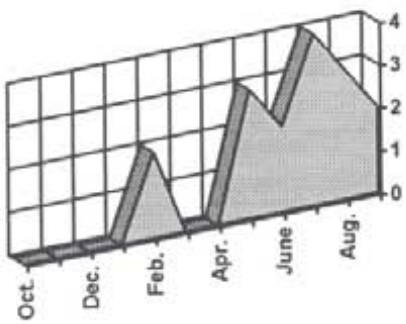
16/92 Feb. 1992

A diver diving out of Hurghada from a trio of hard boats was hit by the propeller of one of the boats as it passed over the dive site, just as the diver surfaced. The boats had all been tied together with only one anchor down when a squall broke the anchor free, scattering the boats over the dive site. The diver's body remained trapped around the propeller and the boat had to be towed back to Hurghada.

21/92 Feb. 1992

During a PADI Rescue Diver course one of the divers entered the water to locate and lift a 'casualty'. He never got to the casualty and after a short while the casualty became bored, surfaced and raised the alarm. The diver was found a considerable time later in 10m. of water with an empty cylinder. The instructor running the course was on the bank and was unable to give immediate assistance.

Fatalities - Monthly Breakdown - 1992



38/92 May 1992

1hr 10 mins after a dive a diver collapsed while loading his equipment into his car. ECC and EAR were given and, upon arrival of the Ambulance, adrenalin and a de-fibrulator were used but the patient did not respond. Pronounced dead on arrival at Torbay Hospital. The subsequent post-mortem showed the cause of death to be a heart attack, not diving related.

39/92 May 1992

A diver was found collapsed on the bottom following his descent. He was lifted to the surface where a passing fishing boat picked him and his buddy up. Despite EAR and ECC being given the casualty never regained consciousness and was later declared dead. Preliminary post-mortem results indicate that the casualty suffered from a rare cardiac condition and his death was probably not due to a diving incident.

41/92 May 1992

A diver suffered an air embolism during an ascent after suffering a heart attack underwater. She suffered several more heart attacks during transport and treatment and eventually died. The victim had a history of heart attacks, the last one being just two weeks prior to the dive.

72/92 June 1992

A group of divers responded to a radio message from another boat to find a diver unconscious in the water, where he'd been for 22 mins - his buddies still underwater. 3 members of the club entered the water and got him into the boat with assistance from two others. EAR and ECC was given for 35-40 minutes with O_2 being given until the boat arrived at shore. The diver was declared dead at the scene by a local doctor.

89/92 June 1992

An untrained diver, not a member of any club or organisation, died from drowning whilst diving off a beach in Padstow. All his equipment looked old and past its useful life. N.B. Date shown is the date of the inquest - not of the incident.

63/92 July 1992

After a dive on a deep wreck two divers decided to surface using a delayed SMB attached to a reel. One diver deployed the SMB which dragged her up a few metres and flooded her mask. The diver could see her buddy checking his watch on the top of the wreck. She then descended through her buddy's bubbles but when she got to 40/42 metres she could find no sign of her buddy. Searches were mounted by Navy divers and other clubs to no avail, no sign of the diver has yet been found.

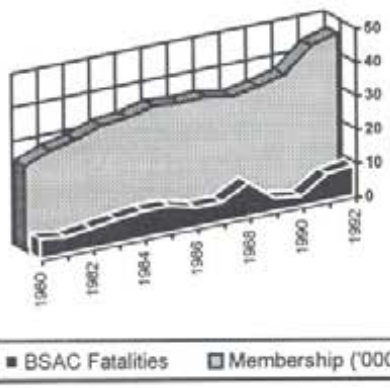
83/92 July 1992

A diver was brought to the surface unconscious and requiring EAR and ECC following a deep dive. He was evacuated by helicopter and later declared dead by a doctor. No report submitted by branch.

84/92 July 1992

A diver appeared to panic on the ascent up the shotline after initially following the wrong line. His buddy caught him up half way to the surface, where the first diver gave the out of air signal. Sharing was commenced, even though the victim carried a pony cylinder, but on the surface the diver lost consciousness. He was recovered onto the boat and EAR/ECC was started. The coastguard was contacted and the casualty taken by helicopter to hospital where he was declared 'Dead On Arrival'.

BSAC Fatalities Against Membership 1980-1992



85/92 July 1992

A diver had problems with his neck seal on a wreck at 43m. Despite his buddy trying to solve the problem he began to panic and inflated his dry suit to head for the surface, leaving his buddy on the bottom. When his buddy surfaced the diver was nowhere to be seen. He was seen later swimming around the wreck alone by another pair of divers, but never surfaced. His body was located the following day on the seabed near to the wreck. Newspaper and Coroner's reports only.

103/92 Aug. 1992

A diver brought his distressed buddy to the surface and got into difficulties. Another diver took over the rescue and towed the distressed buddy to the shore. During this time the first diver disappeared from the surface and was drowned. Neither of the buddy pair was rescue trained.

104/92 Aug. 1992
105/92 Aug. 1992

An experienced Sports Diver, diving with an Open Water Diver on her first dive in UK waters, descended the shot line to the wreck. They were to tie a waster to the wreck and send a lifting bag up attached to the shot. When the lifting bag had not reached the surface after the allotted time further divers were sent in. They found the original pair lying on the seabed with their DV's out of their mouths and their masks off. A failed attempt at air sharing would appear to be the likely cause.

106/92 Aug. 1992

One of a trio of divers diving together at 32m. suddenly bolted for the surface. This caused a second diver to start to panic and the third diver had to assist him to the surface. When they reached the surface there was no sign of the first diver, who had apparently never reached the surface. He was later found on the bottom in 21m. of water and was declared dead at the scene.

113/92 Sept. 1992

A solo diver died attempting to recover an anchor for a trawler. Nobody on the trawler could dive and did not find it peculiar that he was underwater for a long time. The diver was found 2hr 30 mins after leaving the surface, with his DV in his mouth but his cylinder (containing 150 bar) between his legs.

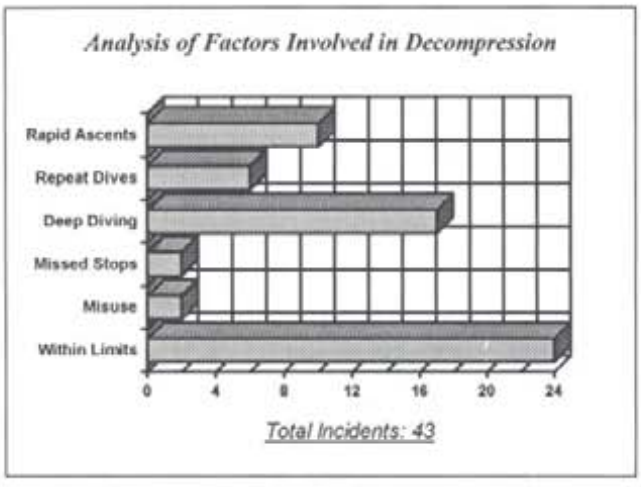
114/92 Sept. 1992

A diver arrived on the surface dead following a dive on SMS Brummer in Scapa Flow. His buddy suffered an air embolism and was flown to Aberdeen for treatment. Newspaper and chamber reports only.

DECOMPRESSION INCIDENTS

11/92 Oct. 1991

After returning from a social evening with her club, some 6 hours after the last dive, a diver started to feel ill. Other club members monitored her condition and after 15-30 mins it deteriorated enough for them to call an ambulance and place her on oxygen. She was admitted overnight and the cause was diagnosed later by HMS Vernon as a case of mild Type 1 DCS.



5/92 Nov. 1991

A diver ran low on air on an ascent from 27m. and air sharing was commenced at 15m. Following the second transfer of his buddy's DV the first diver lost his grip on his buddies arm(!) and lost contact. In panic he finned hard for the surface and made no attempt to control his ascent. The other diver dropped her weightbelt and also made an uncontrolled ascent. The second diver was recompressed for a possible embolism. All the club's Dive Leaders must now carry an Octopus rig on all club dives !!

124/92 Jan. 1992

A diver was treated for Type II DCS after a dive to 39m. Chamber Report Only.

13/92 Jan. 1992

Two divers ran out of bottom time on a wreck at 47m. and could not find their shotline due to narcosis. They then ran out of air carrying out decompression stops at 3m and were forced to the surface. Despite going onto oxygen immediately they were in the boat it took a long period of time before the Coastguard was contacted (from the shore after landing and getting changed). Finally recompressed at Millport under advice of Aberdeen Royal Infirmary.

18/92 Feb. 1992

After a pot dive to 42m. a diver felt pain in his right knee but said nothing. The following morning he dived to 8m for 23mins on Table B without incident, but by the evening began to fill pain in his lower back. After a further 24 hours he phoned another club member who persuaded him to go to Bolton Hospital. He was eventually recompressed at Hutton Police HQ's recompression chamber.

20/92 Mar. 1992

43 mins after surfacing from a 31m. dive a diver reported a dull ache in his wrist, which was at first put down to a new drysuit with tight wrist seals. A further ache at the elbow developed and the diver was placed on oxygen and DDRC contacted. Recompressed at DDRC for Type 1 DCS.

42/92 Apr. 199

After an uncontrolled ascent from 44m a diver suffered pain in the lower spine and diaphragm 10 mins after surfacing. He was given oxygen immediately and taken to Burray, after a delay to pick up other divers. The casualty was taken to Kirkwall Hospital and from there flown to Aberdeen Royal Infirmary where he underwent a total of 8 hours of recompression. Diagnosed as having a Type 2 Neurological bend, the casualty was also discovered to have a 'hole in the heart'.

57/92 Apr. 1992

The day after an incident free dive to 40m. with added safety stops a diver started to experience symptoms of DCS. She was eventually recompressed in Falmouth for a Type II bend and has been left with minor sensory problems. This was the divers second occurrence of DCS having had a bend some 5 years earlier. She is now limited to a maximum depth of 12m. and only one dive per day.

107/92 May 1992

10 minutes after a 48m. dive onto a wreck off Jersey a diver noticed a mottled rash on his arm and suffered pain in his elbow and shoulder. He was returned to shore and later recompressed.

117/92 May 1992

A diver was treated for Type I DCS after a dive to 42m. Chamber Report Only.

125/92 May 1992

A diver was treated for Type II DCS after a dive to 46m. Chamber Report Only.

43/92 May 199

After surfacing from a 28m dive a diver got a bad headache and felt very tired. On return to Kimmeridge he collapsed and was eventually taken to the Institute of Naval Medicine in Portsmouth after talking to a doctor over the phone. He was recompressed for 6 hrs on Table 62 with complete resolution of the symptoms.

48/92 May 1992

During an ascent following a 40m. dive a diver suddenly shot to surface and fell face down on the surface. When recovered to the boat she was grey and having difficulty breathing. She was evacuated by helicopter to DDRC where she was recompressed for 3 hrs. Dehydration was cited as a possible cause.

56/92 May 1992

After a 'possibly rapid' ascent from 52m. a diver suffered from backache. This ache got worse and then spread to numbness in the legs. He was put on oxygen and taken to DDRC where he was recompressed to 80m for 5hrs 30 mins. All symptoms have now been resolved. US Navy Tables were being used.

90/92 May 1992

10-15mins after surfacing a diver developed symptoms of decompression sickness, starting in the wrists and progressing to the chest. He was taken to Port-En-Bassin (Normandy) and recompressed 4 times at Le Havre with 98% recovery.

120/92 June 1992

A diver was treated for Type II DCS after a dive to 50m. Chamber Report Only.

122/92 June 1992

A diver was treated for Type II DCS after a dive to 29m. Chamber Report Only.

47/92 June 1992

During the journey home from a weeks diving holiday in Oban, a diver suffered symptoms of decompression sickness. After contacting HMS Vernon they were advised to return to Dunstaffnage Marine Laboratory for treatment. The diver was recompressed 3 times before the symptoms were adequately resolved.

55/92 June 1992

Shortly after surfacing from the fourth dive in 30 hrs., at least one of which was to below 50m. a diver felt pain in his left elbow. He was given oxygen for 50 mins with complete resolution of symptoms. In consultation with DDRC it was decided not to recompress the diver due to the logistical problems of getting to a chamber and the total resolution of symptoms.

59/92 June 1992

A Novice suffered symptoms of a Type II bend after diving to 30m. for 25 mins. He was recompressed at BNFL Sellafield.

73/92 June 1992

A diver started to experience tingling in the legs while waiting to be picked up by the boat following a drift dive to 30m. While de-kitting he experienced cramp below his diaphragm and then lost strength in his legs. He was immediately put on O2 by the skipper and the Emergency Services were contacted. The diver was transferred by helicopter to Gosport where he underwent 8hrs decompression, followed by a further 1.5 hrs the following day. A full recovery is expected.

109/92 July 1992

A diver was recompressed at Haslar Naval Hospital after suffering from symptoms of DCS while diving in Swanage Bay. Newspaper / Coastguard report only.

111/92 July 1992

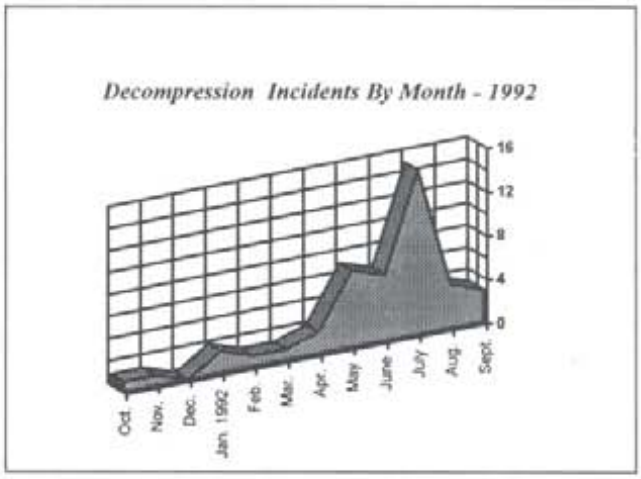
A diver suffered a Type II bend after carrying out a weeks diving using a dive computer, then diving with tables after a 17 hour surface interval. Following that dive a further dive was carried out on computer.

112/92 July 1992

Following a deep dive (45m) two divers ascended too quickly following an attempt at air sharing. They were immediately put on oxygen and were evacuated by helicopter. One diver was treated for a Type I bend, the other for a Type II.

118/92 July 1992

A diver was treated for Type II DCS after a dive to 30m. Chamber Report Only.



121/92 July 1992

A diver was treated for Type II DCS after a dive to 31m. Chamber Report Only.

123/92 July 1992

A diver was treated for Type II DCS after a dive to 30m. Chamber Report Only.

77/92 July 1992

A few minutes after surfacing a diver became numb down his right hand side and suffered slurred speech. Oxygen was immediately administered and the Coastguard informed. The diver (& buddy) were airlifted to the chamber at Millport, where the diver was recompressed for 5hrs with complete resolution of symptoms. The diver had had a 'few' drinks the night before, had been suffering from a cold and had been on a diet (losing 8lbs) for a fortnight.

78/92 July 1992

12hrs after a 50m dive woke suffering from dizziness blurred vision and tightness around the ear and jaw. After consultation with a Doctor she was administered oxygen and then recompressed for 5hrs 30 mins with complete resolution of symptoms.

81/92 July 1992

Following a dive to 34m for 26 mins a diver surfaced in 2 minutes, his buddy carried out 5mins of stops. The diver suffered classic symptoms of decompression sickness and was given oxygen and the Coastguard informed. The casualty and his buddy were airlifted to Gosport where the casualty was recompressed.

86/92 July 1992

After surfacing from a dive to 37m. and de-kitting a diver complained of chest pains and weakness in the legs. He was diagnosed as having a bend and was immediately put on O2 and the coastguard informed. The casualty was airlifted to Gt. Yarmouth where he was recompressed.

91/92 July 1992

A diver diving in a threesome lost contact with his buddies and

then got tangled up in a gill net laid across a deep wreck (51m). He managed to cut free the weighted end of the net but couldn't free himself, after 28 mins on the bottom he ran out of air and lost consciousness. The boat cover saw him surface and administered O2 until a helicopter arrived and transferred him to Yarmouth where he was recompressed.

92/92 July 1992

On an ascent from a 40m. dive a diver lost his weightbelt. It was caught by one of his buddies (he was diving in a threesome) and reattached to the divers BC by a line. At about 20m. the diver inverted and lost control of his ascent, another diver hung on to him to slow him down but lost contact at about 10m. The diver was put on O2 and transferred by ambulance to hospital in Kirkwall.

93/92 July 1992

Nearly 24hrs after a dive on a Red Sea wreck site a diver started to develop symptoms of decompression sickness, starting in her arm and progressing to her neck. She was transported to a recompression facility by her father, an NQI, where she was recompressed for 5 hrs. Dehydration may have been a factor.

96/92 July 1992

While diving the wreck of an ammunition ship two divers found some 'artefacts', which they decided to lift using their own buoyancy. They were unable to maintain positive buoyancy and sank to the bottom. They had to cut the 'artefacts' free and after their struggles found themselves short of air and had to make a rapid ascent. Both later had symptoms of DCS, one paralysed from the waist down. Despite several recompressions he is not expected to regain 100% mobility.

97/92 July 1992

A diver had to be recompressed for decompression sickness following an emergency ascent. The diver had suffered a burst eardrum at depth and had to be assisted to the surface.

100/92 Aug. 1992

30 mins after surfacing a diver felt pain in his right shoulder where he had received an injury the previous week. When the pain moved down his arm to his wrist he was put on oxygen and transported to shore. He was recompressed for 5hrs with resolution of symptoms.

101/92 Aug. 1992

After surfacing from a deep dive a diver lost consciousness on the surface. He was recovered into the boat and immediately given oxygen and EAR. He was evacuated to DDRC where he was diagnosed as having suffered an arterial gas embolism, decompression sickness and had drowned on the surface. The diver has had several recompression treatments and is improving steadily.

102/92 Aug. 1992

Following a weeks diving without a break and close to decompression limits two divers suffered decompression sickness in joints. They were recompressed at Aberdeen Royal Infirmary with complete resolution of symptoms.

108/92 Aug. 1992

5 hours after carrying out a 27m dive a diver carried out a dive to 35m with 29mins of decompression stops. On de-kitting he felt some shoulder pain which subsided immediately but the next morning had severe pain in his left elbow and partial paralysis in his left hand. He was recompressed at Aberdeen and has been advised not to dive for a year.

9/92 Sept. 1991

10-15 mins after a dive to 44m a diver experienced itchy skin and a mottled rash on his arm. He was given oxygen on demand and was evacuated to Aberdeen, where he was recompressed on USN Table 6 with complete eradication of all symptoms. Later echocardiography tests showed evidence of a PFO.

119/92 Sept. 1992

A diver was treated for an Air Embolism DCS after a dive to 32m. Chamber Report Only.

126/92 Sept. 1992

A diver was treated for Type II DCS after a dive to 33m. Chamber Report Only.

BOATING / SURFACE INCIDENTS

1/92 Nov. 1991

A solo diver dived to recover anchor from bottom and as he left boat the engine stalled and could not be re-started. He was recovered by an RNLI Inshore RIB following alert of rescue services by boat cover.

15/92 Feb. 1992

A diver taking family and friends up the River Severn to follow the Severn Bore ran into problems when he ran aground, ahead of the bore. As the bore hit the boat it flipped it over hurling all the occupants into the water. One person got trapped under the boat and was only found after some time, not breathing. After resuscitation the casualty recovered completely.

29/92 Apr. 1992

After swapping fuel tanks a RIB's outboard engine caught fire and the crew were unable to extinguish it. A Pan-Pan call to the coastguard resulted in the arrival of a lifeboat, which took off the crew and towed the RIB back to Swanage harbour. There was no damage to either the boat or the divers. The fire is believed to have started due to an electrical fault.

31/92 Apr. 1992

Two diving clubs diving the same wreck put separate shot lines down. The second line dropped made it almost impossible for the first club to drop off its divers without coming close to the second boat's shotline. A complaint was made to the first club about a 'near miss' some days later. Nothing was noticed or said at the time and no injuries reported.

32/92 Apr. 1992

On a drift dive at 24m the SMB broke away from the line. The divers ascended but, with stops, the ascent took 4 mins. during which time the cover boat had followed the SMB. The divers could not contact the cover boat and drifted towards Plymouth Breakwater. A passing RIB eventually picked them up and passed them onto to an RNLI RIB which was searching for them.

33/92 Apr. 1992

The boat cover lost sight of an SMB while trying to raise another pair of divers, who were apparently ignoring the cox'n's rope signals. They were eventually found by a passing yacht and recovered by the boat cover soon afterwards.

35/92 Apr. 1992

Just before a dive an outboard motor suffered a major failure (seized piston following a bolt shearing). The crew paddled the boat into a small cove and secured it with bow and stern lines before attempting to contact Oban Coastguard. Messages had to be relayed via a fishing vessel which eventually towed the boat back to harbour.

37/92 May 1992

20 mins into a dive off Seaford Beach a diver was dragged to the surface by his SMB and had to cut the line. The SMB had been pulled up by a small dory operated by Newhaven Port Health Authority who seemed surprised to see divers under an SMB (a std design). They asked the divers if they were OK and then drove off, leaving the divers to recover the SMB which had floated away with the tide.

44/92 May 1992

A boat approaching the site of the 'Elk' was nearly rammed by a hard boat already on site. The incident has been reported to the MOD Water Police Devonport.

49/92 May 1992

While diving off the Ayrshire coast the charter boats prop tangled with the shot-line and dragged a diver to the surface, making him miss 10 minutes stops. The diver complained of dizziness and was given O2 by his companions while a Helicopter stood by. The diver was transferred by ambulance to Davidson Memorial Hospital and from there to Ayr Hospital where he made a swift recovery.

67/92 May 1992

An unusually large wave caught out a group of divers launching a RIB turning the boat over. During this one of the divers sustained a cut finger and crushed nerve which required hospital treatment.

68/92 May 1992

Three dive boats diving together were caught by a sudden drop in surface visibility, due to fog. Divers underwater were recalled but one pair was lost while picking up other divers. A search was initiated and after 20 minutes the coastguard was informed and an inshore lifeboat joined the search. The divers were found 10 mins later clinging to a marker buoy.

51/92 June 1992

A pair of divers diving from a hard boat got caught in an underwater current during their ascent from a dive on some pinnacles. They were not using an SMB and on surfacing were not spotted by the boat. Despite firing smoke flares as other boats passed by and carrying a signal flag they were not spotted for a considerable time. They were eventually picked up safely.

60/92 June 1992

A local hard boat skipper abused and threatened a group of divers already diving the Glen Strathallen in Plymouth Sound, eventually ramming their boat. The incident has been reported to the Queens Harbourmaster at Devonport.

88/92 June 1992

Two divers surfaced, after a 20 minute dive, downtide of their surface cover and were unable to attract the boats attention. They drifted towards Start Point for an hour before being picked up by a lifeboat alerted by the boat cover.

70/92 July 1992

A RIB was turned over by a large breaking wave while passing over a reef. The spare radio was recovered from its secure locker and the Coastguard alerted. The boat and its crew were towed into a cove where the boat was righted.

75/92 July 1992

A pair of divers underestimated the current on their ascent and did not bother to ascend either the shotline or use their delayed SMB. They surfaced while the boat was picking up other divers and failed to attract the boats attention, before being taken from view by the current. They were reported overdue to the Coastguard and a search commenced the divers being found safe and well some 90 minutes after they surfaced.

79/92 July 1992

On a club dive using two boats some confusion arose as the weather worsened, ending in only one boat being on station, with little fuel and no knowledge of who was in the water. This resulted in two divers being lost when they surfaced and the Coastguard being alerted. The two divers swam ashore themselves with no ill effects.

82/92 July 1992

A boat was swamped in unforecast heavy seas. No injuries reported. Recovered by lifeboat.

95/92 July 1992

While diving the wreck of HMS Elk a club were approached by a local charter boat. After asking if any divers were down the charter boat skipper became abusive and then dropped a grapnel onto the stern of the wreck with little regard to the safety of the divers below.

110/92 Aug. 1992

Two divers lost contact with their surface cover when their SMB was pulled below the surface. They were found within 5 minutes of the arrival of the search helicopter in good spirits but cold.

ASCENTS

19/92 Mar. 1992

During a night dive to 18m. a diver looking into a hole in the coral found his BC inflating. He began to ascend feet first and was unable to dump any air, but managed to right himself at 6m. On arrival at the surface he was breathless and obviously shaken, but otherwise none the worse for his experience. On examination grains of sand were discovered in the direct feed controls, it is assumed that these were the cause of the problem.

65/92 May 1992

One of a trio of divers had trouble with the descent and in using his SMB reel. He later acted strangely on the bottom so the dive was aborted. At around 12-17m the diver gave the out of air signal and was given his buddy's regulator while his buddy breathed off an Air II via his BC cylinder. A fast ascent was made and the first diver was seen to have froth around his mouth on surfacing and was given O2. Transferred to DDRC and examined before being sent to Plymouth General for overnight observation.

66/92 May 1992

During a dive to 13 metres a divers dry suit inflation valve stuck open and the hose could not be released. Despite trying to vent via the neck seal the diver experienced a rapid uncontrolled ascent. Following this the diver experienced a painful throat. The next day he coughed up large amounts of bloody sputum and was advised to go the local hospital by HMS Vernon. A Pulmonary Barotrauma was suspected.

TECHNIQUE

22/92 Dec. 1991

On a planned 36m dive down a submarine cliff two divers missed the cliff face and inadvertently descended to 58m. They carried out an immediate ascent and then an untimed stop at 6m. Both divers suffered no ill effects. The Dive Leader stated that contributing factors were cold and unhappiness with the dive plan, but was unable to explain the unplanned descent to such a depth.

7/92 Dec. 1991

While diving as a threesome a diver suddenly ran out of air after 15 mins at 20m. The diver had entered the water with 232 bar in a 15l. cylinder. A successful ascent was carried out using another diver's octopus rig. On checking the cylinder on the surface the valve was found to be turned off completely. The club involved suspect a deliberate malicious act.

17/92 Feb. 1992

Due to the apparent proximity of the surface a diver was tempted to continue diving after reaching 50 bars, until she realised that she had less than 5 bar remaining on the gauge. A trouble free ascent was carried out on the other diver's octopus rig.

28/92 Mar. 1992

On a night dive in Stoney Cove one of a trio of divers ran out of air at 24m. The diver would not accept an octopus rig and was obviously suffering from shock. The casualty released his own weight belt and carried out a free ascent, during which he stopped breathing and blacked out. EAR was applied and the rescue boat called out. The patient recovered consciousness after being given O2 and suffered no ill-effects. The diver carried 38lbs of lead and had a 'restrictive' neck on his wet suit.

30/92 Apr. 1992

While carrying out a dive on HMS Hood in Portland Harbour a trio entered the wreck for about 5 metres. On exiting from thewreck one diver could not be found, despite a quick search inside. The divers surfaced raised the alarm and then re-entered the water with wreck lines to carry out a search. The lost diver was found inside the wreck some 20 mins after the separation, having followed an old wreck line. He had some 10-15 mins of air left and surfaced with no ill effects, apart from latent shock.

34/92 Apr. 1992

A Sports Diver, diving with a Novice, did not recognise the significance of the pressure gauge needle swinging violently every time the Novice took a breath. 16-17 mins into the dive the Novice gave the out of air signal and a controlled ascent was made using the buddy's octopus. On return to the boat it was discovered that the cylinder valve had only been turned on halfway.

52/92 Apr. 1992

A novice had problems with a loose weightbelt on the descent and ended up holding on to his weight belt with one hand and an SMB with the other. His buddy realised that a problem was occurring and commenced an assisted ascent. This was controlled to about 20m. but control was lost when the pair became tangled in the SMB line. A rapid ascent ensued but both divers escaped without any symptoms.

54/92 Apr. 1992

During a drift dive a Novice diver started to have some problems and signalled to abort the dive. An ascent up the SMB line was started, but at 10m. the Novice let go of the SMB line and headed for the surface. He suffered a ruptured stomach, due to having taken air into his gut whilst breathing underwater. During the ascent it expanded within his stomach causing the rupture. He was kept in hospital for 7 days while the 3-5 litres of air that had escaped from his stomach was re-absorbed.

58/92 Apr. 1992

At the beginning of an ascent a diver gave the 'out of air' signal and then grabbed his buddies 2nd stage from his mouth. The buddy placed his Air II regulator in his own mouth and a safe ascent was accomplished. The original divers pressure gauge was later found to have the needle stuck at 50 bar. No buddy check had been made, as the first diver's original buddy had aborted on the surface.

0/92 May 1992

Three divers rescued a nine year old boy who had fallen from a pier while fishing. The boy was encumbered by a heavy coat and was unable to swim.

69/92 June 1992

During the ascent from a wreck diver a diver became entangled in other divers bottom lines attached to the shotline. His buddy then also got entangled trying to free him when the first diver started to panic. They were freed by another buddy pair and started their ascent. The first diver signalled out of air and was given a second regulator attached to a pony cylinder. The divers required 5 mins stops but the first diver shot to the surface after 4 mins. the second diver completed his stops.

71/92 June 1992

A diver undertaking the BSAC Lifesaver award had to be rescued after suffering heat exhaustion in the pool. She was wearing an 8mm semi-dry incl. gloves at the insistence of the examiner!!

98/92 July 1992

A diver became inverted passing two other divers while ascending the shot line. Once on the surface his buddy attempted to obtain buoyancy using the divers emergency cylinder on his fairly new BC - it came off in her hand and the diver's head sunk below the surface, where water was inhaled. The buddy pulled the diver back to the surface and he was helped into the boat. He was later transferred by ambulance to hospital in Stromness for observation.

99/92 July 1992

Two divers missed a 1 minute stop after misreading the dive tables. No ill effects.

116/92 Sept. 1992

A diver ran out of air on the ascent after leaving the bottom with only 35 bar in his cylinder. A successful ascent was made to the surface sharing from a buddy's octopus.

EQUIPMENT

2/92 Nov. 1991

On descent to 50m. a diver's regulator free-flowed at 40m. He ascended to 30m. where he shared his buddy's Alternate Air Source, followed by a controlled ascent to the surface. The diver observed that due to his increased breathing rate he had considerable misgivings about the effectiveness of air sharing using a single mouthpiece. Later examination of his demand valve revealed the presence of water within the medium pressure hose the cause of this is unknown.

12/92 Jan. 1992

A diver diving with a twinset, fitted with a DV on each cylinder,

had just swapped to his second set when it started to free flow. He was able to switch back to his original cylinder and surface, including stops, on his reserve. The faulty DV was taken to a service agent who diagnosed a high pressure seat failure.

23/92 Jan. 1992

Free flow of a regulator at 32m. Despite both an octopus and an Air II being available an air sharing assisted ascent took place. Water temperature was 6C.

24/92 Jan. 1992

Within 2 mins of reaching 50m a diver's regulator started free-flowing. The buddy's pony bottle was used which itself started to free-flow. Air sharing was commenced and was successful up to 15-20m where control of the ascent rate was lost and an over fast ascent to the surface was made. Oxygen was administered on the shore and the victim was flown to Waterways where he was recompressed as a precautionary measure only.

26/92 Feb. 1992

12 mins into the dive a diver using a modern high performance regulator suffered a free-flow. He switched to a second (older design) regulator on a second cylinder and made a normal ascent.

36/92 May 1992

During a dive in which a new mask kept flooding the casualty signalled to ascend. The casualty had trouble using the BC controls and the buddy had to control the ascent. In doing this the casualty's DV was knocked loose a couple of times and seawater was inspired. The casualty lost consciousness just below the surface but did not stop breathing. She was taken to DDRC and from there to hospital. A full recovery was made after 12 hours.

46/92 May 1992

During the early stages of a wreck dive a diver suffered a rapid loss of air due to an apparent rupture of a hose. She carried out a free ascent from 22m her buddy surfaced normally. Shortly after surfacing the diver suffered joint pains in the right shoulder and minor numbness in the fingers of the right hand. These symptoms subsided over the next 24 hours.

76/92 July 1992

A direct feed hose snagged on a wreck and tore off at the first stage mounting causing a rapid loss of air supply. A successful air sharing (single regulator) was carried out and both divers surfaced with no ill effects.

80/92 July 1992

During a dive on the Kyarra a diver's mouthpiece parted company with her regulator second stage. Air sharing was commenced before both divers remembered that they had alternative air sources with them. The DV was eventually reassembled underwater and the dive continued without further incident. The incident was witnessed by four other divers, all of whom thought that a training drill was being carried out.

ILLNESS

10/92 Oct. 1991

During a Dive Leader Rescue Test the 'body' developed problems following the initial sharing exercise. She was successfully lifted to the surface using a CBL with no ill effects evident on the surface. A later examination by a medical referee could find no problems. The event was diagnosed as 'just a spin'.

62/92 Dec. 1991

A diver felt cold and nauseous following a normal dive to 15m. She then felt faint and collapsed once on shore. While it was initially thought to be a bad air problem it now appears that a circulatory problem may exist. Medical Referees are being consulted. In the meantime the diver is sticking to very conservative dive profiles.

64/92 July 1992

On the Monday following a weekend's diving a diver started to experience leg pains and numbness. On admission to Worcester Casualty little notice was taken of his report of possible DCS and he was X-rayed and sent home. On the Tuesday matters got worse and he returned to hospital, where eventually they contacted HMS Vernon and recompression was arranged at Stoney Cove, with no effect. Later diagnosed as a damaged sciatic nerve.

87/92 July 1992

Shortly after leaving the surface a diver felt pain in her back and was towed ashore, where she stated she couldn't move her left leg. She was evacuated to hospital by ambulance. The diver had hurt her hip the previous evening and it is assumed that the duck dive at the beginning of the dive caused a worsening of that injury.

115/92 Sept. 1992

Following a dive to 46m. a diver collapsed in a restaurant during lunch. He was immediately treated for DCS and placed on oxygen. After some delay he was transferred to the chamber at Faslane where he was recompressed as a precaution, the doctor could find no symptoms of DCS. The patient has a history of fainting when worried or under stress and this is thought to be the cause of the incident.

MISCELLANEOUS

25/92 Jan 1992

On reaching the bottom at 35m a diver suffered from vertigo with no obvious initial cause. The diver was disoriented and had to use bubble tracks to find the location of the surface. While he was aware of air bubbling from his left ear the dive was continued normally. A perforation of the left ear drum was discovered following later medical examination.

4/92 Oct. 1991

An inadequately supervised 'Pot Dive'. While 4 people were in the chamber under pressure the access lock inner door was left open allowing no access to the chamber in case of emergency. During the dive the only attendant present frequently left the operating panel. During the narrative several previous treatments were mentioned in detail, inclusive of the patients names and medical conditions.

14/92 Feb. 1992

A Novice Diver on her 9th open water dive experienced problems clearing her right ear on the second dive of the day. Ascended then re descended following apparent resolution of the problem. Suffered slight bleeding and tinnitus after the dive. Subsequent examination by her own GP showed a perforated eardrum.

27/92 Mar. 1992

While diving the James Egan Layne a diver became trapped by the hand as a plate he was holding on to moved with the tidal surge. The plate moved again 20 seconds later freeing him again. A resulting wound in the divers finger required 10 stitches at DDRC.

45/92 May 1992

A diver aborted his dive due to an oily taste to his air. Following the dive he suffered light headedness and slight nausea. Following removal of the pillar valve an oily sludge was found deposited around the neck of the bottle.

61/92 June 1992

While on a navigation training exercise one of the trainees became separated from the others in low visibility. Believing himself to be still in contact with the others he continued on his bearing for a further 15 mins before realising he was alone and surfacing safely.

74/92 June 1992

On a second dive following a Sports Diver Rescue Skills test a diver suffered severe pain to his right ear. A very careful and steady ascent was made and the problem was resolved. Medical diagnosis was a 'reversed ear' due to a swelling of the eustachion tube .

Statistical Summary Of Incidents

	1987	1988	1989	1990	1991	1992
Incidents Reports	162	197	244	207	199	123
Incidents Analysed	162	197	244	207	199	123
British Incidents	142	173	170	189	170	98
Overseas Incidents	16	15	14	14	24	14
Unknown Locations	4	9	60	4	5	11
BSAC Members	110	117	128	123	111	110
Non-BSAC Members	5	13	12	16	18	13
Membership Unknown	47	67	104	68	7	0

Incidents By Category

History Of Diving Fatalities

		No. Of Fatalities	
Year	Membership	BSAC	Non-BSAC
1965	6,813	3	0
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**

Analysis Of Factors Involved In Diving Incidents - 1988 to 1992

		1988	1989	1990	1991	1992
	FATALITIES / INJURIES / ILLNESS					
01	Fatality	16	12	9	17	17
02	Embolism	7	12	9	5	3
03	Decompression sickness	89	137	80	100	43
04	Injury Caused	13	8	12	14	7
05	Illness Involved	9	7	3	4	5
06	Ear Problems / Damage	8	8	5	6	4
07	Hypothermia	2	0	1	2	2
08	Unconsciousness	10	7	12	7	3
09	Resuscitation	7	6	4	8	10
10	Breathlessness	6	11	5	1	8
11	Narcosis	2	2	1	2	6
	TECHNIQUE					
12	Aborted Dive	9	15	14	31	12
13	Assisted Ascent	7	16	17	13	13
14	Buoyant Ascent	12	19	12	22	9
15	Free Ascent	6	2	2	7	8
16	Other Ascent	1	4	5	1	2
17	Lost Diver(s)	24	15	21	15	12
18	Buoyancy / Weight	8	8	10	9	4
19	Carelessness	13	11	16	29	14
20	Ignorance	4	4	8	8	4
21	Disregard Of Rules	13	11	16	29	14
22	Malice	2	1	0	1	2
23	Out Of Air	12	35	17	19	15
24	Pre-dive Check	4	2	4	1	4
25	Rough Water	10	6	6	2	6
26	Bad Seamanship	10	4	9	11	9
27	Good Seamanship	1	0	0	0	4
28	Good Practice	5	3	0	5	15
29	Separation	14	6	5	13	7
30	Trio Diving	9	9	8	8	10
31	Training Drill	5	7	8	6	6
32	Training Inadequate	4	5	2	6	3
33	Sharing Involved	7	13	14	10	13
34	Deep Dive (30m+)	54	40	41	41	37
35	Low U/W Visibility	2	3	2	7	7
36	Low Surface Visibility	0	0	1	1	1
37	False Alarm	2	2	1	1	1
38	Solo Dive	4	0	3	3	2
39	Divers Underwater	37	50	59	56	22
40	Divers On Surface	54	35	46	38	5
41	Nets	1	1	2	0	1
42	Cold Water	4	8	2	9	8

		1988	1989	1990	1991	1992
	EQUIPMENT					
43	Boat Problems	8	2	5	8	8
44	Motor Problems	7	0	7	5	4
45	Regulator Performance	7	11	9	7	6
46	Equipment Faulty	12	17	12	9	12
47	Equipment Fitting	7	7	5	4	2
48	Equipment Use	7	3	3	7	8
49	Equipment Wear	0	0	3	2	1
50	Equipment Inadequate	3	2	2	1	3
51	Ropes	1	2	1	4	1
52	SMB Absent	0	3	1	3	1
53	SMB Inadequate	2	1	1	1	2
54	SMB Contributed	5	4	1	4	3
55	Propeller	2	2	1	5	1
56	ABLJ/BC/Stab Jacket	0	4	1	5	9
57	Dry Suit	8	5	5	2	8
	CHANCE					
58	Fire / Explosion	0	0	1	1	1
59	Foul Air	0	0	5	1	1
	RESCUE SERVICES					
60	Ambulance	30	20	26	29	22
61	Police	19	10	14	16	17
62	Helicopter	58	45	50	42	26
63	Coastguard	69	50	74	60	32
64	Lifeboat	29	16	27	16	12
	DECOMPRESSION SICKNESS ANALYSIS					
65	Recompression Chamber	81	152	91	115	42
66	Recompression U/Water	3	2	0	2	0
67	Within Tables/Computers	21	56	41	47	24
68	Rapid Ascent	9	28	20	14	10
69	Repeat Diving	27	39	15	14	6
70	Deep Diving (40m+)	15	32	19	19	17
71	BSAC / RNPL Tables	13	10	5	3	3
72	Inaccurate Use	15	23	12	9	2
73	Computers	30	50	27	29	5
74	BSAC '88 Tables	1	43	22	25	12
75	Flying or Ascent To Alt.	5	4	2	1	0
76	US Navy Tables	N/R	8	2	0	2
77	Buhlmann Tables	N/R	9	0	2	0
78	Missed Stops	N/R	25	14	11	2
79	RN Table 11	N/R	2	4	0	0
80	Type I DCS	N/R	N/R	19	20	16
81	Type II DCS	N/R	N/R	43	59	18
82	Type I & Type II DCS	N/R	N/R	5	3	9

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, Ellesmere Port, South Wirral, Cheshire, L65 4FY.

For new incidents, the minimum information required consists of: **Date Of Incident, Name of Subjects(s), Location Of Incident** and the **Nature of the Incident.**

All of this information can be submitted on a Preliminary Incident Report Card, available from BSAC HQ. A more detailed report can be set out on an Incident Report Form, sent out on request or on submission of a Preliminary Incident Report Card. All reports should be to BSAC HQ at the address shown earlier.